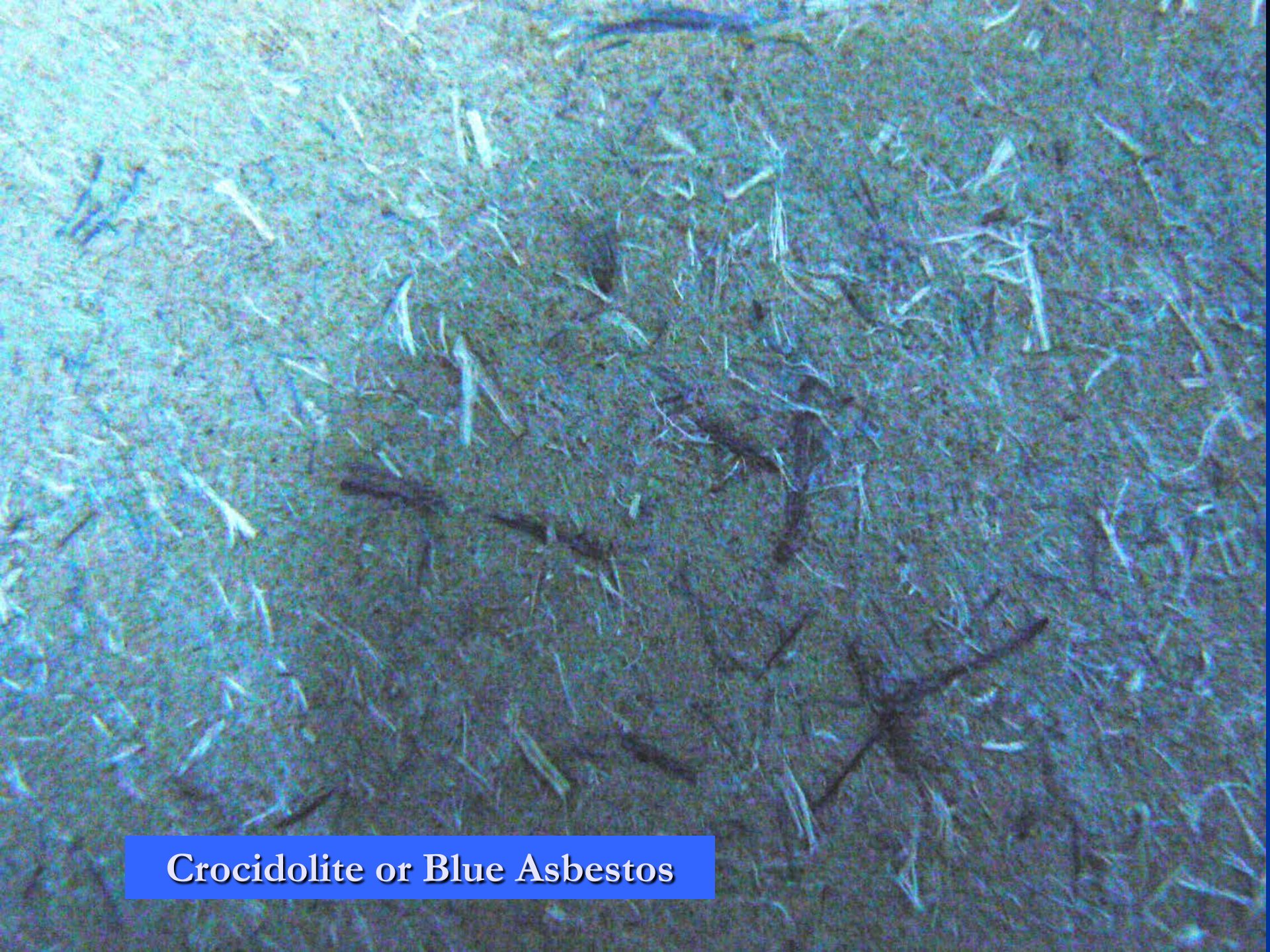
Asbestos Awareness for Western NSW Local Health District

What is asbestos?

