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HEALTH AND SAFETY COMMISSION

REPORT BACK ON CONSULTATION ON MAXIMUM EXPOSURE LIMITS AND OCCUPATIONAL EXPOSURE STANDARDS (CD182)

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Issue

1. This paper reports back to the Commission on the outcome of a recently concluded consultation exercise on proposals to implement twelve proposed changes to the list of Maximum Exposure Limits (MELs) and Occupational Exposure Standards (OESs) for hazardous substances which were set out in the consultation document CD182.

Timing

2. Routine.

Recommendation

3. HSE recommends that the Commission approves the Advisory Committee on Toxic Substances' (ACTS) recommendations for revised limits for the twelve substances or groups of substances listed at Annex 1.

Background

4. Following consultation in 1998, the Health and Safety Commission and the Secretary of State agreed to approve Maximum Exposure Limits (MELs) and Occupational Exposure Standards (OESs) in the same way, rather than to include MELs in a Schedule to the COSHH Regulations. MELs and OESs are now all subject to the same public consultation that includes targeting interested parties directly and also placing the consultation package on the Internet.

5. The proposed limit changes were considered by ACTS in November 2001 (ACTS/35/2001) where it was agreed to recommend HSC external consultation. On

15 January 2002 the Commission agreed to consult on these proposed changes (HSC/02/002).

Argument

6. The results of the consultation exercise (CD182) are summarised at Annex 2 including a number of more general comments not relating to individual limits. At its meeting on 21 November 2002, ACTS' members discussed the comments received on CD182. They were content with the outcome of the consultation and endorsed the proposals.

Consultation

7. ACTS has endorsed these proposals.

Presentation

8. Subject to HSC approval, the revised limits will come into force on the publication of an addendum to the 2002 issue of HSE's publication '*EH40 - Occupational Exposure Limits*'.

Costs and Benefits

9. ACTS has examined the costs and benefits which might result from the implementation of each of the three MEL proposals for chloroethane, hydroquinone and manganese. Full Regulatory Impact Assessments (RIAs) were made available to the public as part of the consultation exercise and a summary of each RIA was included in the CD.

10. No major concerns over compliance were received during consultation, although one respondent from an industry association commented that the RIAs related to businesses as a whole and consequently showed very little sensitivity to the potential financial impact that these proposals might have on SMEs.

11. The RIAs for the proposed MELs all considered the financial impact of the MEL on small businesses and whether the impact would be disproportionate relative to that on large firms. In the case of all three substances, HSE judges that there will be little or no additional costs to small businesses. Further information is contained in paragraphs 42 and 43 of Annex 2.

Financial/Resource Implications for HSE

12. The resources for the consultation process, and the production/publication of the EH40 Supplement are accounted for in Health Directorate's and the Directorate of Information and Advisory Services' budgets and plans of work.

Environmental Implications

13. None

Other Implications

14. None.

Action

15. The Commission is invited to approve the recommendations in Annex 1.

HSC/03/12 - Annex 1

Recommendations for changes to Maximum Exposure Limits and Occupational Exposure Standards following consultation

