



University of St. Andrews

The Selection, Use and Maintenance of Personal Protective Equipment (PPE)



SELECTION, USE AND MAINTENANCE OF PERSONAL PROTECTIVE EQUIPMENT (PPE)

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1 INTRODUCTION

During many every day tasks, including research, teaching, catering or Estates maintenance, University staff and students may be exposed to chemical, physical, biological or environmental hazards. The aim of the University is to ensure that where persons are exposed to hazards they are provided with, and trained in the use of, personal protective equipment (PPE) in accordance with the Personal Protective Equipment at Work Regulations 1992. However, PPE should only be used following an appropriate risk assessment and as a last means of controlling the hazard. Separate policies exist covering risk assessment and hazard control. This booklet provides guidance on the PPE regulations and information on the responsibilities of various individuals within the University.

2 STATUS OF THIS CODE

This Code of Practice and standards is part of the University's arrangements for bringing into effect the Health and Safety Policy of the University Court and should be implemented as such in conjunction with other codes and guidance published by this University. Heads of Schools/Units are responsible for the implementation of this Code and for ensuring that the standards it contains are adopted and applied consistently throughout their School or Unit.

Further guidance on health and safety management is available from Environmental, Health and Safety Services.

3 APPLICATIONS AND LIMITATIONS

This policy applies to all sectors of the University including teaching, research, Estates and other relevant areas of University Administration. The policy will be particularly applicable to science laboratories, workshops and other relevant Schools/Units. The policy is relevant to all work activities whether working abroad, on field trips or working within external organisations.

This policy does **not** apply to either **Diving** or **Asbestos stripping** operations, which are covered by separate legislation.

4 WHAT IS PPE?

PPE is defined as "all equipment (including clothing affording protection against the weather) which is intended to be worn or held by a person at work and which protects them against one or more risks to their health or safety". This does not include ordinary working clothes such as uniforms which do not have a specific health or safety function, nor does it apply to equipment used whilst playing competitive sport. However, equipment required for the safety of a sports instructor does fall within the category of PPE, for example, a life jacket for a canoeing instructor.

5 DUTIES AND RESPONSIBILITIES

Responsibility for the health and safety of employees/students and the implementation of this policy resides with the Head of School / Unit (HoS/U). However, everyone is responsible for their own safety and that of others, it is therefore up to all individuals to follow health and safety precautions. The following list highlights the areas of responsibility for PPE within a School / Unit.

5.1 HoS/U

- Ultimately responsible for all health and safety within the School / Unit
- Allocating sufficient funding for the provision and maintenance of PPE
- Ensure risks arising from work activity are identified and assessed
- Ensuring appropriate training programmes for the use of PPE
- Instigation of regular monitoring and testing of all PPE
- Ensuring supervisors are aware of their responsibilities towards those within their groups

5.2 Supervisors/Principal Investigators

- Carrying out appropriate risk assessments to correctly identify the need for PPE
- Provision of appropriate PPE
- Ensuring adequate training and, where necessary, supervision of those using PPE
- Maintain individual personal PPE training records
- Provide suitable storage accommodation for PPE provided
- Maintenance and regular testing of PPE
- Ensuring that, if required by a risk assessment, PPE is being worn

5.3 Individual Users (i.e. ALL staff and students)

- Taking reasonable care of themselves and others affected by their actions
- Using PPE provided in accordance with training and instruction given
- Using PPE in accordance with the findings of the relevant risk assessment e.g. COSHH, Manual Handling, Noise etc.
- Checking equipment for defects before use and reporting any loss or defects in the PPE provided
- Take all reasonable steps to ensure that their PPE is returned to the accommodation provided for it after use.

Heads of Schools/Units, Supervisors and Researchers should also take into consideration their responsibilities as set out in the University of St. Andrews publication entitled 'Health and Safety - Codes and Guidance'.

5.4 Liability

Non-compliance with the St. Andrews University local rules regarding health and safety which includes the PPE Regulations could result in disciplinary measures and exposes each individual, as well as the University, to both criminal and civil prosecution.

6 GUIDANCE NOTES

The issuing of PPE must always be regarded as a last resort when no other controls are reasonably practicable. A brief overview of the identification and selection of PPE is shown as a flow diagram in Figure 6.1. Each section is then presented in more detail.