- Naturally occurring ROCK
- Two families of minerals
  - Serpentine
  - Amphibole
- Occurs as bundles of very fine fibres
- Stressing of fibres often results in an increase of airborne asbestos fibres
- Three common types commercially used in Australia
    - Crocidolite - Blue
    - Amosite - Brown
    - Chrysotile - White


Crocidolite or Blue Asbestos


Amosite or Brown Asbestos


Chrysotile Asbestos rock


Chrysotile or White Asbestos fibres

Asbestos – the product

NON-FRIABLE material: bonded material, (AC sheet) low potential to generate airborne fibres unless cut with power tools

FRIABLE material: easily crumbled with hand pressure, (steam/hot water pipe lagging) high potential to generate airborne fibres

RISKS

- Non-friable Asbestos containing material (ACM) in good condition and where it is not easily disturbed or damaged is not a health risk
- Friable Asbestos containing material (ACM) that is adequately sealed or enclosed is not a health risk, this material is easily damaged and as a result has the potential to be a health risk

"It is like a sleeping dragon if you disturb it; it can hurt you."

Working with Asbestos Containing Material

Asbestos Products - Where they were used

- Roof sheeting, flashings and gutter moldings
- Wet area ceiling and wall linings with corner moldings
- Storm and sewerage pipes
- Steam and hot water service pipe lagging
- Heater and hot water service flues
- Vinyl floor tiles
- Vinyl sheet underlay
- Bituminous membranes (roof felt)
- asbestos coated metal sheeting “Galbestos"
- Adhesives & Mastiks
- Gaskets, Seals
- Molded service pits
- Electrical mounting boards

Over 3000 products produced in Australia contained asbestos

Do you have asbestos at home?

Typical locations for the most common asbestos-containing materials around the home.

Roof and exterior walls

1. Roof sheets and tiles
2. Guttering and drainpipe
3. Wall cladding
4. Fascia boards
5. Panel beneath window
6. Coating to metal wall cladding

Pipework

7. Lagging on pipework
8. Damaged lagging and associated debris

Ceilings

9. Spray coating to ceiling, walls, beams/columns
10. Loose asbestos in ceiling/floor cavity
11. Tiles, slats, canopies and firebreaks above ceilings
12. Textured coatings and paints

Interior walls/panels

13. Loose asbestos inside partition walls
14. Partition walls
15. Panel beneath window
16. Panelling to vertical and horizontal beams
17. Panel behind electrical equipment
18. Panel behind/under heater
19. Panel on (or inside) fire door
20. Bath panel

