Safety Services Guidance

Skin sensitisers

Key word(s):	Skin sensitisers, dermatitis, See also guidance on respiratory sensitisers
Target audience:	Anyone using or exposed to skin sensitisers; COSHH assessors, Principal Investigators

Management cycle	Useful paragraphs
Plan	1-4,
Do	5-12, 13-17
Monitor	15-17
Review	

Introduction

1. Skin sensitisers can cause contact dermatitis, which is irritating and at times unsightly, but not generally fatal.

2. Once someone is sensitised, continued exposure can result in permanent vulnerability and increasingly severe symptoms. Once established, attacks can be triggered by exposure to minute concentrations of the sensitiser. They can occur immediately upon exposure, or several hours later. Individuals are seldom sensitised on their first exposure. Generally, it happens after months or even years of breathing in the sensitiser. There is a significant degree of personal variation in who may respond to a sensitiser and to what extent.

3. By its very nature, once established, sensitisation is often extremely difficult to treat except by total avoidance of the substance, and prevention is therefore the key to effective control.

4. Sensitisers are subject to the Control of Substances Hazardous to Health Regulations 2002 (as amended). Exposure must be assessed, and avoided or prevented wherever this is reasonably practicable.

Skin sensitisers

5. Under the CHIP regulations, skin sensitisers were assigned the risk phrase R38 "Irritating to skin". Under the Classification, Labelling and Packaging (CLP) Regulations, the hazard statements are:

   H315 – Causes skin irritation.
   H317 – May cause an allergic skin reaction.

   It is also worth noting the phrases covering eye irritation:

   H318 – Causes serious eye damage.
   H319 – Causes serious eye irritation

6. Note: the risk phrase R38 "Irritating to skin" indicates that the substance can cause a non-allergic skin reaction, i.e. it can damage the skin by physical means such as de-greasing. Such substances do not trigger the need for health surveillance, but advice about skin conditions caused by them, and skin care programmes, should be obtained from Occupational Health.

7. There are 3 main types of skin reaction:

- Irritant contact dermatitis: A reversible non-allergic condition which may be caused by a variety of agents including solvents (degreasers), acids and alkalis. The skin becomes dry, peeling and itchy. Once the irritant agent has been identified and contact with it ceases, the symptoms disappear and do not recur.
- Type I allergy: immediate hypersensitivity reaction (identified by risk phrase R43). An immunoglobulin E (IgE) mediated reaction. Response normally occurs 5 –30 minutes after exposure and symptoms include a localised or more generalised rash plus other more widespread symptoms including in severe cases anaphylactic shock.
- Type IV allergy: delayed cell-mediated reaction (also identified by risk phrase R43). In this case, the reaction may be delayed for 6-48 hours after exposure. Response is confined to the area of contact although it can spread. A localised itchy rash may develop. Subsequent reactions may include: slight redness, itching, swelling and cracking of the skin, oozing red blisters.

8. The following table is a summary of the more common substances responsible for cases of dermatitis.

Substance group	Common activities and links
Latex	Use of latex protective gloves, see Occ Health's Guidance on Latex
Nickel	Soldering, nickel containing equipment (can include scissors, jewellery, coins)
Chromium	Cement, chemical labs
Colophony / rosin	Resins, solder flux, adhesives (non-colophony fluxes are available)
Isocyanates	Lab work including production of resins, polyurethane foams
Some plant material	Includes plants with high sap content, some fruits, cereals,
Fibreglass	Work with insulation materials, glass-reinforced plastics, glass wool
Metal working fluids	See Safety Services guidance on Biohazards and other hazards associated with metalworking fluids

9. The COSHH assessment should also consider chemicals with the "Sk" notation in EH40[1] (includes acrylamide, methyl ethyl ketone, other ketones, alcohols, chloroform) which degrease the skin layer and make the skin more vulnerable

[1] http://www.hse.gov.uk/pUbns/priced/eh40.pdf

to infection or damage. Prolonged wet work or work with disinfectants, detergents or bleaches can have the same effect.

10. Avoidance of symptoms is the key objective. If skin (or eye) sensitisers are to be used, COSHH assessments should identify all necessary controls in the following order of preference:

    - replace the sensitiser with another less harmful substance or use an alternative procedure altogether
    - use a formulation that ensures the substance is less likely to come into contact with skin or need handling (eg granules instead of powder, pre-made solutions or gels)
    - reduce the number of people involved in handling the substances, and / or the times they are exposed
    - provide suitable protective gloves or eye protection, and other clothing if appropriate, and ensure that staff and students know why it is important to wear it

11. For those already affected, Occupational Health staff can provide advice on skin care programmes, including the use of barrier and moisturising creams before and after work.

12. Hand washing facilities should be easily accessible to those using skin sensitisers (i.e. within the laboratory or room).

Information to give to users of skin sensitisers

13. Regulation 12 of the COSHH Regulations 2002 (as amended) requires employers to give information, instruction and training to persons who may be exposed to substances hazardous to health. This includes staff and students, and clearly relates to the use of sensitisers.

14. The information given will need to be tailored to the individual(s) receiving it, and will need to be more explanatory and detailed for undergraduate students than for experienced staff. In all cases, however, it should include:

    - the nature and degree of risks to health, including any known factors that may increase risk (e.g. smoking)
    - symptoms of sensitisation
    - the importance of reporting relatively minor symptoms at an early stage (sensitisation is irreversible)

- the proper use of any control measures needed to ensure exposure is insignificant, or adequately controlled
- the need to report any failures in the control systems (e.g. faults on fume cupboards)
- if health surveillance is necessary, the reasons and arrangements for this.

Health surveillance for skin sensitisers

15. Under the COSHH Regulations, health surveillance is required where:

    - certain substances are used in certain processes (mainly manufacturing), or
    - exposure gives rise to an identifiable disease or adverse health effect that may be related to exposure and there are valid techniques for detecting the disease or effect.

16. Skin sensitisers fall into the second category.

17. The COSHH assessment should identify the need for health surveillance, in addition to suitable control measures. If it does, the assessor[2] must notify the University Occupational Health Service of all users needing health surveillance, and provide a copy of the COSHH assessment on request. The assessor must also advise users of the requirement to attend Occupational Health in accordance with the agreed surveillance protocol.

Bibliography

HSE microsite on health surveillance

Occupational Health Guidance on latex
HSE microsite on Latex

HSE publication on Preventing Contact Dermatitis at Work

HSE's library of images of work related skin conditions

Skin checks for dermatitis

Document control box

[2] Or the person for whom the assessment is carried out. For researchers, this will normally be the PI.

Title	Skin sensitisers
Link to Policy or Chapter	University Health & Safety Arrangements Chapter 9: Health and safety risk management and risk assessment – key principles
Original date of issue:	May 2005
Issued by:	Safety Services
Implementation date:	Version 2.1 (January 2017) personnel change. Version 2.0 issued March 2015. Original guidance separated into guidance on skin and respiratory sensitisers. Addition of CLP hazard statements, removal of Appendix 2 and reformatting; addition of table of common skin sensitisers. Version 1.0 issued May 2005
Version:	2.0
Next review date:	Upon significant change
Owner of this document:	Head of Safety Services, Dr Patrick Seechurn
Lead contact:	Dr Elaine Armstrong