Substance	Current MEL/OES	Proposed MEL/OES/Other
Chloroethane 75-00-3	OES withdrawn in 2001	MEL of 50 ppm (8 hour TWA)
Hydroquinone 123-31-9	OES withdrawn in 2001	MEL of 0.5 mg.m ⁻³ (8 hour TWA)
Manganese and its inorganic compounds 7439-96-5 and others	OESs withdrawn in 2001	MEL of 0.5 mg.m ⁻³ (8 hour TWA)
Subtilisins (proteolytic enzymes as 100% pure crystalline enzyme)	OES 0.00006 mg.m ⁻³ (8 hour TWA and STEL)	Withdraw OES
Sulphuric acid 7664-93-9	OES 1 mg.m ⁻³ (8 hour TWA)	Withdraw OES
Allyl-2,3-epoxypropyl ether 106-92-3	OES 5 ppm (8 hour TWA), 10 ppm STEL	Withdraw OES
Bis(2,3-epoxypropyl) ether 2238-07-5	OES 0.1 ppm (8 hour TWA)	Withdraw OES
<i>n</i> -Butyl glycidyl ether (BGE) 2426-08-6	OES 25 ppm (8 hour TWA)	Withdraw OES
2,3-Epoxypropyl isopropyl ether 4016-14-2	OES 50 ppm (8 hour TWA), 75 ppm STEL	Withdraw OES
Phenyl-2,3-epoxy propyl ether 122-60-1	OES 1 ppm (8 hour TWA)	Withdraw OES
<i>p</i> -Phenylenediamine 106-50-3	OES 0.1 mg.m ⁻³ (8 hour TWA)	Retain existing OES 0.1 mg.m ⁻³ Introduce Skin notation
Metalworking fluids	OES mineral oil mist 5 mg.m ⁻³	Exclude MWFs from the OES for mineral oil mist

SUMMARY OF THE SUBSTANCE-SPECIFIC COMMENTS MADE ON THE CONSULTATION DOCUMENT CD182 AND, WHERE APPROPRIATE, HSE'S RESPONSE

CHLOROETHANE

Current limit: OES of 1000 ppm withdrawn

HSC proposal: Introduce MEL of 50 ppm 8 hour TWA

- 1 9 respondents supported HSC's proposal without giving specific reasons why.

HYDROQUINONE

Current limit: OES of 2 mg.m⁻³ withdrawn

HSC Proposal: Introduce MEL of 0.5 mg.m⁻³ 8 hour TWA

- 2 9 respondents supported HSC's proposals without giving specific reasons why.
- 3 One respondent representing company interests disagreed with the MEL proposal suggesting that it was based upon a flawed classification of the chemical as a Category 3 carcinogen and Category 3 mutagen.

HSE response

- 4 HSE still believes that a MEL is appropriate, based on two considerations;
- i) The Department of Health's Committee on Mutagenicity advice is that the available evidence suggests an unquantifiable risk of mutagenicity and cannot sustain a threshold approach to inhalation of or dermal exposure to hydroquinone.
 - ii) The classification of hydroquinone as a Category 3 carcinogen and mutagen has recently been considered and agreed by the European Commission's Working Group on Classification and Labelling of Substances and has been included in EU and domestic legislation (CHIP3). HSE is satisfied that this classification is a fair reflection of the available information on this substance.

MANGANESE AND ITS INORGANIC COMPOUNDS

Current limit: OES of 5 mg.m⁻³ withdrawn

HSC Proposal: Introduce MEL of 0.5 mg.m⁻³ 8 hour TWA

- 5 10 respondents supported HSC's proposals without giving specific reasons why.
- 6 One respondent representing company interests agreed with the proposal provided HSE understand that in the steel industry there are certain tasks that will require respiratory protective equipment (RPE) to achieve the proposed standard limit.

HSE response

- 7 The Regulatory Impact Assessment that was carried out for this MEL proposal indicated that for some tasks within the steel industry RPE would be needed in order to comply with the limit.

SUBTILISINS

Current limit: OES of $0.00006 \text{ mg.m}^{-3}$ (8 hour TWA and STEL)

HSC proposal: Withdraw OES

- 8 7 respondents supported HSC's proposals without giving specific reasons why.
- 9 An independent consultant supported the proposals in principle but considered the information in Annex 1 of CD182 to be misleading. The respondent felt that it did not convey the degree of attention that is required in practice and incorrectly identified that the liquid-handling process is unlikely to generate aerosol.
- 10 One individual recommended retention of the OES until the MEL is adopted.