Floor materials

21. Floor tiles, linoleum and paper backing, lining to suspended floor

Air handling systems

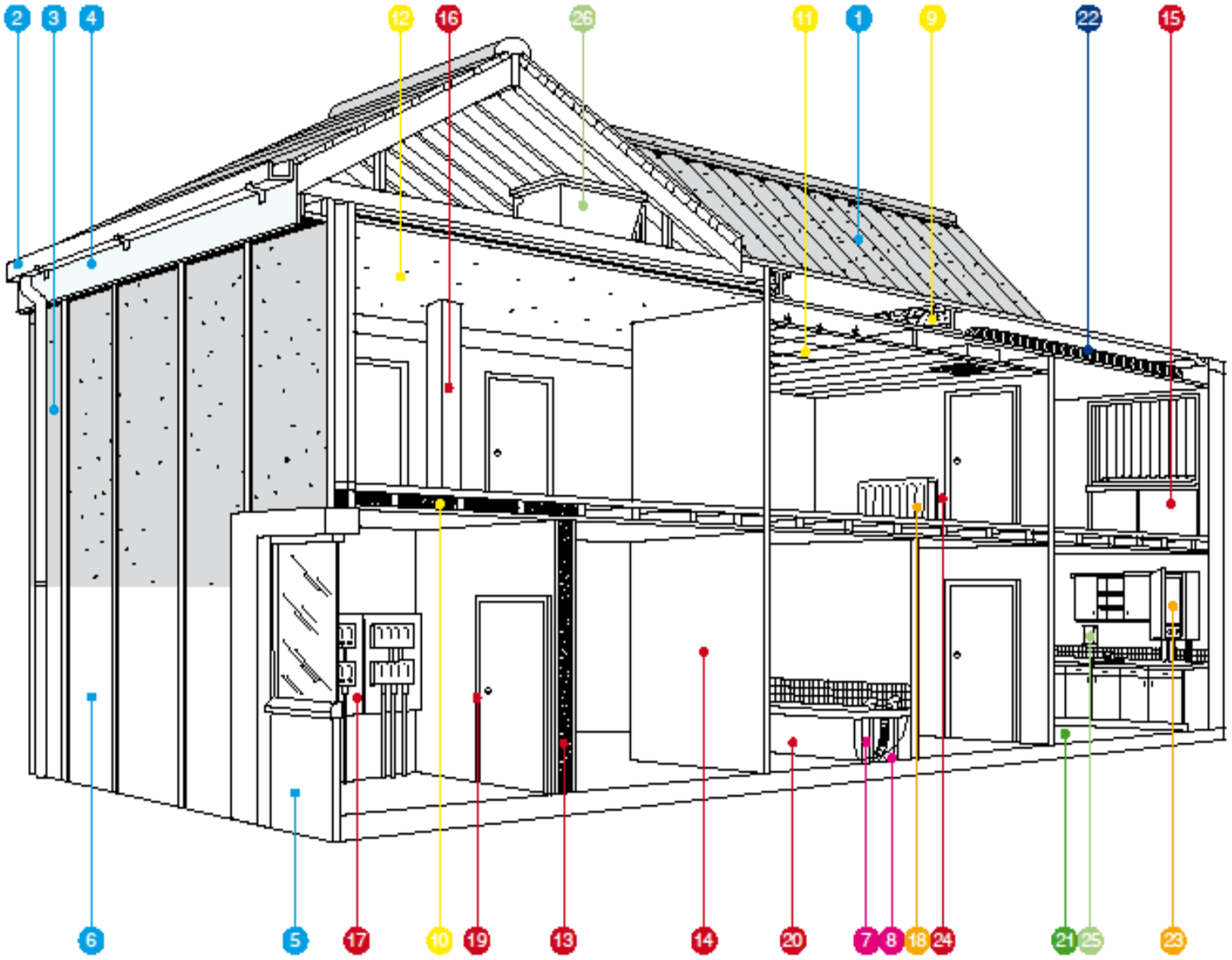
22. Lagging

Domestic appliances

23. Gaskets, rope seals and panels in domestic boilers
24. Insulating blocks, panels, paper, string etc. in domestic heater

Other

25. Fire blanket
26. Water tank



The AIA is happy to field enquiries from the public, and provide advice or help on any asbestos issue. Phone (07) 3870 5561 during business hours.


Asbestos roof tiles


Metal clad Asbestos pipe lagging
Asbestos flashings
Corrugated asbestos roof sheeting


Weathered Asbestos Cement Roof Sheeting

Asbestos based pipe lagging


Asbestos Cement (fibro) Wall Sheeting


“Galbestos” - asbestos coated metal sheeting


Decorative Asbestos Cement Wall Sheeting


Asbestos Vinyl Floor Tiles

Asbestos Mounting Board


Moulded Asbestos Service Pit


Fibre bundle
Moulded Asbestos Water Pipe

Legislation

Workcover NSW adopted documents produced by the Australian Safety and Compensation Council (ASCC) in addition to the NSW Work Health Safety Regulation 2011

RISK ASSESSEMENT and CONTROL

- Code Of Practice for How to Manage and Control Asbestos in the Workplace

- **PARTICULAR RISK CONTROL MEASURES**

Code Of Practice for the Safe Removal of Asbestos 2nd Edition [NOHSC: 2002 (2005)]

MONITORING

- Guidance Note on the Membrane Filter Method for Estimating Airborne Asbestos Fibres 2nd Edition [NOHSC: 3003 (2005)]

Working with Asbestos Containing Material

How do you identify asbestos containing materials?

- Look for asbestos labels
- Take a sample for identification, examined by
  - NATA accredited Laboratories
- Err on the side of caution and assume that it is ACM.

You may also deem it to be asbestos containing material from your knowledge and experience

Asbestos Containing Material Timeline

Asbestos cement (AC) building products (fibro)

- Use of Crocidolite (blue) ceased 1968
- Sheets and mouldings asbestos free by late 1981
- Compressed sheet asbestos-free by late 1983
- Corrugated sheet asbestos-free by 1984
- Brake and clutch facings asbestos-free by 2004

Use of products containing asbestos largely ceased in the late 1980's

The manufacture and use/re-use was banned Nationally from 31 December 2003.