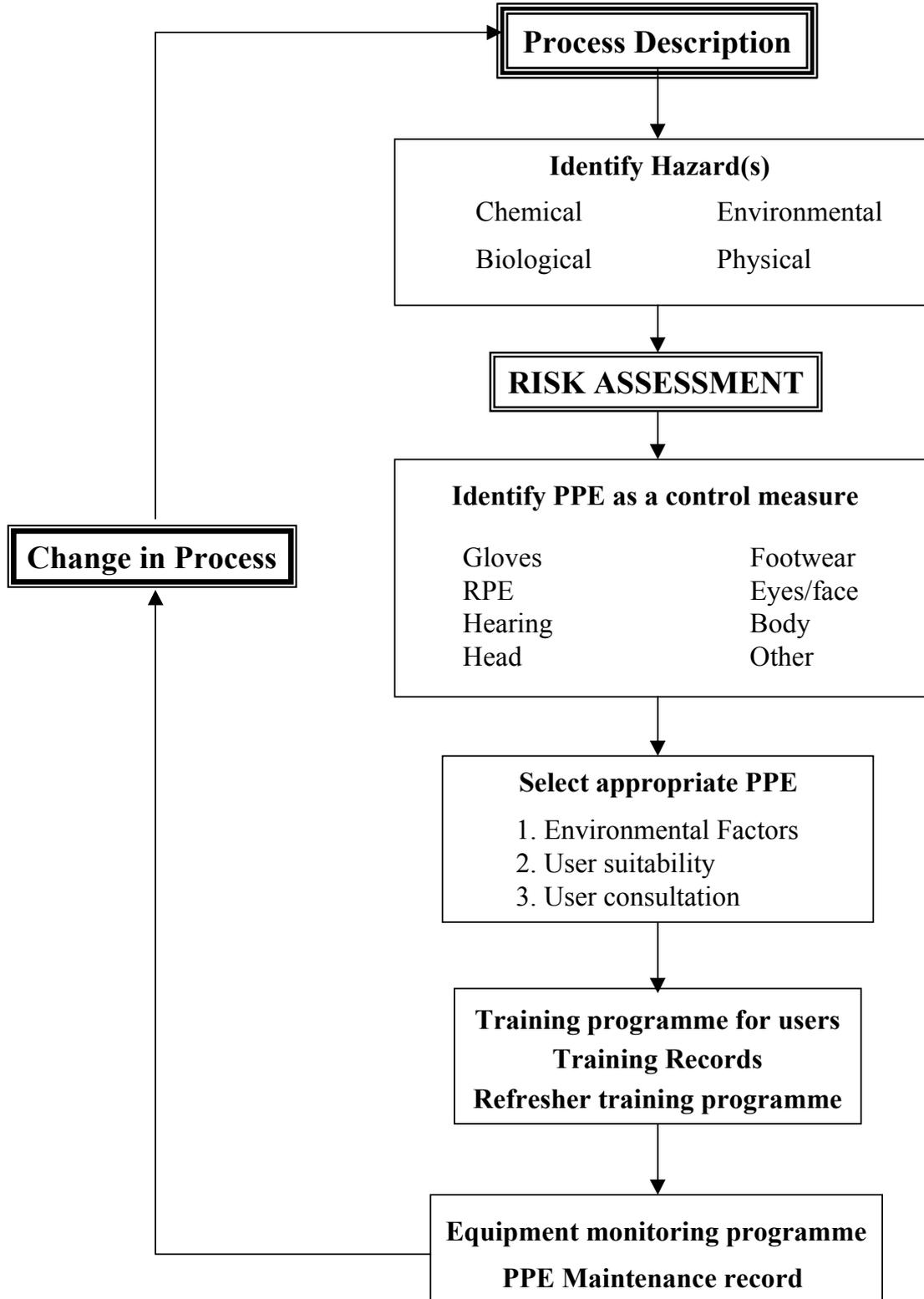


Figure 6.1. Overview of PPE identification and selection procedures

6.1 Assessment of Risk

When performing any task involving potential hazards to an employee, a suitable and sufficient risk assessment should be carried out. These may take various forms as shown in Figure 6.2 below and are covered under a variety of legislation and supporting approved codes of practice.



Figure 6.2. Risk assessments that may determine the need for PPE

In all cases the following points **MUST** be considered:

- Can a less risky option (procedure/substance) be used instead?
- Can the hazard be controlled (e.g. screening) such that PPE is not required?

ONLY USE PPE AS A LAST RESORT

It is important to remember that if PPE fails, the worker may be exposed to a significant risk to their health and/or safety.

6.2 The Provision and Selection of PPE

PPE must be suitable for the activity, conditions in which it will be used and the wearer. The following aspects should be taken into consideration when selecting PPE:

- Protection afforded and compatibility with other PPE should it be required
- Capability of PPE to fit the individual concerned
- Ergonomic and health requirements of the individual using the PPE

PPE should be specific to each individual and they should be consulted during the selection process.

- *A checklist (PPE-CFS) is provided in the Appendices should assistance in the selection of PPE be required*

PPE is divided into 3 categories:

- | | |
|---------------------|--|
| Category I | This category covers PPE of “simple design” such as sunglasses. |
| Category II | This category covers PPE that is neither of “simple” nor “complex” design such as hearing and head protection. |
| Category III | This category covers PPE of “complex design” to protect against mortal danger or dangers that may seriously or irreversibly harm health and includes respiratory protective equipment (RPE). |



All equipment made after the 1st July 1995 must carry the  mark. More complex equipment (category III) must also have a number identifying the notified body that approved the manufacturers quality system. Equipment in categories II and III should also have a BS/EN number stating exactly what the product will protect the user against (e.g. in the case of gloves whether they protect against extreme cold, extreme heat, mechanical hazards etc.). Equipment bought prior to this date is still usable provided it is suitable for intended use and carries the “CN/BS” mark to signify its compliance with the current legislation.

Sections 7 & 8 provide further resources to aid in the selection of PPE.

NOTE: THE UNIVERSITY DOES NOT HAVE BREATHING APPARATUS (EXCEPT FOR THOSE USED IN DIVING OPERATIONS) OR ANY PERSON TRAINED IN ITS USE. IF A RISK ASSESSMENT IDENTIFIES THE NEED FOR BREATHING APPARATUS, THE SUPERVISOR SHOULD CONTACT THE DIRECTOR OF ENVIRONMENTAL, HEALTH AND SAFETY SERVICES AS A MATTER OF URGENCY.