HSE response

- 11 HSE is aware that micro-granular products can be inadvertently crushed into powder form and thus result in an increase inhalation risk. Industry must recognise that the purpose of using micro-granular form is to reduce inhalation risk. Industry must therefore do all it can to protect the substance from being crushed unless it is safe to do so.
- 12 Industry is correct to identify that liquid handling processes can produce aerosol. However, in the case of soap detergent manufacture the liquid is totally contained at all times and is therefore unlikely to generate aerosol outside of its containment. This point is explained in detail in the risk assessment document. Summary documents contained in Annex 1 of the consultative document provide background information to current use and exposure patterns and do not provide information on how to control exposure to hazardous substances
- 13 It is HSC/E policy to withdraw unsafe limits prior to review.

SULPHURIC ACID

Current limit: OES of 1 mg.m^{-3} (8 hour TWA)

HSC proposal: Withdraw OES

- 14 8 respondents supported HSC's proposals without giving specific reasons why.
- 15 One individual respondent disagreed with the proposal to withdraw the OES; he proposed that HSE reduce the present OES and replace it when a European OEL is agreed.
- 16 An independent consultant disagreed with the proposal because of the lack of specific provisions for young persons.
- 17 Some respondents identified concerns about the future development of an OEL at EU or national level, in particular the practicability of achieving control at lower

levels and the availability of suitable analytical methods for monitoring. They would also wish to see a short-term limit.

HSE response

- 18 Sulphuric acid is being considered by the EC's Scientific Committee on Occupational Exposure Limits (SCOEL). The minutes of SCOEL state that the limit under consideration is 0.1 mg.m^{-3} . However, as yet, no formal consultation on this limit has emerged from the European Commission. When a recommendation does emerge, there will be a six-month consultation period during which government, social partners and other interested parties will be able to send comments. This will give all interested parties an opportunity to propose amendments, including the establishment of a short-term limit.
- 19 HSE has issued a Chemical Hazard Alert Notice (CHAN) that sets out clear guidance for employers including those who employ young people. Schools use sulphuric acid in dilute solution only and not in its concentrated form, therefore fume is unlikely to be produced. As preparation of all acid solutions in schools is done by a laboratory technician, pupils will not be exposed to any inhalation risk. Withdrawal of the current OES for sulphuric acid will not have any impact on its use in schools and we do not feel any special provisions for young people would therefore be necessary.
- 20 These topics are among those that HSE will take into account in any EU negotiations on an OEL for sulphuric acid, or development of a domestic OEL.

PROPOSAL TO REMOVE CURRENT OESs FOR 2,3-EPOXYPROPYL ETHERS (GLYCIDYL ETHERS)

Current limit: 8 hour TWA OESs

HSC proposal: Withdraw current OESs

- 21 9 respondents supported HSC's proposals without giving specific reasons why.
- 22 One individual respondent commented that whereas substances under review are listed in table 4 of EH40, it is not clear if the above ethers will be documented. The respondent felt it would be unfortunate if their potential hazard went unrecorded following the withdrawal of OESs. He suggested that there should be an extension of table 4 (or even a new table 5) in EH40 to list those substances with known hazards that have had, but no longer have, a MEL or OES.

HSE response

- 23 HSE believes that it is not worth redesigning the tables in EH40 at this time. HSE is currently reviewing the OEL framework and changes to the layout of the tables in EH40 could result. HSE aims to have the new framework in place by June 2004.

p-PHENYLENEDIAMINE

Current limit: OES of 0.1 mg.m^{-3}

HSC proposal: Retain existing OES, introduce Skin notation

- 24 8 respondents supported HSC's proposals without giving specific reasons why.
- 25 One respondent representing a professional association agreed with the proposal but suggested that as the substance is known to be a skin sensitiser and because there is no conclusive evidence concerning respiratory involvement, a 'Sen' notation should also be included.

HSE response

- 26 HSE does not support this suggestion. The 'Sen' notation is applied to substances which either (a) are assigned the risk phrase 'R42: may cause sensitisation by inhalation' in the CHIP Approved Supply List (ASL) or (b) are listed in certain legislation – the Social Security Act 1975, or schedule 3 of RIDDOR. Para-phenylenediamine is not listed in that legislation; it is included in the ASL but without R42. WATCH endorsed the conclusion that there is insufficient evidence to support the classification as a respiratory sensitiser using the criteria for R42.

