Slides used to discuss relevant points for the proposed risk / control banding for asbestos

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Risk & control banding for asbestos

- Is a process to assign a level of risk and appropriate controls starting from the dose –response data and extrapolating downwards from this range.

- No need to define a socially acceptable levels of risk.
Extrapolation using risk bands

- Extrapolation by use of a banding approach was worth consideration as it:
  - reflects the uncertainty in the data;
  - takes better account of the uncertainties of extrapolating from the epidemiological data;
  - can be coupled with controls; and
  - is likely to be only one band wrong at worst.
Extrapolate from where? ~10 f.y/ml

Excess pleural mesothelioma vs cumulative exposure

Excess mortality (%) vs Cumulative exposure (f.y/ml.yr)
Control banding approach 1

- Product Information
  - Physical chemical properties
  - Physical form
  - Toxicological data

- Exposure Information
  - Emission potential
  - Product transmission

- Hazard band
- Exposure Band
- Control band
Control banding approach 2

However for asbestos:

- the hazard is known;
- exposures are reasonably well known; but
- risks are dependent on asbestos type;
- and the controls are prescribed to a large extent;
Suggested Risk/control banding approach

• Assigned order of magnitude risk bands to the “best estimate” of risk, output from the H & D model.

• Controls are applied initially on magnitude of exposure to reflect EU/UK legislation (e.g. control limit / licensing / CAR, 2005.)
## Risk bands for lifetime risk

<table>
<thead>
<tr>
<th>Risk band</th>
<th>Lifetime risk (per million)</th>
<th>Lifetime risk 1 in ...</th>
<th>Control approach:</th>
</tr>
</thead>
<tbody>
<tr>
<td>6</td>
<td>greater than 100,000</td>
<td>10 or higher</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>10,000 to 100,000</td>
<td>100-10</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>1000 to 10,000</td>
<td>1000-100</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>100 to 1000</td>
<td>10,000-1000</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>10 to 100</td>
<td>100,000-10,000</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>less than 10</td>
<td>100,000 or lower</td>
<td></td>
</tr>
</tbody>
</table>
Suggested exposures levels / to assign control bands & actions

A. If >0.6 f/ml over 10 minute or prolonged >0.1 f/ml over 4 hours – Licensing regime controls used to prevent spread and reduce exposure by control at source etc.

B. Short term infrequent exposure which may approach control limit – Asbestos Essentials (EM – sheets).

C. Duty to manage approach for infrequent release.

D. Lower exposures <0.01 f/ml focus now on duration of exposure and cumulative exposure to give control bands D, E…..(to be discussed).
Demonstration of draft model: +

• Invite WATCH to comment on:
  • the risk bands and whether the best H&D estimate needs to be displayed;
  • the time period and age ranges covered;
  • the proposed approach to setting the control bands and the level of information given;
  • placing the completed model on the HSE web site.