NOTE: *If a person has a medical condition which may affect their ability to wear PPE or develops a medical condition while wearing PPE, they should contact the Occupational Health Adviser (Tel: 2752) as soon as practicable.*

6.3 Information, Instruction and Training

Users of PPE must be made aware of and instructed in:

- the risks present and why the PPE is needed – this should be contained within the relevant risk assessment;
- when the PPE is to be used;
- how the PPE is used;
- how to examine for and report faults in the PPE;
- procedures in the event of failure of PPE.

For low risk hazards involving simple pieces of PPE, this training will generally be conducted by a competent person “on the job”. The use of the most frequently used pieces of PPE such as laboratory coats, safety spectacles and gloves should be covered in lab induction sessions on good laboratory practice.

Where the task constitutes a significant risk to health or the use of more complex or multiple pieces of PPE, a full written training protocol should be adopted. This should include

- conducting a pre-use check;
- how to use the PPE;
- how the PPE works, performance and limitations;
- how to fit the PPE properly;
- what to do if the PPE fails whilst in use;
- where the maintenance record is; and
- how to clean, decontaminate or dispose of the PPE safely.

Refresher training should be conducted at regular intervals. Refresher training in the use of complex items of PPE must be given at frequent intervals, particularly when the piece of equipment is not in regular use.

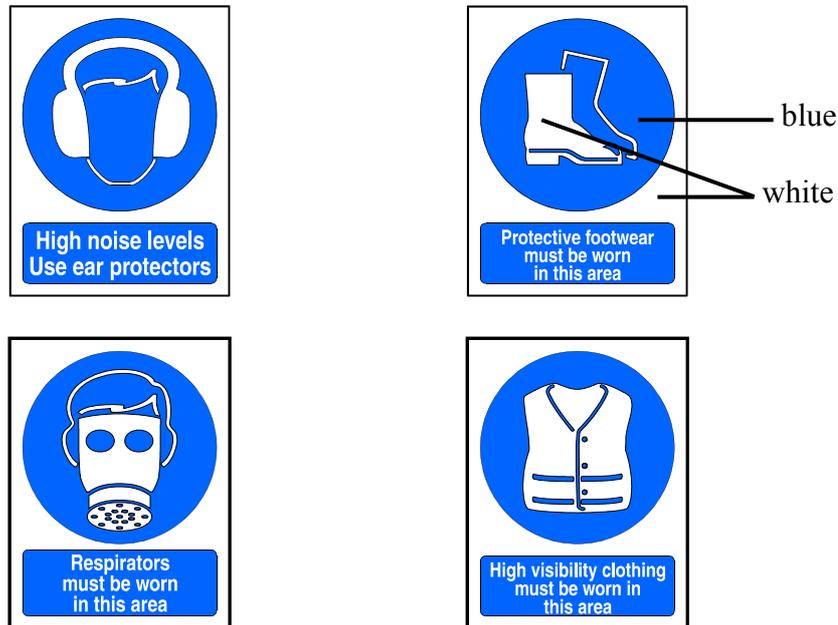
A record of all training should be kept for each individual.

□ *For a model training record form (PPE-ITR) see Appendices.*

Where appropriate, new users should be supervised in the use of PPE.

6.4 PPE and Designated Safety Zones

PPE must be used where and when identified in a risk assessment. The use of mandatory safety signs indicate areas where PPE must be worn. Everybody entering these areas must wear the PPE specified. Advice regarding signage may be obtained from Environmental, Health and Safety Services.



IT IS IMPORTANT THAT USERS WEAR PPE ALL THE TIME THEY ARE EXPOSED TO RISK

6.5 Maintenance, Testing and Replacement

All PPE must be:

- checked for defects on a regular basis, e.g. perished tubing, holes in gloves etc;
- cleaned and/or decontaminated after use and maintained in a hygienic fashion – laundry facilities may be required for certain items such as lab coats;
- stored in appropriate accommodation, e.g. safety goggles kept in a case, lab coats hung up in the lab; and
- replaced if lost or damaged, e.g. if Perspex lenses scratched.

Should the conditions in which the PPE is used alter, a new risk assessment should be conducted and the PPE changed if necessary.

Internal safety inspections must include examination and use of PPE as well as other formal equipment checks. –

□ *For an example checklist form (PPE-IR) see Appendices.*

6.6 Record Keeping

A record of each examination or test should be kept for each piece of equipment. The detail and content of the record will vary depending upon the type and use of the PPE concerned. For complex pieces of equipment this should contain the following information:

- Department and location of the piece of equipment;
 - Particulars of the equipment;
 - Date of examination/test;
 - Signature of the person who carried out the test;
 - Description of the condition of the equipment, including any defects found (in the case of pressurised cylinders the pressure in the supply cylinder should also be noted); and
 - Re-test date.
- *For an example maintenance record form (PPE-MR) see Appendicies.*

7 GUIDANCE ON THE SELECTION OF SPECIFIC PPE

The following sections provide more detailed information on selection of specific PPE. Some relevant literature and websites for further information or purchase of materials are also listed within these subsections.