METAL WORKING FLUIDS

Current limit: OES mineral oil mist 5 mg.m^{-3}

HSC proposal: Exclude metal working fluids from the OES for mineral oil mist

- 27 9 respondents supported HSC's proposals without giving specific reasons why.
- 28 One individual respondent supported the proposals with the suggestion that industry needs some sort of standard/sampling technique for non-refined straight oils, as this group is very common in the workplace.
- 29 One independent consultant suggested that HSE should develop separate provision for metal working fluids.
- 30 An industry association respondent supported the exclusion of metal working fluids from the mineral oil OES and requested that HSE ensure that its inspectors follow a consistent approach in pushing for tighter control measures.

HSE response

- 31 The monitoring method for neat oils (MDHS84) covers all hydrocarbons, excluding general dust and water and thus will be suitable for non-refined straight oils.
- 32 Major new guidance on good practice standards for reducing health risks to workers exposed to metal working fluids (MWFs) was announced by HSE in July. The main health concern associated with metal working fluids is dermatitis, with around 200 cases reported each year-related to exposure to cutting oils and coolants. There is also an association between exposure to these fluids and respiratory effects, including bronchitis and asthma. HSE's Deputy Director General will launch the new guidance packs at the first of a series of seminars being organised by HSE and the Engineering Employers' Federation starting this autumn.
- 33 HSE ensures a consistent approach by providing guidance and standards to all inspectors.

SUMMARY OF THE SUBSTANTIVE GENERAL COMMENTS MADE ON CD182
CONSULTATION DOCUMENT

- 34 Respondents representing an industry association, a professional association and one individual commented that the consultation document was clear and concise with generous discussion.
- 35 One respondent representing educational interests commented that it was a serious failing of HSE that information on exposure standards is not available online.
- 36 One respondent representing the views of a company commented that it was unfortunate that certain OESs were being withdrawn prior to guidance being issued.
- 37 A Trade Union respondent requested that, when finalised, the new arrangements be communicated to the Maritime and Coastguard Agency (MCA) so that the protection contained in the amended regulations can be extended to cover seafarers.
- 38 One respondent from an industry association commented that the regulatory impact assessments related to business as a whole, and consequently showed very little sensitivity to the potential financial impact that these proposals might have on SMEs.

HSE response

- 39 HSE is introducing a new OEL framework and has recently launched Electronic COSHH Essentials. HSE will be considering whether or not there is scope to make better use of the Internet by linking Electronic COSHH Essentials to limits available on the web.
- 40 Generally, HSE has issued CHANs when proposing the removals of limits and has found these to be a useful form of guidance. The exceptions to this are metal working fluids and glycidyl ethers where CHANs have not been issued. Extensive guidance has now been developed for metal working fluids, which is due to be launched this autumn. Evidence suggests that glycidyl ethers are no longer used and HSE therefore believes that there is no need for any new guidance.
- 41 HSE will notify the MCA of these developments by writing to a contact with a complementary copy of EH40 2003.
- 42 In the case of chloroethane, there was judged to be no cost to small businesses at a MEL of 50 ppm. In the case of hydroquinone, small firms are concentrated in sectors that use the chemical in product form. In these sectors there is a much lower risk of exposure than in those which use the chemical as a raw material, such as bulk chemical supply, where large firms predominate. Therefore HSE judges that there will be no additional costs to small businesses in complying with the new hydroquinone MEL.

- 43 In the case of manganese, small businesses that will be affected by the MEL are identified as belonging to eight industries. Information was obtained from small businesses in two of these industries: casting and metal finishing, and welding. In the casting and metal finishing industry, in which there are around 300 small businesses, one company that regularly melts manganese steel claims that it will face costs disproportionate to other small businesses. The Small Business Litmus Test found, that firms complying with a MEL of 0.5 mg.m^{-3} would face few or no problems. In the welding sector, a MEL of 0.5 mg.m^{-3} would impose relatively small costs