

Health and Safety Commission Paper		HSC/06/55	
Meeting Date:	4 July 2006	Open Gov. Status:	Open
Type of Paper:	Above the line	Paper File Ref:	
Exemptions:	None		

## HEALTH AND SAFETY COMMISSION

### A comparison of the risks from different materials containing asbestos

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#### Issue

1. To provide further background information for the Commission to reach agreement on the risks from work with textured decorative coatings containing asbestos (TCs); and to agree that a limit for sporadic and low intensity exposure should be included in the Regulations rather than the ACoP (in accordance with legal advice).

#### Timing

2. For discussion at 4 July meeting. Draft Regulations for decision will be put before the Commission at its meeting on 25 July.

#### Recommendation

3. That the Commission:
- a) notes the further work done to compare the risks arising from work with different types of asbestos containing materials (ACMs) with one another and with other non-asbestos related risks (the results are summarised in Annex 1); and
  - b) agrees to the inclusion of a regulation providing for the approval (by the Commission) of a "peak exposure" level of fibres in the air which, if exceeded, could not be considered to give rise to "sporadic and low intensity exposure".

#### Background

4. The development of the evidence supporting the proposal to remove TCs from the licensing regime has followed the stages as summarised below:

- a) the Consultative Document (CD) issued last year included proposals for TCs to be removed from the licensing regime. This was on the basis of research carried out by the Health and Safety Laboratory (HSL) which showed that the upper end of exposures that could arise for employees engaged in the removal of TCs was 0.08 fibres/cm<sup>3</sup> (f/cm<sup>3</sup>) when it is carried out in compliance with the proposed new Regulations. This figure is below the proposed control limit of 0.1 f/cm<sup>3</sup>;
- b) HSL's research was peer reviewed in February by the independent Working Group on Action to Control Chemicals (WATCH). This concluded that the results of the research were reliable in the context in which the research was carried out;

- c) In response to early comments about the limits of this research (eg what were the levels of exposure when TCs were removed from a wider range of surfaces; when poor controls or removal techniques were used; what were the exposures beyond the immediate area of removal), HSL carried out further research and found that:
- The fibre concentrations were still less than the control limit when removed from a wider range of surfaces and personal airborne fibre concentrations were increased by less than a quarter when air extraction was switched off;
  - It is unlikely that fibre releases would exceed 0.01 f/cm<sup>3</sup> in the immediate area just outside removal enclosures whilst TCs are being removed;
  - When appropriate controls were not used (not in compliance with the Regulations) and TCs were dry scraped with no air extraction, short terms peaks of up to 0.2 f/cm<sup>3</sup> could be produced. However, it was unlikely that the proposed control limit would be exceeded.

5. At its meeting on 9 May 2006, the Commission discussed a paper (HSC/06/49), which sought a steer on the way forward for the proposed Asbestos Regulations following consultation. This included a summary of the results from the later research (above). Following discussion, the Commission agreed that:

- a) there should be a risk-based approach to the licensing of asbestos, with licensing reserved for high risk products and processes;
- b) HSE should produce a paper on a wider range of issues around asbestos licensing and relative areas of risk to inform the Commission's final decision on TCs.

## **Argument**

6. HSL has now produced a paper that addresses the Commission's request. A summary of the results is included at Annex 1; the Commission is asked to note this. The conclusion from HSL's paper is clear and confirms our belief that the inclusion of work with TCs within a licensing regime is not justified. The full paper is at Annex 2.

### *Inclusion of sporadic and low intensity exposure level in draft Regulations – not ACoP*

7. At the 9 May meeting, the Commission agreed that including in the Approved Code of Practice (ACoP) a peak exposure level of 0.6 fibres per cm<sup>3</sup> in the air measured over a ten minute period would provide a useful determinant of when exposure might be considered to be sporadic and of low intensity. We have discussed this further with Solicitors and their advice is that this should be included in the Regulations – not the ACoP. Its inclusion in the Regulations would also provide greater certainty to dutyholders.