7.1 Hand Protection



Gloves should be worn when handling:

- hazardous materials;
- toxic chemicals;
- corrosive materials;
- materials with sharp or rough edges; and
- very hot or very cold materials.

N.B. It is recommended that latex gloves are not used where reasonably practicable as it is known that latex can cause allergic skin responses. The University policy on latex sensitisation can be seen at the following website:

<http://www.st-andrews.ac.uk/staff/policy/Healthandsafety/Publications/Hazardalertsheets/LatexSensitisation-PowderedLatexRubberGloves/>

Where a risk assessment has identified that the use of latex gloves cannot be avoided, then only 'Non-Powdered Latex Gloves' should be used. If such gloves are used, then the user **must** undergo appropriate health surveillance by the Occupational Health Adviser (tel: 2752)

Selecting gloves for use with chemicals

Conducting a COSHH risk assessment will identify the need for gloves. Simply stating "gloves required" is **NOT ACCEPTABLE** as a risk assessment – the **type** of glove required **must** also be specified.

When handling chemicals in the laboratory, disposable vinyl or nitrile examination gloves are generally sufficient to protect against accidental splashes or contact.

If there is going to be greater length of time in contact with or immersion in the substance, gloves should be carefully selected based upon their chemical compatibility, breakthrough and degradation times.

Glove selection - the following properties should be taken into account when selecting the type of glove to be used:

Degradation – the change in one or more physical properties of the glove upon contact with the chemical. This is usually reported in a chemical compatibility chart as E (excellent), G (good), F (fair), P (poor), NR (not recommended) or NT (not tested).

Breakthrough time – the time between initial contact of the chemical on the surface of the glove and the analytical detection of the chemical on the inside of the glove. Given on a chemical compatibility chart in minutes.

Permeation rate – the rate at which the chemical passes through the glove once breakthrough has occurred and equilibrium is reached. This is usually reported as 0 (if there is no breakthrough), Slow, Medium or Fast.

For mixtures of chemicals the shortest breakthrough time should be used to select the glove material.

Permeation and degradation tests are performed under laboratory conditions and may vary significantly from the actual end-use conditions. Users may wish to conduct their own tests when working with particularly hazardous materials.

Many companies selling gloves will also provide a glove chart of usage with a large number of chemicals (for example see table 7.1).

These may be found in the catalogues. Some also offer a glove selection service.

Other aspects to be taken into account when selecting gloves are:

- dexterity requirements;
- size; and
- latex allergy (see University policy on Latex Sensitisation).

Before use, gloves should be examined for defects that may affect performance.

During use, do not touch anything else (such as hair, door handles etc.) other than the materials needing to be handled as this causes contamination.

Following use, disposable gloves should be removed carefully, peeling the first one off such that it is reversed. Use the inside of the first glove to remove the second glove. At no time should you touch the outside of the glove with your bare hand. Gloves should be appropriately disposed of (there are various waste streams for gloves contaminated with biological, radioactive, chemical or general material) and hands washed thoroughly.

Follow the manufacturer instructions for the care of re-usable gloves.

Figure 7.1 - General Guidance on Protective Gloves for Work with Chemicals.

Type of Chemical	Natural Rubber	Nitrile	Neoprene (TM)	PVC	Butyl	Viton (TM)
Water miscible substances weak acids/alkalis	X	X	X	X	-----	-----
Oils	-----	X	-----	-----	-----	-----
Chlorinated Hydrocarbons	-----	-----	-----	-----	-----	X
Aromatic Solvents	-----	-----	-----	-----	-----	X
Aliphatic Solvents	-----	X	-----	-----	-----	X
Strong Acids	-----	-----	-----	-----	X	-----
Strong Alkalis	-----	-----	X	-----	-----	-----
PCBs	-----	-----	-----	-----	-----	X

N.B. *Table 7.1 gives general guidance on the gloves to be used with certain types of chemicals. For information on the protective gloves to be used with specific chemicals you should seek guidance from the manufacturer.*

Selecting gloves for other purposes

Gloves should be selected as a result of the hazard identification and risk assessment. The risk assessment must specify the type of glove required, for example:

- Rubber gloves for washing up e.g. Marigold gloves;
- Leather gloves if there is a danger of cutting or stabbing e.g. handling broken glass;
- Chain mail gloves for heavy duty pieces of cutting equipment e.g. boning out meat.

N.B. It should be noted that disposable cotton liners are available for the comfort of PPE users in a non-laboratory environment e.g. under ‘Marigold’ gloves.

As in the case of selection of gloves for chemical usage, other considerations such as dexterity, size and allergy should be taken into account. Examine for defects prior to use and inform your supervisor if there are any problems. Gloves should be well maintained and stored in the appropriate place.

Listed below are the websites of several companies providing gloves:

<http://www.anselleurope.com/>

<http://www.indlsafety.com/>

<http://www.bestglove.com/>

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature also provides more information on the selection of gloves and some relevant European standards:

- Selecting Protective Gloves for Work with Chemicals: Guidance for Employers and Health and Safety Specialist INDG 330, HSE 2000, ISBN 0-71-761827-7

7.2 Respiratory Protective Equipment (RPE)

Respiratory protection may be required against

- Gases, vapours and fumes
- Dusts and aerosols
- Biological agents etc.

The need for RPE will be identified through carrying out a **COSHH risk assessment**.



