Chemical Safety

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Latex Disposable Glove Use Policy and Guidance

Occupational Health and Safety Service
HSD034C (rev3)

UNIVERSITY OF CAMBRIDGE

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Latex Disposable Glove Use: Policy and Guidance

Introduction:

Natural rubber latex has the potential to cause asthma and dermatitis.

It is therefore a 'Substance Hazardous to Health' and has been specifically designated so by the Government's Health and Safety Executive (HSE 2005).

Wherever possible the appropriate alternative glove materials such as nitrile, neoprene, chloroprene, vinyl or synthetics must be used.

Risk Assessment:

The use of latex gloves within the University must be restricted to **ONLY** those occasions where they are the safest option following a risk assessment **and their use must be subject to a written risk assessment** in accordance with the Control of Substances Hazardous to Health Regulations (COSHH) and HSE guidance.

Health Surveillance:

HSE guidance specifically requires regular health surveillance of staff using latex gloves (at least annual systematic monitoring), including an assessment of the individual's respiratory health and skin condition. This would normally be carried out within a department by a responsible person using the Occupational Health and Safety Service's surveillance forms for the use of natural rubber latex gloves. **Initial Health Assessment Questionnaire HSD041C** and **Annual Health Assessment Questionnaire HSD042C**, but also available on the OHSS website.

These are health surveillance records and must be kept for at least 40 years.

NB: Any positive symptoms **MUST** be reported to Occupational Health (3036954 or email occhealth@admin.cam.ac.uk and the use of latex cease immediately, pending investigation.

Note:

1. Where latex gloves are essential, they **must be low protein and powder free** and the time they are in use (personal exposure time) should be minimised.
2. Disposable gloves, in general, should only be worn when there is a risk (to the user, or to the object handled) that requires their use.
3. Wearing any type of disposable gloves for long periods of time can cause dermatitis.
4. Nitrile gloves can contain chemical accelerators, which have also been implicated in dermatitis. Accelerator-free or low-accelerator nitrile gloves should present a reduced risk (check manufacturer's specifications).
5. Disposable gloves in general may contain 'pinholes', possibly up to 1 in 8 of cheaper gloves, therefore some applications may require 'double gloving'.
6. Disposable gloves are only suitable for chemical protection against 'occasional splashes' and **not** immersion in substances hazardous to health.
7. Disposable gloves are tested to a European standard for degradation and chemical break-though times, which will vary for each type and make of glove.
8. Degradation and chemical break-though times may be dramatically reduced for many chemical mixtures compared to their individual components.

Remember: The use of powdered latex gloves is NOT permitted.

Responsible Person within a Department:

A person within a department or work/laboratory area should be nominated to be responsible for issuing the health surveillance questionnaires to employees working with natural rubber latex gloves, upon the employee's appointment and at annual intervals. This person will be responsible for referring to the Occupational Health Service any employee who responds positively to any of the questions on the form and making arrangements to keep the completed forms in the department as confidential health records for at least 40 years, as required by the COSHH Regulations.

The responsible person does not have to have any special training or qualifications.

Further Reading:

1. University Documents available on the Safety Office website (http://www.safety.admin.cam.ac.uk/) include:

- Hazardous Substances Policy.
- Guide to Hazardous Substance Risk Assessment.
- Chemical Hazard Risk Assessment Form.
- Safe Biological Practice.
- Occupational Health's; Health Surveillance Questionnaires for the use of Natural Rubber Latex disposable (NRL) gloves.
- Occupational Health's; Guidance for the Prevention of Glove Sensitivity (Appendix 1 to this document).
- **Departmental Initial Latex Health Surveillance Questionnaire: HSD 041C**
- **Departmental Annual Latex Health Surveillance Questionnaire: HSD 042C**

2. HSE documents available on their website (http://www.hse.gov.uk) include:

- Latex Allergies - Latex Allergies The Law.
- Asthma – Causes.
- Health Surveillance for Occupational Asthma.
- Latex and You

3. Supplier's catalogues / websites for up-to-date chemical breakthrough times and degradation rates for disposable gloves i.e. Fisher Scientific or Ansell's websites

Appendix 1

GUIDANCE FOR THE PREVENTION OF GLOVE SENSITIVITY

1. Introduction

The aim of this guidance is to reduce the incidence of latex allergy and other problems associated with wearing latex gloves.