8. It might also allay concerns that have been raised by some trade associations on whether the derogation on sporadic and low intensity exposure in AWPD has been fully transposed into the draft regulations. They have raised the possibility of legal challenge on whether we have fully implemented AWPD in this respect. The concerns are that the use of a simpler provision in regulation 3(2) omitting certain words in Article 3(3), widens the application of the derogation beyond the intent of the Directive (paragraphs 30-32 of the CD addressed the point; for convenience Annex 3 highlights the omitted words). These concerns are given some extra significance because of the link made in the Regulations between this derogation and the requirement to be licensed (although licensing is not a requirement of AWPD so we are free to specify when licensing is required).

9. The purpose of Article 3(3) is to provide for circumstances where the risk of release of asbestos fibres is considered low enough to justify exempting dutyholders from the more onerous requirements, for example, notification, medicals and record keeping. These latter requirements are essentially additional administrative measures necessary where the risk of exposure to asbestos fibres is high and which are over and above the normal controls necessary to prevent exposure when dutyholders carry out work. Notification, for example, allows HSE to concentrate its enforcement action on such work.

10. We consider that including the omitted words would cause confusion and legal uncertainty about when the derogation applied. It would divert attention to a debate about the nature or state of the materials (whether or not they are friable, deteriorated or degraded within the meaning of the Directive), rather than the important criteria – the extent of risk of release of fibres in relation to the condition of the materials. We therefore continue to consider that the omission of the words in regulation 3(2) is justified and legal advice, based on the above arguments, is that this approach would be consistent with a purposive interpretation of the meaning of Article 3(3). However, the inclusion of a peak exposure level in the Regulations would provide further clarity and legal certainty.

11. We therefore seek the Commission's agreement to the inclusion of a peak exposure level in the derogation for sporadic and low intensity exposure in the Regulations. This could be done by including the level of 0.6 fibres per cm<sup>3</sup> in the air measured over a ten-minute period directly into regulation 3(2). However, we recommend, instead, that a power for the Commission to approve such a level is included in the regulation. Initially, we would envisage the Commission approving the level of 0.6 fibres per cm<sup>3</sup>. But a power to approve would allow changes to be made more quickly should the Commission want to approve a different level at some point in the future.

### **Consultation/Presentation/Costs and Benefits**

12. These were addressed in HSC/06/49.

### **Financial/Resource Implications for HSE**

13. The licensing regime is designed to recover costs, so the removal of TCs from the regime will be cost neutral. Overall, we believe that the costs in the development and completion of this package of measures will be £730K. This includes the costs incurred by HSL in carrying out the further research on textured coatings.

### **Other Implications**

14. The proposed Regulations implement Directive 2003/18/EC which amends AWPD.

### **Action / Next Steps**

15. The Commission is asked to make a decision on the recommendation set out in paragraph 3 above.

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## RISK FROM ASBESTOS PRODUCTS

### Introduction

1. This annex summarises the results of the further work that HSL has carried out in response to the Commission's request at its meeting on 9 May 2006 for a paper addressing a wider range of issues around asbestos licensing and relative areas of risk. The full HSL paper is at Annex 2.
2. This builds on the risk assessment in CD205 and work carried out to look at the level of fibre emissions which arise during the removal of textured coatings (TCs). Annex B to HSC/06/49 (which was discussed at the 9 May HSC meeting) provides further details. This work demonstrated that the levels of asbestos fibres released during work with textured coatings were substantially lower than that for work with other licensed materials such as asbestos insulation board. Figure 1 of Annex B to HSC/06/49 shows this as a bar chart and **Figure 1** below further restricts the height of that bar chart to enable the current and proposed control limits to be shown. In order to do so, the full height of the bars for sprays and lagging and for working with AIB in a dry state cannot be shown.
3. HSL has now looked at the level of risks related to work with different types of asbestos products and compared them:
  - a) one with another – **Figure 2**; and
  - b) with the risks found in certain sectors and with general workplace risks – **Figure 3**
4. The risk assessment was carried out using two assumptions
  - Mainly dry removal with only limited controls in place (eg no sanding or use of power tools).
  - Controlled removal (mainly wet and with other controls in place).

In both the above, no account is taken of respiratory protective equipment (RPE).

