

Occupational Health Service

GLOVES

Take all the steps you can to avoid exposure before resorting to the use of protective gloves. Gloves form part of personal protective equipment (PPE) and are used frequently in combination with other control measures. Gloves differ in design, material and thickness. No glove material will protect against all substances and no gloves will protect against a specific substance forever. The choice will depend on the hazard, length of exposure and the level of dexterity needed for the task. PPE is often less effective and less reliable than other control measures and so care must be taken to:

- Identify the substances handled.
- Identify all other hazards.
- Consider the type and duration of contact.
- Consider the user - size and comfort.
- Consider the task.

Identify the substances handled

Water/wet work

Prolonged or frequent contact with water, 'wet work', particularly in combination with soaps and detergents, can cause dermatitis. To protect the hands from 'wet work' choose a glove that meets the European Standard EN374-2. This shows that the gloves are waterproof.

Substances in products, created by work processes and 'natural' substances

Substances in products. Some products contain substances that can harm the skin or enter the body through skin contact. The product label or material safety data sheet should tell you if this is the case. These may also give information on what protective gloves to use. If this is missing then try contacting the product supplier or manufacturer for help.

Substances created by work processes and 'natural' substances. Not all harmful substances come in labelled containers. Substances can be generated during work activities (eg wood dust from sanding, solder fumes). Remember that handling some 'natural' substances like foods and flowers can cause skin problems too. If you are unsure if a substance produced by a work process or a natural substance you are handling is harmful, you can get help from a variety of sources, eg your trade association, this website or [HSE info line](#).

To protect hands from substances/chemicals choose a glove that meets the European Standard EN374-3. But make sure the glove material you choose protects against the substances being handled.

Glove manufacturers usually produce charts to show how well their gloves perform against different substances:

- **Breakthrough time** is the time a chemical takes to permeate through the glove material and reach the inside. Permeation is a process by which a chemical can pass through a material without going through pinholes or pores or other visible openings. This tells you how long you can use a glove for.
- **Permeation rate** is the amount that then permeates through. The higher the rate the more of the chemical will move through the glove. Choose a low rate.
- **Degradation:** deterioration of the glove material on contact with a specific chemical. It may get harder, softer or may swell. Choose gloves with an excellent or good degradation rating.

Keep in mind that the manufacturers' data is for pure chemicals, not mixtures. When you mix chemicals, their properties can change. As a rule of thumb, base your glove selection on the component in the mixture with the shortest breakthrough time. However, the only way to be absolutely sure that a glove performs well against the mixture is to have it tested.

Some people develop an allergy to gloves made of natural rubber latex. Choose non-latex gloves unless there are no alternatives that give the protection needed. If you must use latex, choose low-protein, powder-free gloves.

Identify all other hazards for hands

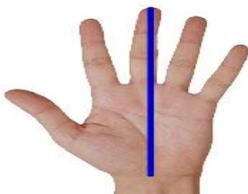
Identify any other hazards present. For example, is there a risk of, abrasion, cuts, puncture or high temperature? There are chemical protective gloves that also give protection against mechanical hazards (those marked EN388) and thermal hazards (those marked EN407).

Consider the type and duration of contact

- Will gloves be worn for a short time intermittently or for long periods? Comfort is more important for longer wear. Generally, thicker, robust gloves offer greater protection than thinner gloves but thinner gloves offer better dexterity.
- Will contact be from occasional splashes or by total immersion? Short gloves are fine to protect against splashes. If hands are immersed (and you can justify that this is unavoidable), choose a length greater than the depth of immersion.

Consider the user - size and comfort

- Gloves should fit the wearer. Tight gloves can make hands feel tired and loose their grip. Too large gloves can create folds; these can impair work and be uncomfortable. It can help to use [sizing charts](#).



Length : Measure from the bottom edge of palm to the tip of your middle finger to determine your 'finger length' size.



Width: Wrap a measuring tape around your dominant hand just below knuckles, excluding your thumb, and make a fist. This measurement is your 'hand width' glove size.

