

'Hazardous Substances' A Best Practice Overview

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Will cover.....

- **Chemical Safety in the Workplace**
- **Asbestos Management**
- **Biological Hazards – Legionellosis**

Chemicals in your workplace

Chemicals are...

- paints, oils, dusts, dyes, degreasers, glues, solvents, cleaning products...

Why manage chemicals?

- Exposure to cancer-causing chemicals e.g. asbestos, benzene may account for about 5% of all cancers*
- Skin related diseases e.g. Dermatitis
- Asthma/Respiratory diseases



* source: National Cancer Registry Ireland

How to manage chemicals



Create an Inventory

- Look at labels, Safety Data Sheets
- Look at shelves, processes etc.



Identify the hazards

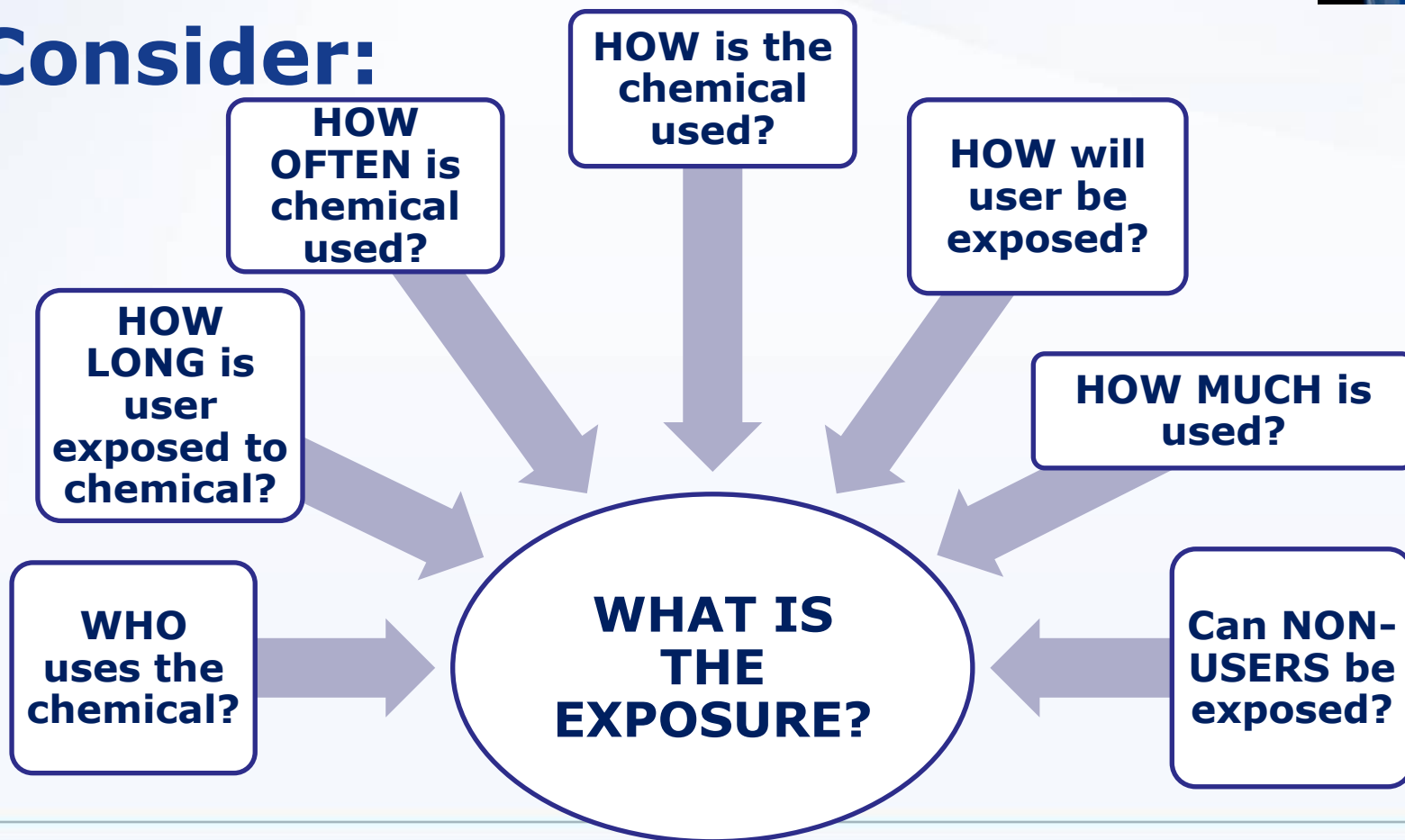
- Read the label and SDS
- Look at the processes