RPE comes in 2 categories;

1. filters of contaminants (respirators); and
2. those which supply clean air from an independent source.

These two categories can be further broken down into sub-divisions (see Figure 7.2).

RPE must be selected carefully to ensure it gives adequate protection. The following aspects should be taken into account:

- the toxicity of the agent
- the size of the particle
- the amount of movement involved in the task and working conditions
- the individual, e.g. face shape, presence of beard, glasses etc. and
- the Workplace Exposure Limit (WEL) of the substance and contaminant levels.

RPE does not provide absolute protection against a respiratory hazard but provides a degree of protection. The level of protection is given by the **Assigned Protection Factor** number.

There are several British Standards for different RPE and these standards (the BS EN numbers) will give guidance on the hazards different types of RPE will protect against and protection factors. Examples of British Standards for RPE are given in figure 7.3.

NOTE: All mask type respiratory protective equipment must be tested to ensure that the mask forms an appropriate seal around the face and thus will give adequate protection to the worker. This '**Face Fitting**' must be done by an appropriately trained person.

Figure 7.2: Different Types of RPE

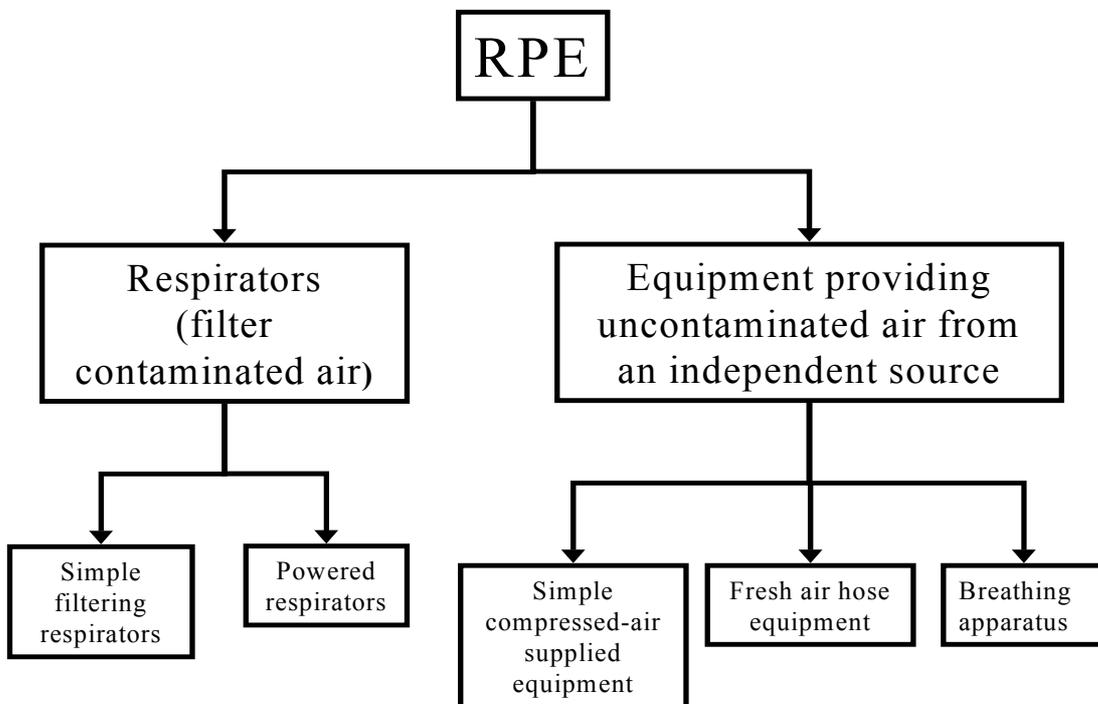


Figure 7.3 – British Standards for Respiratory Protective Equipment

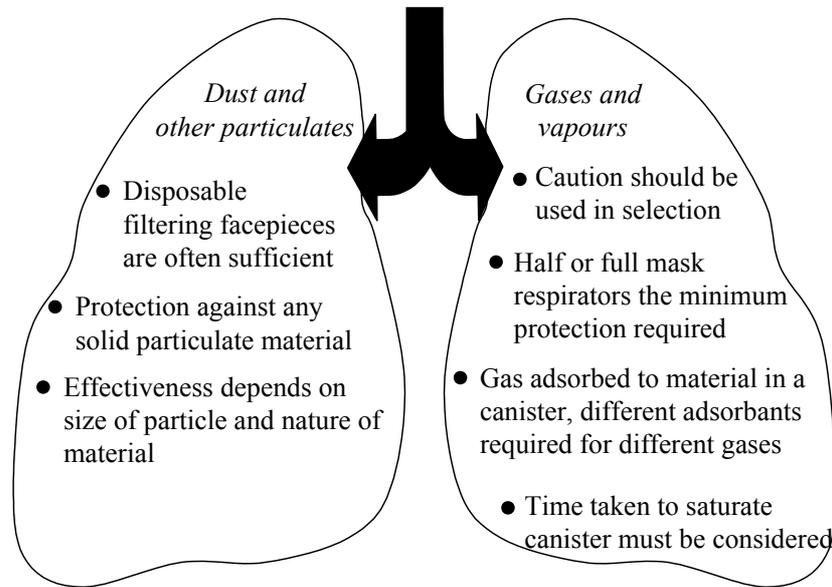
British Standard	Type of Respiratory Protective Equipment (RPE)	Hazards which the Respiratory Protective Equipment will Protect Against.	Class or Filter	Assigned Protection Factor
BS EN 149	Particle filter which covers the nose, mouth and chin	Only protects against dust particles NOT against gases or vapours.	FFP1 FFP2 FFP3	4 10 20
BS EN 405	Disposable half mask containing a gas filtering as well as a particle filtering element.	These masks can protect against dust particles and certain types and quantities of gases and vapours.	FFGasxP1 FFGasxP2 FFGasxP3	4 10 10
BS EN 140	Half mask covering the nose, mouth and chin. It is usually made of rubber or silicon and has replaceable filters.	The mask can be fitted with a series of replaceable filters to protect against dust hazards and gas hazards.	P1 P2 P3 Gas Gas+P3	4 10 20 10 10
BS EN 136	Full mask covering all the face. It is usually made of rubber or silicon and has replaceable filters.	The mask can be fitted with a series of replaceable filters to protect against dust hazards and gas hazards.	P2 P3 Gas Gas +P3	10 40 20 20
BS EN 12941	This is a positive pressure full face hood/helmet	This mask/helmet can be used to protect against dust particles and certain gases/vapour hazards.	TH 1 TH 2 TH 3	10 20 40
BS EN 12942	Power assisted full face mask respirator	This mask protects against both particulates and gases/vapour hazards. It is power assisted as if the power fails, the system will still filter the air reaching the worker.	TM 1 TM 2 TM 3	10 20 40

