Eye Protection Guideline

Section 1 - Purpose and Scope

(1) This Guideline outlines the type of eye protection required for a worker or student at the University as stipulated in the Personal Protective Equipment Procedure. This Guideline applies to all University staff, students, contractors and visitors who are required to work in or enter an area designated as requiring eye protection.

Section 2 - Definition, Terms, Acronyms

Term	Definition
PPE	Personal Protective Equipment

Section 3 - Guideline Statement

(2) It is a requirement of the Work Health and Safety legislation that risks in workplaces are appropriately managed. Across the University there are many facilities and workplaces that may contain potential hazards affecting eyes. These include chemical, biological and physical hazards. As part of the overall risk management approach, appropriate PPE should be used by all personnel where risks to eyes have been determined or where legislation dictates that eye protection must be worn. All persons in the workplace have a responsibility to themselves, their workers and their colleagues to ensure adequate management of health and safety, including where instructed, the wearing of appropriate PPE.

Section 4 - Choosing Suitable Eye Protection

(3) Where it is not possible to eliminate or control eye hazards, personal eye protectors should be supplied to operators and visitors in areas where eye hazards may exist. For adequate protection against the different types of hazard present in industrial environments, eye protection designed for the specific hazards of that workplace must be provided.

> See examples of specific hazards and control measures in AS/NZS 1336:2014.

(4) The type of eye protection required for a worker or student at the University will depend on the hazards that they work with or that they encounter in the specific work activity, and should be determined by undertaking a risk assessment. The risk assessment should take into account the hazards that are present in the entire laboratory and consider the work of the group as a whole, not just that of an individual.

(5) The eye protection selected must comply with the relevant requirements of:

a. AS/NZS 1337.1:2010 Personal Eye Protection, Part 1: Eye and Face Protectors for Occupational Uses;
b. AS/NZS 2243.1:2005 Safety in Laboratories - Planning and Operational Aspects;

c. AS/NZS 1336:2014 Eye and Face Protection - Guidelines; and
d. must have Standards markings on them to indicate they are approved.

Specific Requirements for Laboratories

(6) A minimum standard of dress and PPE in a laboratory where chemicals and biological substances would be in use include a laboratory coat that covers the front of the body (i.e. with buttons done up for front opening labcoats, or side or back opening labcoats), and closed-in foot-wear. Gloves and protective eyewear will also be required when handling toxic, corrosive, infectious, pathogenic or radioactive substances. The type of PPE that should be used will be determined from the risk assessment and in consultation with safety data sheets.

(7) It should be noted that, for some biological laboratories, the wearing of appropriate eye protection is mandatory, i.e. any certified biological laboratory (e.g. PC1, PC2, PC3) requires all persons entering the laboratory to wear suitable eye protection (AS/NZS 2243.3 2022).

Section 5 - Types of Eye Protection

(8) Ordinary prescription glasses and sunglasses do not provide adequate protection from injury to the eyes and could even be hazardous to the wearer. For further information on prescription glasses, see the provisions below on prescription spectacles. There are three basic types of eye and face protection which will meet the majority of University laboratory requirements. These are:

a. safety glasses (with side shields)
b. goggles
c. face shields.

> See examples of suitable eye protectors in AS/NZS 1336:2014.

Safety Glasses

(9) Safety glasses look very much like normal glasses but have lenses that are impact resistant and frames that are much stronger than standard prescription glasses. Safety glasses must have side shields and must be worn whenever there is a possibility of objects striking the eye, such as particles, glass or metal shards. Many potential eye injuries have been avoided at the University by wearing safety glasses.

(10) Safety glasses may not always provide adequate protection from chemical splashes as they do not seal to the face. Safety glasses may be adequate where the potential splash is minimal e.g. opening eppendorf tubes, or where the chemicals in use are of low toxicity.

Goggles

(11) Goggles come in a variety of styles for maximum comfort and splash protection. Chemical splash goggles should be worn when there is a high potential for splash from a hazardous material. For example, goggles should be worn when working with glassware under reduced or elevated pressure and when glass apparatus is used in combustion or other high temperature operations. Like safety glasses, goggles are impact resistant. Chemical splash goggles shall have indirect ventilation so hazardous substances cannot drain into the eye area. Some can be worn over prescription glasses.

> For example: Bacou-Dalloz supply ‘Flex Seal’, a lightweight goggle that fits prescription eyewear

underneath.

Face Shields

(12) Face shields can be worn to protect from either impact or splash and are typically used when working with large volumes of hazardous materials or generating large quantities of flying particles.

(13) AS/NZS 2243.1 Safety in Laboratories - Planning and Operational Aspects provides the following examples where a face shield should be used when working in a laboratory:

a. where glass apparatus is evacuated, recharged with gas or pressurized.
b. when pouring corrosive liquids.
c. when using cryogenic fluids.
d. when combustion processes are being carried out.
e. where there is a risk of explosion or implosion.
f. when using chemicals that can cause direct damage to the skin.
g. when using chemicals and biological agents that can be rapidly absorbed into the body via any path e.g. through the skin, eyes or nose.
h. when opening an autoclave where there is a risk of exposure to high volumes of steam.

(14) A face shield is also recommended in the following work situations:

a. using a grinder/drill/sander/saw in awkward positions (above your head) or when you are required to hold your head in close proximity (confined space, vision impeded etc);
b. working with molten material e.g. molten metal or plastics; or
c. over prescription glasses.

