

WATCH COMMITTEE PAPER		WATCH/2006/4	
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WATCH COMMITTEE

Occupational Hygiene Intelligence within HSE

Issue

1. Information paper concerning HSE's Occupational Hygiene intelligence needs and capabilities.

Timing Considerations

2. Routine

Recommendation

3. N/A

Background

4. In this instance hygiene intelligence is taken as information concerning industries and work processes that can give rise to exposures of people to toxic substances. This is a subset of the occupational hygiene discipline.

5. An occupational hygiene risk assessment is generally communicated as a report. The contents of a typical report are shown in annex 1 and inform the quality and relevance of exposure and contextual information. Such hygiene intelligence provides knowledge of duration, frequency and intensity of exposure in the workplace but also provides contextual information on the use of engineering, procedures and the human interactions that lead to adequate control. This intelligence allows HSE to be proportionate and to develop robust policies based upon sound evidence. Some examples of the use of hygiene intelligence are shown in annex 2.

6. HSE currently records occupational hygiene information on the National Exposure Database. This is a database of airborne exposure with fields showing process and modifiers such as LEV. The data fields in the National Exposure Database are shown in annex 3 and conform to the requirements suggested by the ACGIH/AIHA and a European working group on the core information necessary for a hygiene database.

7. A cross sectional working group in HSE is considering the options for replacing or improving the National Exposure Database. The working group aims to present recommendations to HSE's Science Coordinating Committee (SCC) in March 2006.

Argument

8. The generation of occupational hygiene information is costly and HSE is unlikely to produce enough information on it's own. Partnership working with third parties in information sharing could cut costs and generate a more comprehensive data set for both HSE and stakeholders. For example industry and academia produce occupational hygiene information for regulatory and research purposes. In addition new regulations, such as REACH (Registration, Evaluation and Authorisation of Chemicals), will require industry to perform risk analysis and identify risk controls. Any model used in this process will have to be populated

with information from a database. There is the possibility of harmonisation of systems and data sharing.

9. HSE needs information about process, task and control to put exposure data in context in order to target and evaluate it's activities. The contextual information recorded in the National Exposure Database is currently under review to determine if it is sufficient for this purpose and also to consider if there is relevant information for sharing with partners.

10. Specifically HSE is considering:

- How information is used within the organisation.
- How contextual information can be better recorded.
- How information can be shared with partners.
- How quality control issues could be handled.

Link to HSC Strategy

12. This is a generic, "business enabling" issue of relevance to HSE's substance-specific assessments within both Statutory work and the Disease Reduction Programme. It is also relevant to the development and validation of tools such as COSHH Essentials.

Consultation

13. No wider consultation on the content of this cover paper beyond HSE has been undertaken at this stage.

European Context

14. There are links in this work to the database proposed for the REACH programme.

Action

15. N/A

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References / Attachments

Annex 1. Information collected by hygienists

When a hygienist considers a workplace they gather information which informs a professional opinion of how exposure to toxic materials can be controlled. To do this hygienists consider some or all of the following information:

- Aims and objectives of visit
- Number of persons employed.
- Number of persons exposed.
- What do the company do? / How do they do it?- (details of process/job/task).
- Toxic substances (e.g. silica, flour, styrene, fibres) and effect of formulation.
- Scale of activities - e.g. how many machines etc used?
- Duration/frequency of task/job/process - e.g. length of shift, number of shifts per week?
- Sources of exposure: What, where, effect of substance (dustiness, vapour, pelleted, solution etc)?
- Commentary on Respiratory protective Equipment (RPE)/Local Exhaust Ventilation (LEV) – type, suitability, use, training, maintenance, effectiveness.
- Type of sample taken? e.g. personal/static, 8hr TWA/STEL, range, units (ppm and mg/m3)? Biological monitoring data?
- What exposure limit were the results compared against?

- Observations: Modifiers such as time spent at task and whether this level of activity was usual. Do employees follow instruction, are the controls used properly what level of understanding does the employee have of the risk and controls of exposure.
- Discussion of above and how they interrelate.
- Recommendation on improvement.

This forms an information picture of the workplace combining process, control and exposure information.

Annex 2. Some examples of the uses HSE makes of hygiene information

- Assess level of compliance.- Provide information on industry practice to inform enforcement decisions e.g. welding radiators in classic cars
- Inform guidance e.g. validation of COSHH Essentials task sheets for silica.
- Communicate patterns of exposure to employers, employees and regulators Contributions to rubber industry database and providing the Canadian government with information on silica exposure.
- Epidemiology e.g. IIAC position paper 14, silica related renal disease and Liverpool University project on carcinogen exposure.
- Limit setting, determination of reasonable practicability e.g. TGIC review.
- Modelling (e.g. EASE)
- Assess effectiveness of strategies and interventions e.g. Survey of trends in chemical exposure (IOM in press).

Annex 3. A table showing the data fields in NEDB and examples of entries.

Fields in the National Exposure Database

Item	Example/range
Substance	Dichloromethane
Industry	Furniture stripping (SIC code)
Process	Paint removal
Job	Tank Operator
Occupier name and address	ACME Chemicals, Anytown, Anywhere
Date of Visit	23-Jun-00
Sample Type	Personal/static-Short term/long term
Measured concentration of the substance in the atmosphere	85
Units of measurement	ppm
Duration of sample	125 minutes
8-hour time-weighted average concentration	55 ppm (calc)
Visit type	Survey
Respirator	Yes/no
LEV control	Yes/no
Sampling procedure	MDHS XY

Exposure type	Normal/High/Low
Exposure pattern	Continuous or Intermittent
Number of people employed on site	23
Number of males exposed	3
Number of females exposed	2
Sample reference	1234
Report reference	34567
Abstract	Approx 300 word summary of report