Training - RPE wearers **must** be fully trained in the use of the equipment, how to wear it and what its limitations are. Refresher training should be provided from time to time and records of training details should be kept so that the training programme can be administered efficiently (see section 6.3)

Maintenance - All RPE **must** be thoroughly examined on a regular basis at intervals of no greater than once a month. The examination period of half mask respirators that are used occasionally to protect against dust/fumes of low toxicity may be extended to 3 months. Records of thorough examinations should be kept at least 5 years. Equipment should be inspected before use and should not be used if any defects are found.

- A model equipment inspection form (PPE-MR) can be found in Appendices.

Respirators



RPE must be used when risk assessment has established the need to do so or where there is a notice indicating it is required. At NO TIME should the RPE be removed while still working with the hazard.

The following HSE publications provide extensive guidance in the selection and use of RPE and lists of manufacturers.

- *Respiratory Protective Equipment at Work - A practical guide (Published by HSE Books)* HSG 53, ISBN 0-7176-2904-X (2005)
- Respiratory Protective Equipment – Legislative requirements and lists of HSE approved standards and type of approved equipment. Third Edition, ISBN 0-1188-6382-7

Guidance on the use of RPE can be found on the Health and Safety at Work website at the following URL:

<http://www.hse.gov.uk/pubns/ppeindex.htm>

Websites of companies that supply respirators are given below

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

7.3 Eyes and Face Protection



Face and eye protection must be worn when there is a danger of splashing, sparks, explosion, ionising radiation, UV etc. .

Protection comes in the form of:

Safety spectacles like normal spectacles but tougher lens material with side shields to prevent impact from flying debris. The lenses in these may be corrective if required.

Safety goggles these are completely sealed around the eye area. Also impact resistant and should be used if there is the possibility of splashes from chemicals. The lenses cannot be made corrective although normal spectacles may be worn under them.

Face shields these are used when working with high volumes of hazardous materials or in more dangerous situations to protect against splashes and flying debris.

There are several British Standards for different eye protection and these standards (the BS EN numbers) will give guidance on the hazards different types of eye protection will protect against. Examples of British Standards for RPE are given in figure 7.4.

Figure 7.4 - British Standards for Eye Protection

Type of Hazard	BS 2092 Marking Frame and Lens	BS EN 166 Markings	
		Frame	Lens
Optical Class: Refractive Tolerance + 0.06 dio Refractive Tolerance + 0.12 dio Refractive Tolerance + 0.12/0.25 dio			1 2 3
Mechanical Strength: Minimum Robustness Increased Robustness (General Purpose) Low Energy Impact (Grade 2 – 125 ft/s) Medium Energy Impact (Grade 1 – 360 ft/s) High Energy Impact (570 ft/s)	BS 2092 BS 2092:2 BS 2092:1	F B A	S F B A
Use: Basic Liquids (Chemical) Large Dust Particles (Dust) Gas and Fine Dust Particles (Gas) Short Circuit Electric Arc Molten Metals and Hot Solids	C D G M	3 4 5 8 9	9
Optional Requirements: Resistance to Misting Resistance to Surface Damage (Anti-Scratching)			N K

Face and eye protection can be found at the following websites:

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature provides more information on the selection and use of eye protection and some relevant European Standards.

- *Personal eye-protection – Specifications* BS EN 166, BSI 1996, ISBN 0-5802-5198-5

Store items safely either in a case or on a peg – **PERSPEX SCRATCHES**

7.4 Hearing protection



Noise is measured in units called deciBels (dB(A)). It should be noted that dB(A) is a logarithmic scale thus a change of approximately 3 dB(A) is the equal to a doubling of noise levels. University guidance on the measurement of noise and how to control noise levels is given in the University publication entitled 'Health and Safety - Codes and Guidance'.