2. Background

The use of latex gloves increased exponentially in the 1980's as a barrier to blood borne viruses. At that time gloves were usually powdered with cornstarch for ease of application, and additionally had very high levels of extractable protein and chemical accelerator. Increasingly we received reports of health care workers and laboratory staff beginning to develop symptoms of allergy to latex.

3. Clinical Features of Glove Sensitivity

There are three types of glove allergy or sensitivity

1. Irritant Contact Dermatitis
   This is the most common problem associated with wearing gloves. However it is not an allergic response. It is characterised by dry, crusty skin with papules, cracks or sores. Up to 35% of glove users will be affected at some time. The cause is frequently attributed to glove use, but its cause is commonly multifactoral. Frequent hand washing, strong scrubbing agents, soaps and detergents are additional causes.

2. Allergic contact dermatitis Type 1V
   This reaction has a similar presentation to irritant dermatitis. It is a reaction to residual chemicals used in glove manufacture. This allergy is a Type IV delayed-type cell mediated hypersensitivity. The reaction is local, appearing only where the skin was exposed to rubber. It usually appears several hours or days after contact with the offending chemical. Once sensitivity to a specific chemical occurs contact with only small amounts will produce the reaction. As the same chemicals are used in the manufacture of latex and non-latex gloves it is not always appropriate to change to a different material. The solution is finding a glove without the specific chemical.

3. Immediate Allergic Reaction – Type 1
   This is considered the most serious reaction and it is due to allergy to the latex protein. It is possible to eliminate most of this protein during the manufacturing process and so reduce the incidence of latex allergy. Symptoms of Type 1 reactions vary from mild urticaria (wheal and flare reaction, hives) to rhinitis, conjunctivitis, facial swelling, respiratory distress, asthma or anaphylaxis.

4. Prevention of Glove Sensitivities

Choosing the correct glove is the most effective way of preventing the development of skin problems. Non-powdered gloves with extractable protein levels below 50 micrograms/gram and low levels of residual accelerator (preferably less than 0.1% w/w total residual accelerator) should be the only gloves used. Non-latex gloves, including nitrile and vinyl are being phased in as a safer alternative. They are already available in all areas for people who have or develop allergic reactions to latex.

5. Prevention of Irritant Contact Dermatitis

Wearing any form of protective glove may have adverse effects upon the hands. Using antiseptic or germicidal agents, or continuously washing and drying the hands with detergents or soaps after wearing gloves may dry out the skin by depletion of the natural oils. Powders or other lubricants that make the gloves easier to put on may irritate the skin. Sweating or rubbing under the gloves may also contribute to skin irritation. The alkaline nature of much soap also helps to strip away the protective acid mantle of the skin. This often results in dry, cracked, scaly skin with redness, swelling and blistering. The symptoms never extend beyond the margin of the gloves. When the skin becomes injured it is important to remember that it cannot act as a barrier and protect the body from infection and common contact allergens.

Gloves should only be worn for activities when personal protective equipment is the only feasible form of protection. When using gloves appropriate hand care is essential to minimise reactions.

Use a mild soap whenever an antiseptic is not needed
Thoroughly rinse off residual soap
Thoroughly dry hands with non-abrasive hand towels
Appropriate use of emollient hand cream, which should be applied first thing in the morning, during breaks at work and at the end of the working day, allowing sufficient time for the cream to be absorbed before donning the gloves.
Use of an oil-based cream under the gloves will incur degradation of the latex and release allergenic proteins.

If any symptoms of a glove related skin condition occur this should be reported to the Occupational Health Service.

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