5. These comparisons show that:
  - a) unlike other licensed materials where the annual risk of death (mainly dry removal) are calculated to be in hundreds/million (AIB) or thousands/million (spray and other insulation), the risk of death from TCs is calculated to be less than one in a million;
  - b) the risks from TCs are comparable to those from work with other unlicensed asbestos products such as asbestos cement and flooring;
  - c) the risks from work with TCs is orders of magnitude lower than for activities such as work in construction and agriculture.

### Conclusion

6. At the last meeting HSC agreed that there should be a risk-based approach to the licensing of asbestos, with licensing reserved for high risk products and processes. Figure 1 demonstrates that both dry and wet removal of sprays and lagging and AIB will result in fibre levels considerably above the control limit and this justifies the need for licensing. Both dry and wet removal of TCs will be below the control limit and licensing is unnecessary. Both figures 2 and 3 demonstrate that continuing to require licensing for work with TCs would not meet with HSC's agreed approach.

**Figure 1**

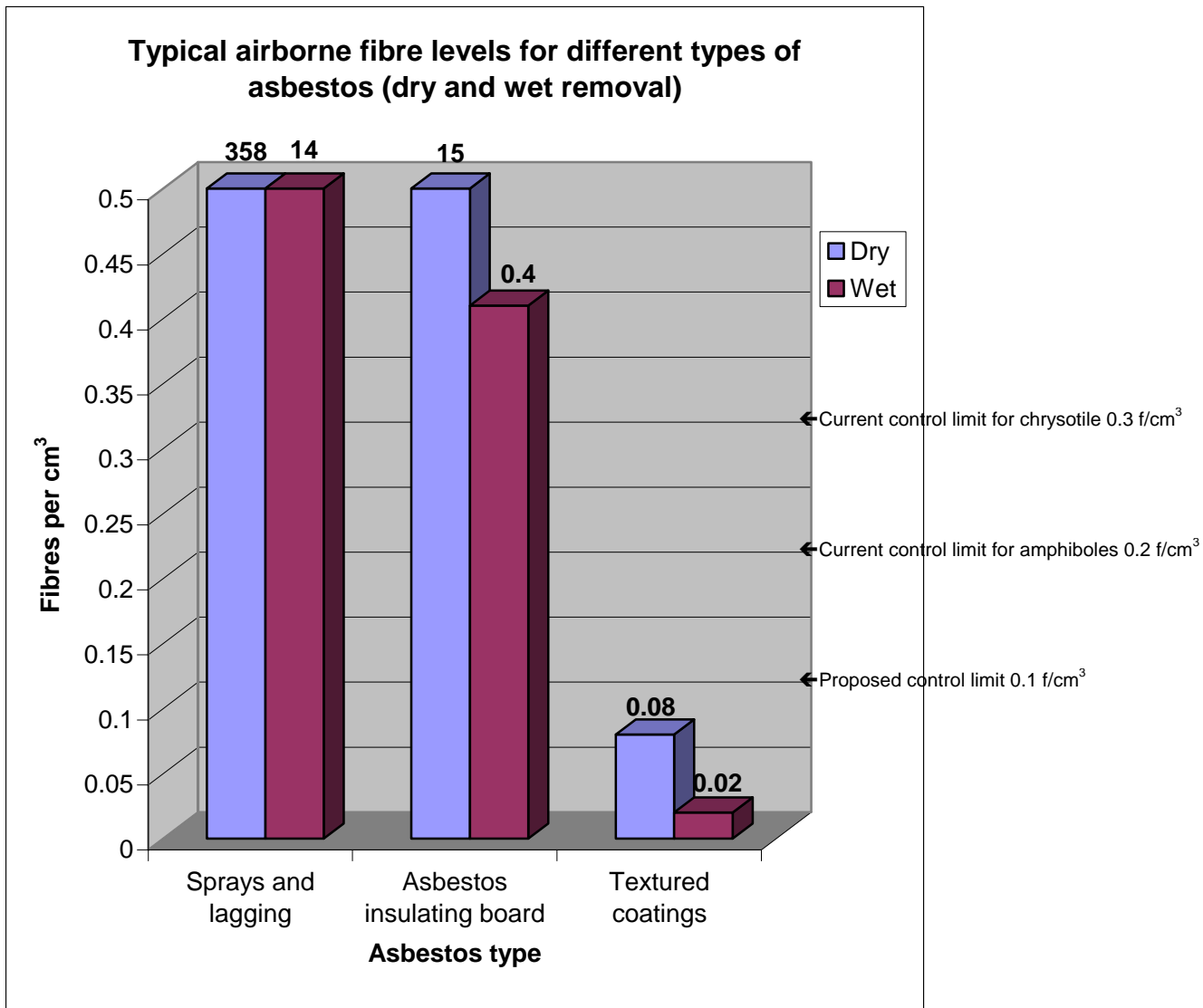


Figure 1 above is based on Figure 1 from Annex B to HSC/06/49 which the HSC considered at its meeting on 9 May 2006. It demonstrates potential releases of fibres for well controlled removal (wet) and poorly controlled removal (dry) of different types of licensed asbestos materials. No account is taken of RPE.

For sprays and lagging, the average fibre levels during poorly controlled dry removal are about 360 fibres per cm<sup>3</sup> and for asbestos insulating board (AIB) are about 15 fibres per cm<sup>3</sup> (some 3600 and 150 times the proposed control limit respectively). Even with controlled (wet) removal, when HSL scientists were on site to monitor, there is significant potential release of fibres of around 40 times the proposed control limit for sprays and lagging and 4 times the proposed control limit for AIB.

In contrast, poorly controlled (dry) removal of TCs produces potential fibre levels around 0.08 fibres per cm<sup>3</sup>, which is below the new proposed control limit and well controlled wet removal will reduce this to about 0.02 fibres per cm<sup>3</sup> or around one fifth of the proposed control limit.