Exposure to noise during various processes can result in temporary or permanent deafness if the appropriate precautions are not taken. Hearing is at risk during the following:

- Constant noise above 80db for an 8 hour work period;
- Impact noise; and
- Explosive noise.

A good indicator of noise level being above the db threshold is having to raise your voice to speak to someone ½ m away. However, the Control of Noise at Work Regulations 2005 require a risk assessment to be conducted. This will be organised by Environmental, Health and Safety Services on request.

Protection must be selected to provide sufficient noise attenuation from the frequencies to which the worker is exposed. Workers required to wear hearing protection should contact the Occupational Health Adviser (Tel: 2752) to ensure appropriate health surveillance is performed.

Ear protection comes in the form of:

Ear plugs - which fit inside the ear canal, may not be suitable for people with a history of ear problems.

Canal caps - soft rubber caps attached to a headband which presses them into the openings of the ear canal.

Ear muffs – Hard plastic cups with sound absorbent filling which fit over the ears and are sealed to the head by cushions. They are pressed to the head by means of a head band or some special fittings attached to some types of safety helmet.

If verbal communication is required whilst ear protection is being worn, some suitable system must be put in place. ***Taking hearing protectors off even for a brief period of time when noise levels are high can cause result in damage to hearing*** (See figure 7.5).

**Figure 7.5 - Effect of Removing ear protection
reduction in Noise Dose recived**

Percentage of Time the ear Protection is Worn	Time Ear Protection is worn during the Day	Actual Noise Reduction (dB(A))
0%	Not Worn	-
50%	4 Hours	3
75%	6 Hours	6
87%	7 Hours	9
94%	7 Hours 30 Mins	12
97%	7 Hours 45 mins	15
97.9%	7 Hours 50 Mins	16.6
99%	7 Hours 55 mins	18.5
99.6%	7 Hours 58 mins	23
100%	All Day - 8 Hours	30

Ear protection can be found at the following websites:

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature provides guidance on the Noise at Work Regulations, the types and selection of ear protectors and some relevant European Standards:

- *Controlling Noise at Work - The Control of Noise at Work Regulations 2005 - ACoP (L108) (ISBN: 0-7176-6164 4) 2005;*
- **Noise at work** -Guidance for employers on the Control of Noise at Work Regulations 2005 (INDG 362 (rev1)) (2006);
- Protect your hearing or loose it (INDG 363 (rev1)) (2007)

7.5 Foot protection



Safety footwear is required if there is the risk of:

- crush or impact injuries;
- chemical or molten metal burns;
- contamination with harmful substances;
- penetration with sharp objects e.g. glass; or
- slipping.

The appropriate safety footwear should be selected in each instance, e.g. anti-slip footwear if the worker is on slippery floors, steel toe-capped boots if there is likelihood of crush or impact injuries.



In areas such as the laboratory/kitchens/grounds where any crush or chemical injury may be sustained, sandals, open toed shoes or bare feet **ARE NOT** acceptable.

Foot protection can be found at the following websites:

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature provides more details on safety and protective footwear:

- *Personal protective equipment. Safety footwear BS EN ISO 20345 (2004)*
- *Personal protective Equipment - Protective Footwear BS EN ISO 20346 (2004)*

7.6 Head Protection



Head protection of the appropriate type should be used at any time where there is a significant risk of head injury.

Head protection includes:

- Industrial safety helmets;
- Scalp protectors (bump caps); and
- Caps, hairnets etc. (excluded in the following guidance)

Head protection should:

- Be of an appropriate shell size for the wearer; and
- Have an easily adjustable headband, nape and chin strap.

Industrial safety helmets **must not** be subjected to chemicals or an environment which could reduce strength (such as excessively hot, humid or in direct sunlight). Helmets **must** be replaced when the helmet has received a severe impact including being dropped (even if no damage is visible), or when cracks or deep scratches appear or when the 'Use By' date is exceeded.

Head protection can be found at the following websites:

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature provides further details on head protection and some relevant European standards:

- *Construction (Head Protection) Regulations 1989 Guidance on Regulations L102*, HSE 1998, ISBN 0-7176-1478-6

7.7 Body protection



Protective clothing should be worn to protect against:

- Hazardous substances;
- Machinery parts; and
- Extreme conditions.

Where the user is only exposed to minor splashes and spills, standard lab coats, over coats or aprons are sufficient. Where the danger is greater, the appropriate protection material must be selected.

For example

- Flying glass, wear a leather apron
- Using a chainsaw, wear a chain mail apron
- Using strong acids, wear a rubberised apron
- When working in environments at extreme temperatures e.g. Cold Stores.

Other parts of the body included in body protection are the arms, legs, hands, feet AND the head. These must all be considered for protection when considering body protection – A FULL BODY SUIT MAY BE REQUIRED.

Loose clothing must not be worn near machinery due to the risk of it become trapped by moving parts.

Where body protection becomes contaminated, for example lab coats, it should remain within the area of use. Body protection should be washed regularly. Should the substance on the garments pose a risk to those washing them, disposable garments should be used and disposed of appropriately following use.

Use of Protective Creams

Barrier creams may also be used as a form of body protection.

These include

- Sunscreens to protect parts of your body from UV radiation that are not easily protected by clothes and thus protect against subsequent skin cancer when working outdoors or on field trips;
- Hand creams to be used when wearing gloves for long periods of time which reduce the chances of developing contact dermatitis;
- Where workers have to frequently wash their hands.

