

Health Surveillance for Hexavalent Chromium Compounds

Introduction

Hexavalent chromium compounds can harm humans in a number of ways. Most commonly they can cause chrome ulcers and severe burns. This can occur through short-term skin contact, especially if the skin is cut or damaged.



Nasal septum perforation due to chrome ulcer



Chrome ulcer perforation on the fingers

Longer-term exposure can lead to nasal septum perforation as well as life-changing and life-threatening illnesses, specifically:

- **Lung cancer;**
- **Asthma; and**
- **Allergic contact dermatitis.**

Because these compounds are so hazardous, the law requires companies who use them to carry out checks to make sure their workers are not being injured. This process is known as health surveillance and is in addition to checks required for process controls and fortnightly monitoring of electrolytic processes.

When are health checks required?

Only those likely to be exposed to hexavalent chromium compounds need to have health checks. This includes platers/anodisers and anyone who might handle stock chemicals or contaminated objects (eg jiggers).

Two types of health check are typically used:

- **Initial (ie pre-placement)- looking for existing symptoms that may need referring for medical opinion; and**
- **Periodic health checks of exposed employees.**

Who can carry out health checks?

Health checks of this type need to be carried out by someone properly trained in accordance with the instructions of an occupational health doctor or nurse who should be involved in setting up the health surveillance system. The employer should officially appoint the trained person/persons (who is known in the law as the 'responsible person'). It's unacceptable to appoint someone to carry out skin checks unless

they are trained to know what to look for, how to record and keep the results and what they should do if they suspect a problem. You may choose to bring in a competent health service provider to carry out some or all of these checks. Further information can be obtained from the Employment Medical Advisory Service (based at your local HSE office).

What checks are required?

Initial assessment will include checking for existing skin conditions (eg rashes, chrome ulcers, nasal septum perforations) and respiratory problems (Form 1 on page 4, is approved for this purpose).

Period health checks are required to detect skin conditions and asthma symptoms. If skin or respiratory sensitisation or nasal irritation/perforation is suspected, the person should be referred (with their consent) for a medical opinion.

The 'responsible person' should carry out skin inspections of hands and forearms twice each week. This is to look for chrome ulceration, and rashes that may indicate chromium sensitisation and to remind employees to cover cuts and grazes with water-proof dressings. These checks need to be recorded (eg using Form 3 on page 4). If experience shows that no adverse conditions are detected, the frequency of inspections can be reduced but the minimum requirement is once a month. If skin problems re-occur, inspection should revert to twice a week.

The 'responsible person' should complete respiratory questionnaires with people exposed to hexavalent chromium compounds after six weeks, six months and then annually after starting work with these compounds. (Form 2 on page 3, is approved for this purpose).

Reporting adverse health conditions to HSE

Besides referring skin or respiratory problems for medical opinion, there is a separate legal requirement to report to HSE any cases of:

1. Cancer of a bronchus or lung
2. Chrome ulceration of a) the nose or throat; or
b) the skin of the hands or forearms
3. Occupational dermatitis; or
4. Occupational asthma

which are related to exposure to hexavalent chromium compounds.

You should complete the **Form F2508A** and sending it to your local HSE office. Alternatively, you can notify over the internet at: **www.riddor.gov.uk/**. A Welsh version of the form is also available from this site.

You may also telephone details to the Incident Contact Centre - **telephone : 0845 3009923.**

Failure to notify is a criminal offence.

Information, instruction and training

You are legally required to provide information, instruction and training to employees exposed to hazardous substances so that they know:

- the risks they are exposed to;
- the precautions they need to take and why they need to take them; and
- the symptoms of ill-health they should look out for.

You must inform these employees of the results of fortnightly monitoring and other relevant testing. Information provided must be understandable - just providing data sheets is unacceptable.

Useful publications

Chromium and its Inorganic Compounds - Health Hazards and Precautionary Measures - Guidance Note EH2 (rev) 1998 - HSE Books

Health Surveillance of Occupational Skin Diseases Guidance Note MS 24 1998 HSE Books

Medical Aspects of Occupational Asthma. Guidance Note MS 25 1998 HSE Books

HSE Surface Engineering Web Pages - Extensive health and safety information covering the surface engineering industries <http://www.hse.gov.uk/surfaceengineering/index.htm>

HSE Books can be ordered via the internet or by telephoning 01787-881165

Appendix

Health Records

COSHH regulation 11(3) "Approved Code of Practice" states:

Particulars approved by the Health and Safety Executive.

1 A record containing the following particulars should be kept for every employee undergoing health surveillance:

(a) surname, forenames, sex, date of birth, permanent address, post code, National Insurance Number, date of commencement of present employment and a historical record of jobs involving exposure to substances requiring health surveillance in this employment;

(b) conclusions of all other health surveillance procedures and the date on which and by whom they were carried out. The conclusions should be expressed in terms of the employee's fitness for his work and will include, where appropriate, a record of the decisions of the employment medical adviser or appointed doctor, or conclusions of the medical practitioner, occupational health nurse or other suitably qualified or responsible person, but not confidential clinical data.