Figure 2

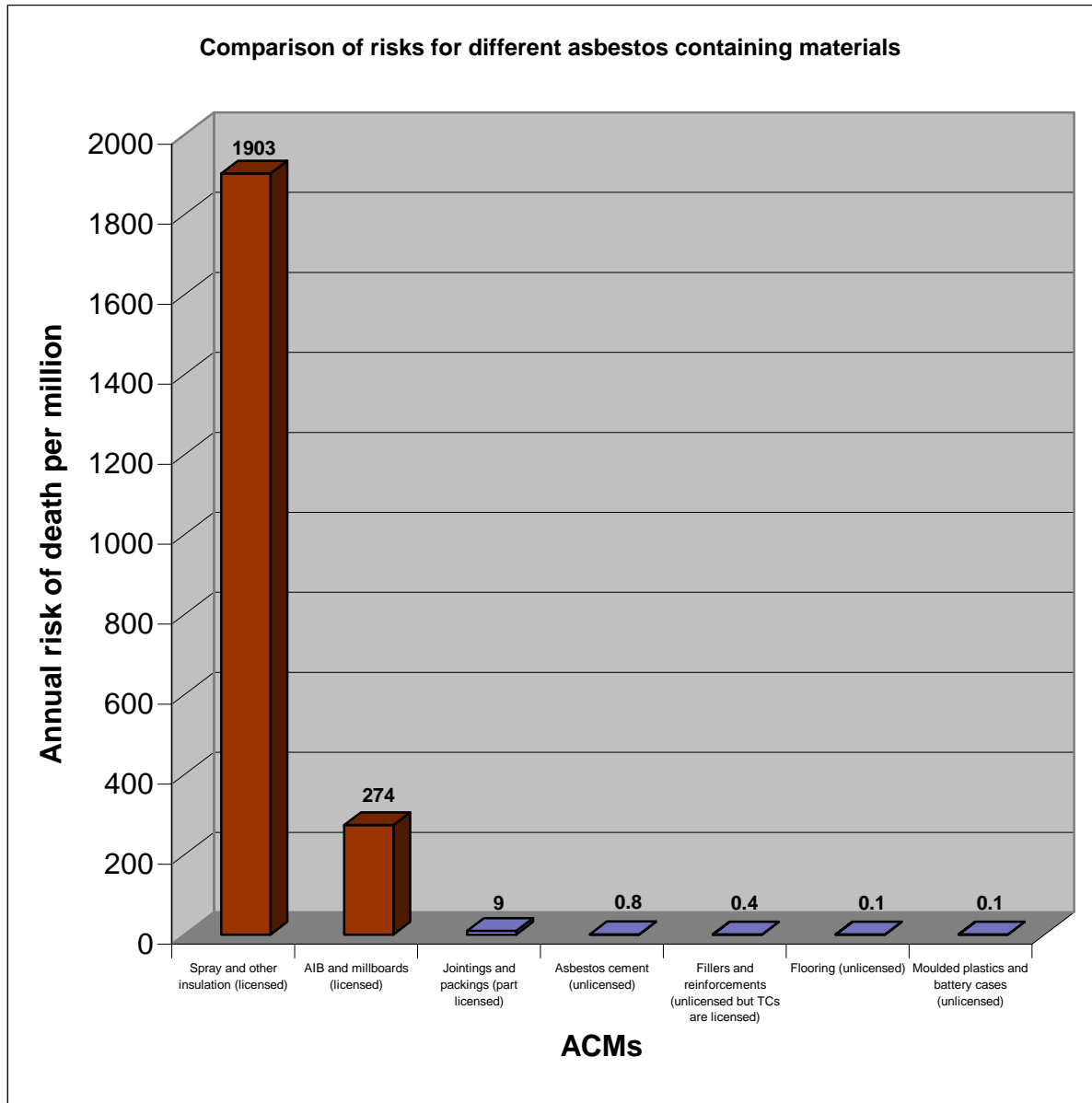


Figure 2 above is based on Figure 7 from HSL's paper dealing with the risks from asbestos products (see Annex 2). It is based on an assumption of workers spending 10% of their time working with particular products for 40 years from age 20. By way of comparison, it has been estimated that licensed removal workers currently spend about 15% to 20% of their time on active removal of asbestos. No account is taken of respiratory protective equipment.

It demonstrates that the risks from work with sprays and other insulation are nearly 20,000 times the risk from TCs and the risks from AIB are nearly 2700 times the risks from TCs. The risks from TCs are comparable to the risks from other unlicensed asbestos materials.