Body protection can be found at the following websites:

<http://www.fishersafety.co.uk>

<http://www.arco.co.uk/>

The following literature provides more information on various aspects of selecting protective clothing and some relevant European standards:

- *Work wear and career wear* BS 5426, BSI 1993, ISBN 0-5802-1619-5
- *Protective clothing - General requirements* BS EN 340, BSI 2003
- *Protective clothing for users of hand held chainsaws* BS EN 381 (all parts)
- *Recommendations for selection, use and maintenance of chemical protective clothing* BS 7184, BSI 2001
- *Protective Clothing & Footwear in the construction industry* UNIQUE 001360, HSE
- *Protective clothing - Gloves and arm guards protecting against cuts and stabs by hand knives. Gloves and arm guards made of material other than chain mail* BS EN 1082-2, BSI 2000, ISBN 0-5803-4611-0

GENERAL RESOURCES AND FURTHER READING

This section provides information regarding the relevant legislation pertaining to PPE and further resources on the implementation of various Regulations. Many of the sources listed are available from the Technical Indexes Health and Safety Database (available for viewing at Environmental, Health and Safety Services) or the HSE website <http://www.hse.gov.uk/index.htm>.

As well as the Personal Protective Equipment at Work Regulations 1992, the use of PPE is also covered in other legislation including:

- the Control of Substances Hazardous to Health Regulations 2002;
- the Ionising Radiation Regulations 1999;
- the Control of Noise at Work Regulations 2005;
- the Control of Lead at Work Regulation 2002;
- the Management of Health and Safety at Work Regulations 1999;
- the Workplace Health, Safety and Welfare Regulations 1992; and
- the Provision and Use of Work Equipment Regulations 1998.

Approved Codes of Practice guidance documents are available for each set of Regulations, several of which are listed below.

- *Personal Protective Equipment at Work Regulations 1992 (as amended). Guidance on Regulations* L25 HSE 2005, ISBN 0-7176-6139-3
- COSHH: A brief guide to the Regulations - What you need to know about the Control of Substances Hazardous to Health Regulations 2002 (COSHH) INDG 136 (rev3) 2005
- *Control of Substances Hazardous to Health – Approved Code of Practice (Fifth Edition). The Control of Substances Hazardous to Health Regulations 2002 (as amended) L5, HSE 2005, 0-7176-2981-3*
- *Workplace Exposure Limits 2005* EH40/2005, HSE 2005, ISBN 0-7176-2977-5.
- *Management of Health and Safety at Work – Management of Health and Safety at Work Regulations 1999 – Approved Code of Practice and Guidance* L21, HSC 2000, ISBN 0-7176-2488-9
- *Ionising Radiation Regulations 1999 – Work with Ionising Radiation – Approved Code of Practice and Guidance* L121, HSE 2000, ISBN 0-7176-1746-7
- *Managing Health and Safety in Construction - Construction (Design and Management) Regulations 2007 -Approved Code of Practice* L144, ISBN 978-0-7176-6223-4 HSC 2007.
- *Health and Safety in Construction - HS(G)150, HSE Books, ISBN 0-7176-6182-2 (2006).*
- *Printing Industry Advisory Committee - Control of Health Hazards in Screen Printing* UNIQUE 009622, HSC 1988, ISBN 0-11-883973-X

The Environmental, Health and Safety Services website also provides policy and University local rules and guidance on health and safety issues. The address of this website is as follows:

<http://www.st-andrews.ac.uk/staff/policy/Healthandsafety/Publications/>

APPENDICIES



* Type of PPE

* Activity

*Has a suitable and sufficient risk assessment been performed?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
* Has the User been consulted in the selection of the PPE ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
*Does the PPE protect the User from the risk(s) ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

If NO, Find an Alternative

		YES	NO
* Does the PPE affect the performance of the User ?	Restricted Movement	<input type="checkbox"/>	<input type="checkbox"/>
	Reduced peripheral vision	<input type="checkbox"/>	<input type="checkbox"/>
	Reduced communicative ability	<input type="checkbox"/>	<input type="checkbox"/>
	Reduced dexterity	<input type="checkbox"/>	<input type="checkbox"/>

If this causes an increase in risk(s), find an alternative

* Is the PPE adjustable/sized so that it fits properly?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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If NO. Find an Alternative

* Does the wearer have any health problems (e.g. allergies, asthma, dermatitis etc) ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
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NOTE: *If the person develops a medical condition due to the wearing of PPE, advice should be sought from the Occupational Health Adviser (Tel: 2752) as a matter of urgency.*

NOTE: *If the wearer has any health problems which may affect their ability to use PPE, advice should be sought from the Occupational Health Adviser (Tel: 2752) before the PPE is issued.*

If a health problem will be exacerbated by the use of PPE, then find an alternative.

* Is PPE worn for long periods of time ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
* Is the environment in which the PPE will be used likely to cause discomfort to the	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

If YES, what measures are being taken to make the user more comfortable ?

* Is more than one piece of PPE required to be worn at once ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>
* If YES, are they compatible ?	YES	<input type="checkbox"/>	NO	<input type="checkbox"/>

If NO, find items that are compatible.

Remember, badly fitting PPE does not offer complete protection.

