

# G408

## 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 covers the points you need to have clear when using urine tests to measure isocyanate exposure. Urine sampling indicates the success or failure of control, it does not replace air sampling.

Exposure to isocyanate should be as low as is reasonably practicable. This includes people working nearby. However, urine tests detect levels of exposure that are well below workplace exposure limits.

# Urine sampling for isocyanate exposure measurement

## Control approach 4 Special

### Introduction

- ✓ Isocyanates often occur in:
  - two-pack spray paints, lacquers underseals and varnishes;
  - some glues and adhesives;
  - foam and plastic production;
  - building products (floor mastics, wall seals, fillers, attic treatments, etc); and
  - hot work on polyurethane foam, cured paint or plastic.
- ✓ A biological monitoring guidance value is set at 1 micromol urinary diamine per mol creatinine, for urine samples taken at the end of the task. This is not a statutory limit - it is a value that most companies using good practice can get below. It has no significance for health.

### Urine tests

- ✓ Urine testing is recommended to assess exposure to isocyanate and the effectiveness of controls such as respiratory protective equipment (RPE) and safe working procedures. It supplements air sampling, which assesses the effectiveness of mechanical controls.
- ✓ Testing works by measuring the breakdown products of isocyanate in urine. This means taking samples of urine from workers that may have breathed in spray or vapour, and from unprotected workers nearby.
- ✓ Urine samples may be taken once or twice a year, unless it is clear from results that exposure is not happening.
- ✓ Companies with good control practices - which includes training and instruction of workers - can get isocyanate exposures down to very low levels. Urine testing is a sure way to check that workers' exposures are properly controlled. If not, the control measures may not be working properly. The action is to investigate how or why the controls were ineffective, and remedy them.
- ✓ Urine samples should be collected immediately the task or shift has finished.
- ✓ The Health and Safety Laboratory (HSL) offers a commercial service to measure isocyanate breakdown products in urine. HSL charges about £50 per sample, which includes a kit for collection, packing and instructions. Other labs may be able to offer equivalent services.

### Consent

- ✓ You need workers' informed consent - a model form appears on page three.

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### Interpreting results

- ✓ Urine tests for isocyanate give no information about health, they are simply a measure of exposure. If workers are concerned, arrange for them to talk to an occupational health professional.
- ✓ Results need interpreting - eg why are the results high? HSL can advise on simple practical ways of setting up a biological monitoring programme, and can help in interpreting the results. A single high result may need a second, confirmatory sample.
- ✓ Show workers their results, and tell them what action you plan to take.

### Quality assurance

- ✓ Any laboratory offering a service should participate in a relevant quality assurance scheme.

### Further information

- Williams N, Jones K, Cocker J (1999). *Biological monitoring to assess exposure from isocyanate use in motor vehicle repair*. Occup. Environ. Med. 56 pp. 598 - 601.

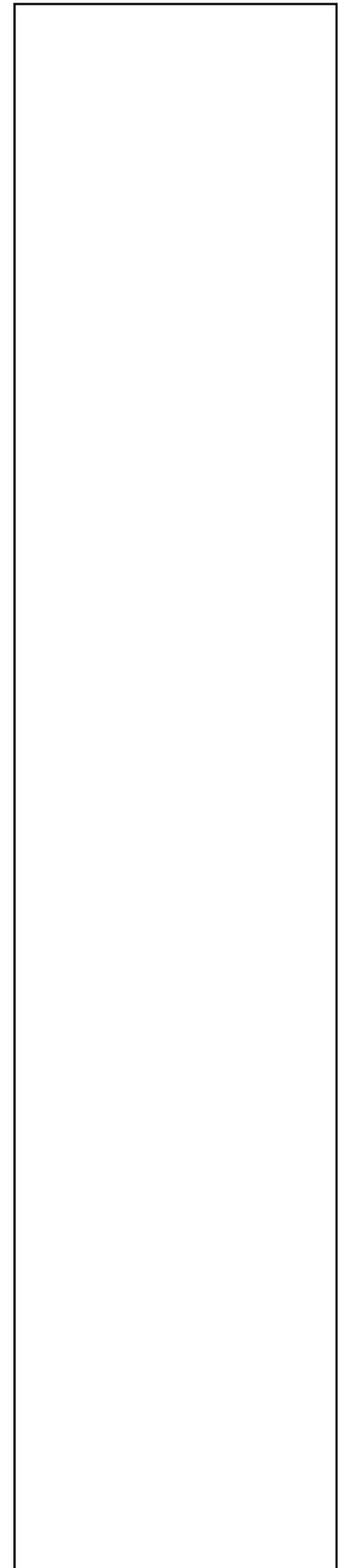
### Useful links

- For information on how HSL can work with you to resolve your health and safety issues and meet your requirements, contact:  
Business Development Unit, Health & Safety Laboratory, Harpur Hill, Buxton SK17 9JN. Tel: 01298 218218 e-mail: [hslinfo@hsl.gov.uk](mailto:hslinfo@hsl.gov.uk) or log onto [www.hsl.gov.uk](http://www.hsl.gov.uk).
- 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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### **Informed consent**

You need workers' informed consent - use a form similar to the example shown below.

### **Informed consent**

Regarding the control of exposure to isocyanate at \_\_\_\_\_(premises),  
your agreement is needed to provide a sample of urine  
to a representative of \_\_\_\_\_(service provider),  
to decide whether further steps are needed to control your exposure.

#### **Please note:**

- 1 The sample will **only** be analysed for isocyanate exposure
- 2 The result will indicate your **personal** exposure to isocyanate
- 3 Do you want to receive your **own** copy of the results, and be told what it means? YES / NO

If YES, send the result to: \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

You can show the results to your Trade Union safety representative, if you wish.

- 4 The result will show whether improvements in control are needed to reduce your exposure.
- You can send my personal test result and interpretation to my employer. YES / NO
  - You can send my anonymised result and interpretation to my employer. YES / NO
  - You may send only the interpretation to my employer. YES / NO.

Employee's signature \_\_\_\_\_ Date \_\_\_\_\_