Figure 3

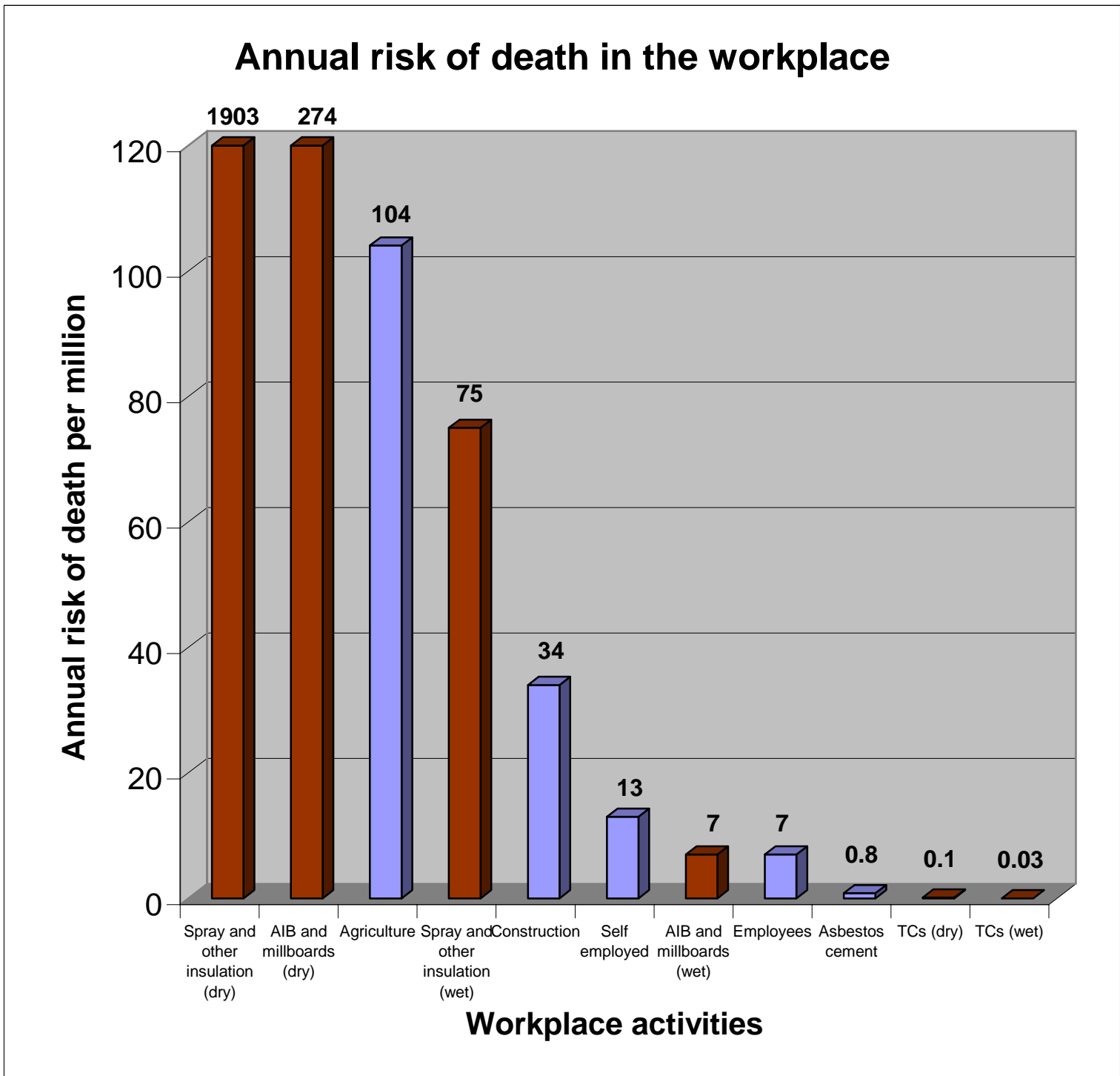


Figure 3 above is based on Figure 9 from HSL's paper dealing with the risks from asbestos products (see Annex 2). It compares the risks from work with various asbestos products (dry and wet) to work in certain sectors and general workplace risks to put the risks from work with asbestos in context.

The figure clearly demonstrates that the risk from work with sprays and other insulation and AIB is greater than other activities such as work in agriculture and construction. It is also clear that the proportion of risk from work with TCs is much lower than from such activities.

**Comparison of Article 3(3) of Directive 2003/18/EC and regulation 3(2) of proposed Control of Asbestos Regulations highlighting words omitted\* from Directive that are the subject of concerns about under-implementation**

Article 3(3)

Provided that worker exposure is sporadic and of low intensity, and when it is clear from the results of the risk assessment referred to in paragraph 2 that the exposure limit for asbestos will not be exceeded in the air of the working area, Article 4, 15 and 16 may be waived where work involves:

- a) short, non-continuous maintenance activities in which only non-friable materials are handled;
- b) removal without deterioration of non-degraded materials in which asbestos fibres are firmly linked in a matrix;
- c) encapsulation or sealing of asbestos-containing materials which are in good condition;
- d) air monitoring and control, and the collection of samples to ascertain whether a specific material contains asbestos.

Regulation 3(2)

Regulations .....shall not apply where -

- a) the exposure of asbestos fibres is sporadic and of low intensity;
- b) it is clear from the risk assessment that the exposure of any employee to asbestos will not exceed the control limit;
- c) the work involves-
  - (i) short non-continuous maintenance activities,
  - (ii) removal of materials in which the asbestos fibres are firmly linked in a matrix,
  - (iii) encapsulation or sealing of asbestos-containing materials which are in good condition, or
  - (iv) air monitoring and control, and the collection of samples to ascertain whether a specific material contains asbestos

\* words in Article 3(3) omitted from regulation 3(2) highlighted in underlined italics