(15) The level of protection chosen shall take into account any eye and face hazards from other work being carried out in the vicinity that could affect the worker at the distance by which the operators are separated.

Prescription Spectacles

(16) Prescription spectacles (as distinct from prescription eye protectors) are generally inadequate against flying objects or particles and could even be hazardous. For persons requiring eye protection in addition to sight correction, the use of prescription spectacles worn with additional protection, e.g. overglasses, wide vision goggles or clip-ons will be necessary. It is important to note the following disadvantages of wearing these with prescription glasses:

a. The majority of prescription eye protectors can provide no more than low impact protection because of their lightweight design. Where medium impact resistance is required, medium impact resistant eye protectors complying with AS/NZS 1337 suitable for use over prescription lenses shall be used over the prescription lenses. Bacou-Dalloz now have a product where the lens can be made to fit inside the medium impact resistance spectacle (see image below).
b. The use of safety goggles worn over prescription lenses will not necessarily provide protection against impact from flying objects. Fracture of the prescription lenses can occur when the safety goggles deflect under impact, even if the goggles are not penetrated.

(17) Information on the requirements for prescription eye protectors is given in Section 7 of AS/NZS 1336.

See attached image of prescription spectacles RX clip.

For example: the RX insert is a practical alternative to the traditional over the glass style safety specs. It fits snugly into the inside of the Pul-safe XC spectacle and when fitted offers the wearer medium impact resistance under AS/NZS 1337.

Other features include:
- one style of spectacle for the whole facility.
- your prescription will not scratch.
- the RX carrier will accommodate a variety of RX bifocals, trifocals and progressive lenses.

Section 6 - Issues with Contact Lenses

(18) Contact lenses are not eye protective devices and wearing them does not reduce the requirement for eye and face protection. Over the past couple of years, several professional groups and organisations have issued guidelines removing restrictions on the wearing of contact lenses in the industrial environment.

(19) When the work environment entails exposure to intense heat, molten metals, a highly particulate atmosphere, corrosive substances or any of the following substances - acrylonitrile, methylene chloride, 1,2 dibromo-3-chloropropane, ethylene oxide and methylene dianiline, contact lens use should be avoided.

(20) The following safety measures must be implemented should contact lenses be worn by individuals working with chemicals:

a. Conduct a risk assessment prior to working with any chemicals or biological material to determine what type of eye protection is required, and whether the wearing of contact lenses should be avoided.
b. Provide suitable eye and face protection for all workers exposed to eye injury hazards regardless of contact lens wear.
c. Notify workers and visitors about any defined areas where contact lenses are restricted.
d. Identify to supervisors all contact lens wearers working in chemical environments to ensure that the proper risk assessment is completed and the appropriate eye protection and first aid equipment is available.
e. Train medical and first aid personnel in the removal of contact lenses and have the appropriate equipment available.
f. In the event of a chemical exposure, begin eye irrigation immediately and remove contact lenses as soon as practical. Do not delay irrigation while waiting for contact lens removal.
g. Instruct workers who wear contact lenses to remove the lenses at the first sign of eye redness or irritation.

Section 7 - Roles, Responsibilities and Accountabilities

Managers/Supervisors

(21) Ensure that all persons required are supplied with suitable eye protection for the task being performed.

(22) Ensure that persons who are not wearing the correct PPE are directed out of the work area (i.e. laboratory, workshop, field work etc) until PPE is available and they are able to comply.

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(23) Ensure that persons who are not wearing the PPE are removed from the risk (e.g. direct the person out of the laboratory, workshop or exclude them from the field activity) until PPE is available and they are able to comply.

All Workers

(24) Wear the appropriate PPE when required.

(25) Comply with supervisor/laboratory manager instructions.

Section 8 - Cost and Reclamation

(26) The University is committed to a policy of providing eye and face protection without cost to employees, researchers and visitors. Each Organisational Unit or School is responsible for the funding of its eye and face protection program. Undergraduate students are required to supply their own eye protection if deemed necessary by the lecturer. Eye protective devices issued to workers and visitors remain the property of the University and are to be returned when the use of the device is no longer necessary.

(27) Scheduling and payment for eye examinations to obtain prescriptions for safety glasses, and the purchase of prescription lenses for safety glasses is the responsibility of the worker, visitor or student.

(28) Eye protective devices are personal items and are issued for the exclusive use of each individual.

Section 9 - Suppliers

(29) You may choose which supplier you prefer to purchase your eye protection from, providing the eye protection meets the relevant Australian Standards and is marked as such. The following websites are a good starting point:

a. https://www.uvex-safety.com
b. https://www.honeywellsafety.com

Section 10 - Contacts for Further Information

(30) Health, Safety and Wellness Division

a. email: hsw@uq.edu.au

(31) University of Queensland Science Store – Chemical & Lab Consumables:

a. website: UQ Science Store
b. telephone extension: 52345 or 54437
c. email: uqsciencestore@uq.edu.au.

Status and Details

Status	Current
Effective Date	15th May 2018
Review Date	15th May 2021
Approval Authority	Director, Health Safety and Wellness
Approval Date	15th May 2018
Expiry Date	Not Applicable
Policy Owner	Jim Carmichael Director, Health Safety and Wellness
Enquiries Contact	Health, Safety and Wellness Division