2 Where health surveillance consists only of keeping an individual health record the particulars required are those at 1(a) above.

Sample questionnaires to satisfy these requirements follow. Form 1 is a record of skin condition and Forms 2 and 3 are suggested formats for initial and on-going checks relating to respiratory sensitisers. The forms can be used by a 'responsible person' as part of health surveillance. Individual occupational health professionals may wish to modify them to suit their local circumstances.

Form 2

Initial Questionnaire for Surveillance of persons who will be working with known Respiratory Sensitisers

To be completed by the responsible person

Company name: _____

Address: _____

In this workplace substances are in use that have been known to cause allergic chest problems. Following the risk assessment under the Control of Substances Hazardous to Health Regulations 2002 (COSHH) Regulation 6, management have decided to carry out a programme of pre-exposure and periodic health surveillance in compliance with COSHH Reg 11 (2b) and the Control of Substances that Cause Occupational Asthma Approved Code of Practice

In some cases further advice may be required from the company occupational health adviser.

I understand that a programme of health surveillance is necessary in this employment and will form part of my management health record.

Signature of employee _____ Date _____

Signature of responsible person _____ Date _____

Referred for further investigation

Please answer the following questions:

1 Surname _____ Forenames _____
Date of Birth _____
Home address _____

Tel number _____

To be completed by the responsible person.

(a) No further action required

(b) Refer to company occupational health adviser.

Signed _____ Date _____

I confirm that the responses given by me are correct and that I have receive a copy of the completed questionnaire.

Signed _____ Date _____

- | | Yes | No |
|---|--------------------------|--------------------------|
| 2 Have you any chest problems, such as periods of breathless, wheeze, chest tightness or persistent coughing? | <input type="checkbox"/> | <input type="checkbox"/> |
| 3 Do you believe that your chest has suffered as a result of any previous employment? | <input type="checkbox"/> | <input type="checkbox"/> |
| 4 Do you or have you ever had any of the following?
(Do not include isolated colds, sore throats or flue). | | |
| (a) Recurring soreness of or watering eyes. | <input type="checkbox"/> | <input type="checkbox"/> |
| (b) Recurring blocked or runny nose. | <input type="checkbox"/> | <input type="checkbox"/> |
| (c) Bouts of coughing. | <input type="checkbox"/> | <input type="checkbox"/> |
| (d) Chest tightness. | <input type="checkbox"/> | <input type="checkbox"/> |
| (e) Wheezing. | <input type="checkbox"/> | <input type="checkbox"/> |
| (f) Breathlessness. | <input type="checkbox"/> | <input type="checkbox"/> |
| (g) Any other persistent or history of chest problems. | <input type="checkbox"/> | <input type="checkbox"/> |

Form 1

Record of Skin Inspections required by EH2

Name of Employer _____

Address of works _____

Enter records of inspection in columns, dating and initialling them and using the following symbols:

O No Comment

K Some injury or cuts

R Referred to the employer (serious skin condition, eg ulcer, dermatitis) - where this entry is made the responsible person should bring it to the attention of the employer.

List of persons employed in process				Particulars of examination by responsible person								
Employee's Name(in full) Address inc post code National insurance No.	M/F	Other jobs in Co. requiring health surveillance (if any)	Date started present employment	Date	Date	Date	Date	Date	Date	Date	Date	Date
				Result	Result	Result	Result	Result	Result	Result	Result	Result

Form 3

Health Questionnaire for On-going Surveillance of persons working with Respiratory Sensitisers

To be completed by the responsible person

Company name: _____

Address: _____

The questionnaire should be completed six weeks, six months and annually after employment commences or as advised by the company occupational health adviser.

Further advice will be required from the company occupational health adviser if any yes box is ticked.

Since starting your present job have you had any of the following systems either at work or at home? (Do not include isolated colds, sore throats or flu).

- | | | |
|--|--------------------------|--------------------------|
| | Yes | No |
| (a) Recurring soreness of or watering eyes. | <input type="checkbox"/> | <input type="checkbox"/> |
| (b) Recurring blocked or runny nose. | <input type="checkbox"/> | <input type="checkbox"/> |
| (c) Bouts of coughing. | <input type="checkbox"/> | <input type="checkbox"/> |
| (d) Chest tightness. | <input type="checkbox"/> | <input type="checkbox"/> |
| (e) Wheezing. | <input type="checkbox"/> | <input type="checkbox"/> |
| (f) Breathlessness. | <input type="checkbox"/> | <input type="checkbox"/> |
| (g) Any other persistent or history of chest problems. | <input type="checkbox"/> | <input type="checkbox"/> |

To be completed by the responsible person.

(a) No further action required

(b) Refer to company occupational health adviser.

Signed _____ Date _____

I confirm that the responses given by me are correct and that I have receive a copy of the completed questionnaire.

Signed _____ Date _____