Asbestos - Health Effects

- If asbestos products or asbestos containing materials are disturbed, damaged, broken or worked on so that asbestos fibres become airborne, it is a potential major health hazard.
- A long period of time can occur between first breathing asbestos dust and a disease appearing (latency period)
- The diseases are essentially untreatable
- The emphasis must be on **prevention** of:
    1. Exposure to dust/fibre
    2. Inhalation of dust/fibre.

Asbestos - Health Effects

Asbestosis

- **A "dust disease" where soft and elastic lung tissue becomes hard and fibrous**
- **Causes difficulty in breathing which can get worse**
- **Latency period may be 15 to 30 years**
- **Can be fatal**
- **Caused by all forms of asbestos**

Asbestos - Health Effects

Lung cancer

- Identical to the disease caused by smoking
- A cancer of the airways in the lung
- Latency period may be 20 years
- Almost always fatal
- Caused by all types of asbestos

Asbestos - Health Effects

Mesothelioma

- A cancer of the lining of the lung, stomach or heart
- Usually extremely rare
- Between the years 1987 and 2005, the number of new Mesothelioma cases rose from 156 to 597. This number is expected to continue to rise through at least 2060. Exposure to asbestos is the only known cause
- Latency period at least 15 years, can be up to 60 years,
- Appears to have been caused by lower exposures to asbestos

Asbestos – Risks

What must a Renovator/Maintenance worker do in relation to ACM?

Prevent / avoid:

- Exposure to airborne asbestos fibres
- Potentially creating airborne asbestos fibres

Need to control the risk to:

- Self and family
- Clients and work mates
- Community

Asbestos – Risks

Renovator/Maintenance workers can be potentially exposed to asbestos when they:

- **Carry out tasks that require them to handle ACM**
  eg. Removing pipe lagging from hot water/steam pipes
- **Carry out tasks that have the potential to create airborne asbestos fibres**
  eg. Create penetrations in AC wall /ceiling sheets for air conditioners/ducts
- **Work in the vicinity of ACM**
  eg. Maintenance in a ceiling/under-floor space where loose pipe lagging is present

Because asbestos was used for most of the 20th century, as a component of so many products, nearly all building Maintenance workers/renovators will encounter it at some stage of their working lives.

Asbestos – Risks

- **"Risk" means the likelihood of illness or disease arising from exposure to airborne asbestos fibres.**
- **A *respirable fibre* means a fibrous particule with a diameter of less than 3 micrometres and a length greater than 5 micrometres, with a length to width ratio of greater than 3:1, that can reach the deepest part of a lung**
- **Not everyone who is exposed to airborne asbestos fibres contracts an asbestos disease.**
- **It is not possible to tell who will get an asbestos disease**

Asbestos – Risks

Level of asbestos fibres in the air

What the Regulations say about respirable airborne asbestos fibres; Measured in fibres per ml of air (f/ml) by a NATA analyst

Exposure Standard (8 hour average) **(At this level or below health effects should not occur)**	**0.1 f/ml of air**
Tasks likely to create airborne asbestos fibres in excess of half the Exposure Standard	**0.15 f/ml of air (Action level)** **<0.2 f/ml of air (stop work)**
Clearance level for controlled removal work . **(Level of detection for counting method)**	**Less than 0.01 f/ml of air (taken as ZERO)**

Asbestos – Risks

Fibre levels relating to tasks
Need to be below 0.1f/ml to control potential health risk

Material and activities	Typical exposures (f/ml)
Cutting AC sheet with an angle grinder	15 – 25
Cutting AC sheet with a circular saw	10 – 20
Cutting AC sheet with a jigsaw	2 – 10
Cutting AC sheet with a hand saw	up to 1.0

Typical exposure during work with asbestos and asbestos containing materials taken from information in Health & Safety Executive, UK documents.

Asbestos – Risks

Fibre levels relating to tasks
Need to be below 0.1f/ml to control potential health risk

Material and activities	Typical exposures (f/ml)
Removal of AC sheet (with care)	up to 0.5
Stacking of AC sheet (with care)	up to 0.5
Demolition of structures previously clad in AC sheet (dry)	up to 0.1
Demolition of structures previously clad in AC sheet (wet)	up to 0.01

Typical exposure during work with asbestos and asbestos containing materials taken from information in Health & Safety Executive, UK, documents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