

# G409

## COSHH essentials: General guidance



This information will help employers (including the self-employed) comply with the Control of Substances Hazardous to Health Regulations 2002 (COSHH), as amended, to control exposure and protect workers' health.

It is also useful for trade union safety representatives.

This sheet explains what exposure measurement (air sampling) entails and what level of service you should expect of a consultant.

Ensure that all employees:

- co-operate with sampling surveys - these are for their benefit;
- do their jobs as normally as possible while being sampled;
- tell the consultant if they accidentally damage or contaminate the sampler; and
- see the results of sampling, and be told what they mean.

Warn workers not to interfere with samplers - this will be obvious to the consultant.

# Exposure measurement: Air sampling

## Control approach 4 Special

### Introduction

- ✓ 'Exposure measurement' requires a survey to assess people's exposure to substances in workplace air, and discover how and why this exposure happens.
- ✓ 'Personal sampling' is taking an air sample near the worker's breathing zone to measure the amounts of airborne substances inhaled for a stated task.
- ✓ Other sampling may be needed to assess controls.

### Exposure measurement is required:

- for COSHH assessment, to help in selecting the right controls;
  - where there is a serious risk to health from inhalation of the substance;
  - to check that exposure limits are not exceeded;
  - to check that your exposure controls work well enough, or if you need improvements;
  - to check that new controls work well enough;
  - to help choose the right level of respiratory protection;
  - after process or production changes that mean exposure may have changed;
  - to show any need for health surveillance; or
  - when an Inspector issues you with an 'Improvement Notice' requiring monitoring.
- ✓ Exposure measurement is not an alternative to controlling exposure. Measurements are best done after controls have been applied.
  - ✓ Exposures vary from day to day. They may be higher on another day when no measurements were taken.
  - ✓ If the results for a given task are below one third of the exposure limit, your controls are probably good enough.

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### How do I sample air?

- ✓ Sometimes you can use special meters, smoke tubes or colorimetric detector tubes to see if there is a problem with your controls.
- ✓ Normally you need specialised sampling equipment. Contact a health and safety consultant in occupational hygiene - see 'Useful links'.
- ✓ Ask tendering consultants for evidence of their competence, and that of any laboratories they plan to use. How will they check that you understand their report?
- ✓ Sometimes you will also need biological monitoring to detect exposure through skin contact, by swallowing, or if respirators are not working well enough.

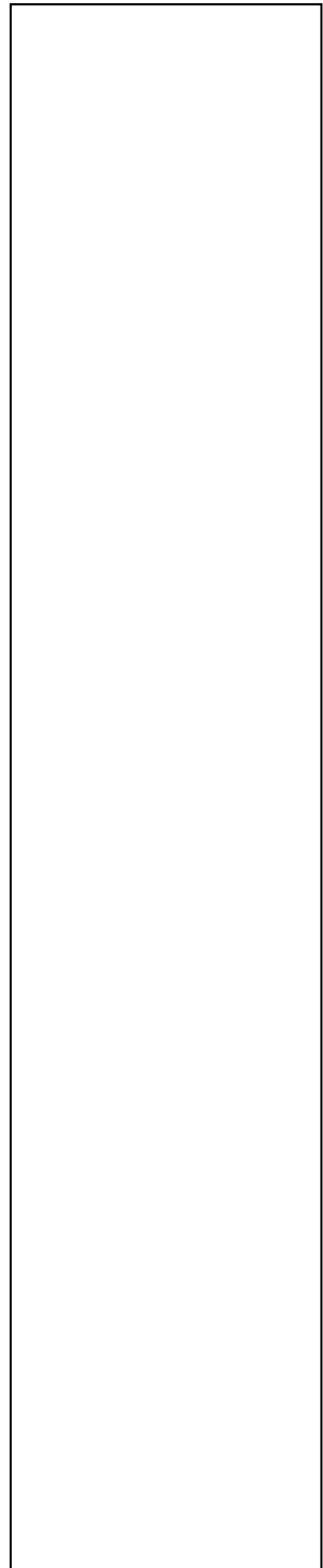
### Important points you need your consultant to cover

- ✓ Arrange sampling on a busy day when everything is working normally. (Unless you need to sample a particular process such as plant maintenance.)
- ✓ Make it clear that you want personal samples to compare with exposure limits. Background (static) samples can be used to tell where substances escape into the workplace.
- ✓ Demand 'context' information with personal samples (the person, the task, the work pattern, the controls used, their performance, and any other information concerning the work environment).
- ✓ Ask for comments (eg if other routes of exposure could be important).
- ✓ Your consultant should include all the monitoring results and interpret them (eg for risk, for indication of control deterioration).
- ✓ Ask for recommendations on how to maintain or improve the controls, on future monitoring needs, and where appropriate, for advice on health surveillance.

### What the consultant's report should include

#### *Facts:*

- background to, and the purpose of the survey;
- the process measured, the work patterns, and the hazards involved;
- the control measures in place, and their performance;
- photographs and diagrams;
- what measurements were taken (long and short-term), and how;
- how and where samples were analysed;
- exposure limits or exposure benchmarks, and whether these are protective of health;
- any industry standards of good control practice; and
- results, related to a plan of the process. This includes how 8-hour time-weighted average concentrations were calculated.



**Opinion:**

- identified exposure sources, discussion of results, compliance with standards, the adequacy of controls and an assessment of risk;
- identification of tasks not measured that are likely to be an exposure source;
- any work groups that could be exposed but were not measured;
- other matters of concern, and how to address them;
- recommendations for improvement (eg action plan for controls, training, health surveillance); or
- recommendations for further surveys to measure the effectiveness of the changes.

**What is it likely to cost?**

- ✓ Get an estimate. A professional survey will last at least a half-day, sometimes several days, and could cost a few thousand pounds. It depends a lot on the type of chemicals involved, the amount of sampling, and laboratory work.
- ✓ Don't pay for failures of sampling pumps or sample losses.
- ✓ Provide the consultant with past sampling results, to put the current survey into context.

**Further information**

- *Monitoring strategies for toxic substances* HSG173 (Second edition) HSE Books 2006 ISBN 0 7176 6188 1

**Useful links**

- Contact the British Occupational Hygiene Society (BOHS) on 01332 298101 or at [www.bohs.org](http://www.bohs.org) for lists of qualified hygienists who can help you.
- Workplace Exposure Limits (WELs) are listed at For information about health and safety, or to report inconsistencies or inaccuracies in this guidance, visit [www.hse.gov.uk/](http://www.hse.gov.uk/). You can view HSE guidance online and order priced publications from the website. HSE priced publications are also available from bookshops.
- Look in the Yellow Pages under 'Health and safety consultants' and 'Health authorities and services' for 'occupational health'.
- Also see [www.nhsplus.nhs.uk](http://www.nhsplus.nhs.uk).

This document is available at: [www.hse.gov.uk/pubns/guidance/](http://www.hse.gov.uk/pubns/guidance/) and [www.hse.gov.uk/coshh/essentials/](http://www.hse.gov.uk/coshh/essentials/)

**This document contains notes on good practice which are not compulsory but which you may find helpful in considering what you need to do.**

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