Assess the exposure

Consider:





Control the risks

❖ Eliminate



❖ Substitute



❖ Engineering Controls



❖ Administrative controls



❖ Personal Protective Equipment



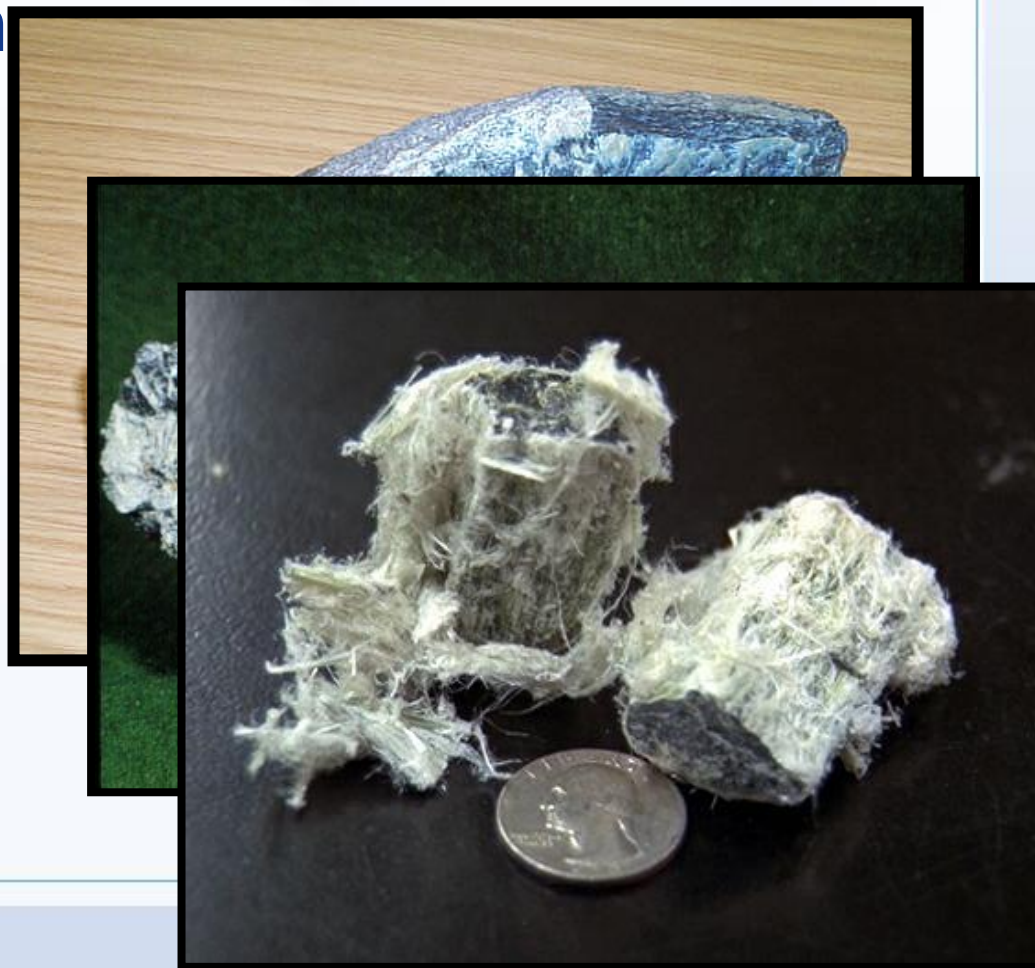
Top Tips for Managing Chemicals

- ☑ Identify Chemicals & make a List
- ☑ Identify Hazards
 - ! Read Labels & SDSs
- ☑ Consider Exposure
- ☑ Use suitable Controls
- ☑ Record findings & Review regularly
- ☑ Work Safely

Asbestos

Three most common forms:

- Crocidolite ('blue asbestos')
- Chrysotile ('white asbestos')
- Amosite ('brown asbestos')