- Comfortable gloves are more likely to be worn. Involve employees in the selection process and give them a reasonable choice to pick from. This can sometimes promote buy-in to wearing them.
- Hands can sweat inside gloves making them uncomfortable to wear. Getting employees to take glove breaks, removing gloves for a minute or so before hands get too hot and sweaty, can help air the hands. Supplying separate cotton gloves to wear under protective gloves may also be of help as these can increase comfort by absorbing sweat. They can be laundered and reused.

Consider the task

Gloves should not hamper the task. If wet/oily objects are handled, choose gloves with a roughened/textured surface for good grip. Select gloves that balance protection with dexterity. Ensure the gloves selected meet any standards required for the task, eg sterile gloves, food grade gloves. Consider whether colour is important, eg to show up contamination.

Information, Instruction and Training

All employees using gloves should be taught how to use gloves properly to protect themselves and when they should be replaced, and if using reusable gloves they should be rinsed before removal (if practical). Advice and facilities should be provided for stored. Review use periodically and get employee feedback, this can help check that the gloves are performing properly.

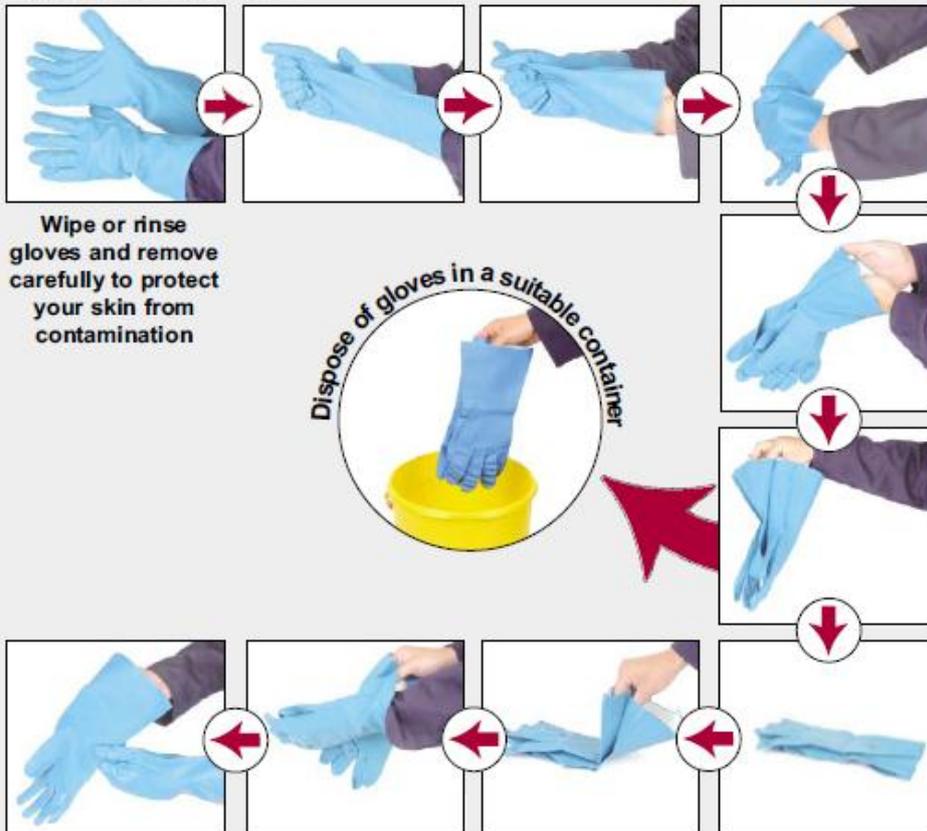


Health and Safety
Executive

Correct removal of gloves

Reusable gloves (chemically resistant)

Follow the steps shown



Wipe or rinse
gloves and remove
carefully to protect
your skin from
contamination