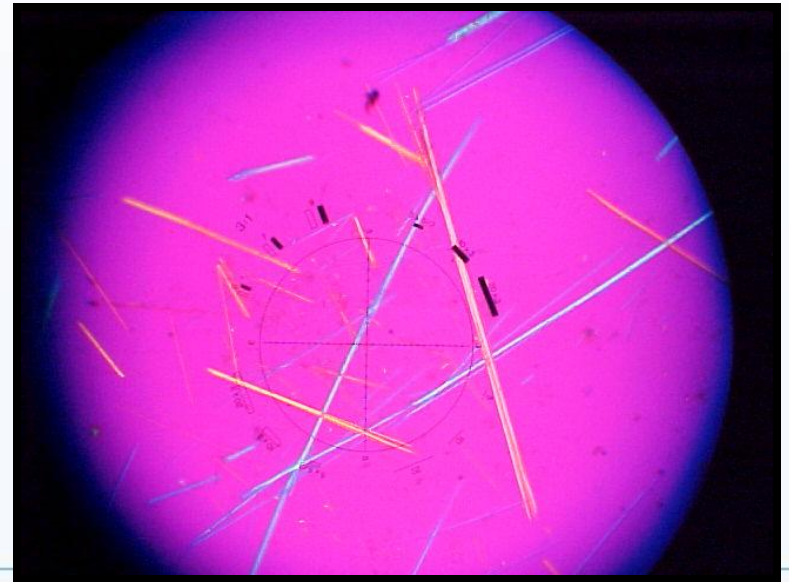


Asbestos



With the Naked Eye!

**'Respirable' fibres
under a microscope!**





Asbestos

- Category 1 Carcinogen
- Fibres are crystalline and split to form very fine 'Respirable fibres' (>5µm length >3µm width), when disturbed





Asbestos

Who is likely to be exposed to asbestos fibres?

- demolition contractors;
- electricians;
- roofing contractors;
- painters and decorators;
- construction contractors;
- joiners;
- heating and ventilation engineers;
- plumbers;
- telecommunications engineers;
- gas fitters;
- fire and burglar alarm installers;
- plasterers;
- general maintenance staff;
- builders;
- computer installers;
- shop fitters;
- building surveyors.



Asbestos *(for info)*

- Elevator Equipment Panels
- Elevator Brake Shoes
- HVAC Duct Insulation
- Boiler Insulation
- Breaching Insulation
- Ductwork Flexible Fabric Connections
- Cooling Towers
- Pipe Insulation (corrugated air-cell, block, etc.)
- Heating and Electrical Ducts
- Electrical Panel Partitions
- Electrical Cloth
- Electric Wiring Insulation
- Chalkboards
- Roofing Shingles
- Roofing Felt
- Base Flashing
- Thermal Paper Products
- Fire Doors
- Caulking/Putties
- Adhesives
- Wallboard
- Joint Compounds
- Vinyl Wall Coverings
- Spackling Compounds



Asbestos

- Spray insulation
- Asbestos lagging
- Insulating Board
- Asbestos Textiles
- Textured coatings
- Asbestos Cement
- Friction products
- Re-enforced plastics
- Less obvious example





Asbestos Management

Minor damage	Good condition
<ul style="list-style-type: none">■ The material should be repaired and/or encapsulated■ The condition of the material should be monitored at regular intervals. Where practical the material should be labelled■ Inform the contractor and any other worker likely to work on or disturb the material	<ul style="list-style-type: none">■ The condition of the material should be monitored at regular intervals■ Where practical the material should be labelled■ Inform the contractor and any other worker likely to work on or disturb the material
Poor condition	Asbestos disturbed
<ul style="list-style-type: none">■ Asbestos in poor condition should be removed	<ul style="list-style-type: none">■ Asbestos likely to be disturbed should be removed



Asbestos management

- Managing asbestos left in place
 - Maintain register
 - Inform
 - Monitor condition
- Specialist Asbestos Contractors
- Assess ability to do work
- Analysts