Dispose of gloves in a suitable container

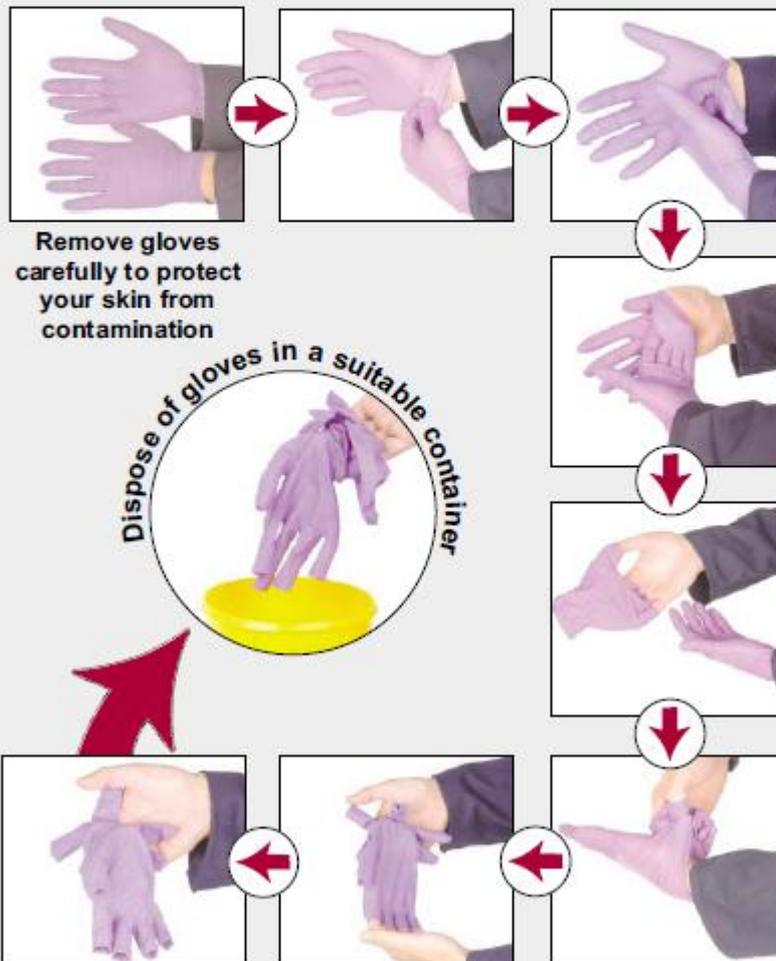
Store gloves on a
clean surface for
re-use

- Always select the correct size gloves
- Use gloves for no longer than one day

Correct removal of gloves

Single use gloves (splash resistant)

Follow the steps shown



Memory aid for selecting protective gloves

Extracted from HSG262 - Appendix 3 (<http://www.hse.gov.uk/pubns/priced/hsg262.pdf>)

Company:		Reference:		
Department:		Date:		
Contact:		Number of workers:		
Description of task:				
Substance handled:				
<input type="checkbox"/> Wet work <input type="checkbox"/> Hazardous substances				
Substance	Form (solid, liquid, gas etc.)	Concentration	Temperature (during use)	Label or Material Safety Data Sheet attached?
Other hazards present:				
Mechanical: <input type="checkbox"/> Snag <input type="checkbox"/> Puncture <input type="checkbox"/> Abrasion <input type="checkbox"/> Cut <input type="checkbox"/> Tear				
Thermal: <input type="checkbox"/> Heat <input type="checkbox"/> Cold <input type="checkbox"/> Hot splashes <input type="checkbox"/> Hot sparks				
Biological: <input type="checkbox"/> Infectious material (bacteria, viruses etc.) <input type="checkbox"/> Body fluids (blood, urine etc.) Other (e.g. antistatic needed, radiation protection needed):				

Type and duration of contact:
Type of contact: <input type="checkbox"/> Accidental splash <input type="checkbox"/> Direct contact <input type="checkbox"/> Immersion (note depth) <input type="checkbox"/> deposition
Duration of contact: <input type="checkbox"/> Occasional contact (note maximum contact time) <input type="checkbox"/> Continual contact (note maximum contact time)
Wearer requirements:
Sizes required:
Inner gloves required:
Length of arm to be protected:
Any known skin allergies or other considerations:
Task requirements:
Grip requirements: <input type="checkbox"/> Dry grip <input type="checkbox"/> Wet grip <input type="checkbox"/> Oily
Dexterity requirements: <input type="checkbox"/> Precision <input type="checkbox"/> Some dexterity <input type="checkbox"/> Optimum protection, dexterity less important
Colour requirements (eg to show up contamination):
Special requirements (eg sterile, food grade):