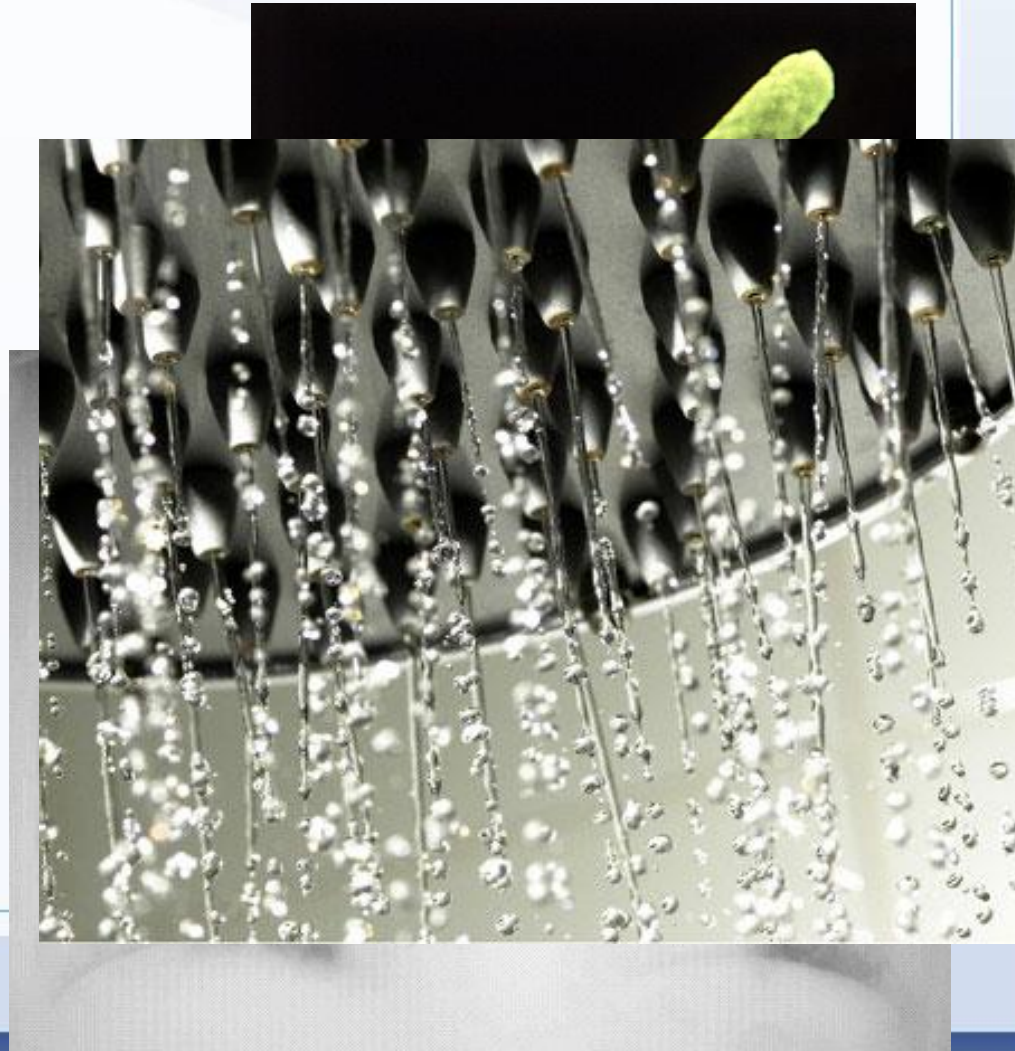
Managing Asbestos will avoid.....





Legionellosis

- A bacterium (usually *Legionella pneumophila*)
- Legionnaires disease
- How – aerosols
- Who – Risk Factors



Control of Legionellosis

- Prepare a **written scheme** for controlling the risk from exposure to Legionella bacteria. Should include descriptions of:-
 - hot and cold water system (e.g. a plan or schematic diagram)
 - Who is / are responsible for carrying out the risk assessment and managing its implementation. Ensure they are appropriately qualified or trained.
 - The safe and correct operation of your system

Control of Legionellosis

Your **written scheme** should also include descriptions of:-

- What control methods and other precautions you will be using; and
- The checks that will be carried out on the control methods and how often these will be done, so as to ensure that they remain effective.
- Who will carry out these checks and what training they should have had.

Control of Legionellosis

The most commonly used method of reducing Legionella risk in hot and cold water systems is **temperature control**. means keeping;

- Hot water hot enough to kill Legionella or minimise Legionella growth
- Cold water cold enough to prevent or minimise Legionella growth
- The water systems & water tank are clean



Control of Legionellosis

Showers;

- Shower heads should be replaced or descaled regularly (according to your written scheme)

Water systems generally:

- Remove deadlegs i.e. redundant pipework should be cut back, as far as possible, to a common supply.
- Outlets (taps, showers, WCs etc) which are not in regular use should be flushed

Control of Legionellosis

Legionella control can be achieved by;

- keeping water systems clean,
- preventing stagnation, and
- maintaining water temperatures that prevent or minimise Legionella growth.

Remember;

Legionella control will only be achieved if ***all*** the control measures are in place.



Hazardous Substances

A Best Practice Overview

Thank You

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