

# Eye and Face Protection

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## 1.0 Introduction

Eye protection shall be worn wherever an individual is exposed to the threat of eye injury from contact with sharp, blunt, or moving particles, or hazardous substances. This policy applies to all employees, faculty, students, contractors, and visitors who may be exposed to a risk of eye injury while on University premises, whether owned or leased. For construction sites, the use of eye protection is mandatory during all times and in all locations of the construction site.

## 2.0 Eye and Face Protection Options

### 2.1 Spectacle Type Safety Glasses

- 2.1.1 Safety glasses have lenses that are impact resistant and frames that are far stronger than those of regular eyeglasses. "Plano" (non-prescription) or prescription safety glasses (for those who need corrective lenses) with permanently attached sideshields must be worn by those who require protection against flying particles. Safety glasses must comply with CSA Standard Z94.3.
- 2.1.2 Safety glasses come in a variety of lens materials, shades and tints. Lens materials include polycarbonate, plastic or glass, each of which varies in strength, impact resistance, scratch resistance, and weight. It should be noted that current glass material lenses are unlikely to meet the impact requirements of CSA Standard Z94.3.
- 2.1.3 Regular eyeglasses must not be used in place of protective eyewear. Safety goggles must be worn over regular eyeglasses to protect against potential eye hazards. Alternatively, prescription safety glasses may be used.

### 2.2 Safety Goggles

- 2.2.1 Safety goggles offer greater eye protection than safety glasses by providing a secure shield around the entire eye area to protect against hazards coming from any direction.
- 2.2.2 Safety goggles are impact resistant and must meet the requirements of CSA Standard Z94.3. Like safety glasses, they are available in a variety of tints and shades.
- 2.2.3 Safety goggles may have direct or indirect ventilation to protect against fogging. Goggles with direct ventilation allow heat and humidity to dissipate, but do not protect against splash hazards. Goggles with indirect ventilation are designed to protect against dust and splash hazards.

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## 2.3 Face Shields

2.3.1 Face shields worn alone are not considered protective eyewear. They are designed to provide general protection to the face and the front of the neck. Full-face shields are often used to protect against chemicals or heat or glare hazards. Face shields do not fully enclose the eyes, and are to be used in conjunction with primary eye protectors such as safety glasses or goggles. All face shields will meet current CSA standards.

## 2.4 Welding Helmets

2.4.1 Welding helmets are used when welding or working with molten materials. They are designed to provide protection to the face and the front of the neck from heat, glare, weld spatter, and impact hazards.

## 2.5 Specialty Filter Lenses

2.5.1 Protective eyewear (i.e., goggles, helmets) equipped with appropriate filter lenses must be used to protect against harmful light or other rays; e.g. infrared, ultraviolet, laser light.

## 2.6 Contact Lenses in the Chemical Work Environment

2.6.1 Current evidence indicates that the use of contact lenses in the workplace, on the whole, does not place the wearer at additional risk of eye injury. Situations in which the use of contact lenses have minimized or prevented injury far exceed those in which they might have increased or exacerbated injury. This has been attributed to some obvious advantages related to the use of contact lenses, including increased visual acuity and better fit of protective eyewear than with eyeglasses.

2.6.2 Concerns associated with an increased risk of eye injury due to chemical splash or the absorption and retention of gases and vapours by the contact lens materials have not been supported by scientific evidence or human experience. Although there are some chemicals that interact adversely with contact lens materials, there have been many more instances where the contact lenses have been shown to provide a barrier to chemicals. Based on existing evidence, it is reasonable to allow the use of contact lenses in certain chemical work environments. The decision of whether contact lenses can be worn in a specific lab will be a decision of the lab supervisor, in consultation with the Director of the Department of Health & Safety, based on the chemical hazards identified through an objective risk assessment, and available guidelines on the use or prohibited use of wearing contact lenses while working with select chemicals.

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- 2.6.3 Contact lenses are not protective devices and must be used only in conjunction with appropriate protective eyewear in eye hazard areas (e.g., splash goggles must be worn in an environment where hazardous liquid chemicals are handled or used).

### **3.0 General Requirements for Eye Protection**

- 3.1 Any employee (Faculty, Staff, Student, Visitor or Contractor) working in an area where hazards exist due to flying objects or particles, harmful contacts, exposures such as glare, liquids, injurious radiation, and electrical flash, or a combination of these hazards will be required to wear eye protection.
- 3.2 Contact lenses or plastic lenses shall not be considered as eye protection. In certain applications, the use of contact lenses may be completely prohibited due to hazards associated with the wearing of these lenses. This determination will be made by the appropriate Department Head or supervisor.
- 3.3 The Director of the Department of Health & Safety will assist the Department Heads or supervisory personnel in determining the specific requirements of eye protection for work sites or academic courses.

### **4.0 Responsibilities**

- 4.1 The University shall provide to an employee, (Faculty, Staff, or Student), at no expense to the employee, personal protective equipment suitable for the work to be performed.
- 4.2 If an employee's (Faculty, Staff, or Student) vision requires the use of corrective lenses and is required by this policy to use eye protection, the cost for these safety glasses shall be determined by the current collective bargaining agreement.
- 4.3 Employees shall use all eye protective equipment provided by the University. Employees who fail to wear required eye protective equipment will be subject to appropriate disciplinary action. Supervisors are responsible for ensuring that all employees wear personal protective equipment suitable for each assignment.
- 4.4 Supervisors will ensure that each work area where eye protection is required is adequately posted with advisory signs indicating that eye protection is required. Supervisors will ensure that each employee or visitor complies with the requirements of this policy.
- 4.5 Supervisors will ensure that an adequate supply of approved eye protection for a particular work area is on hand at all times. Visitor's eye protection must be disposable or capable of withstanding sanitizing.

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## 5.0 Students

- 5.1 The type of eye protection required in a student laboratory or activity is to be determined by the course instructor or activity supervisors. All eyewear to be worn by students in a laboratory will meet current CSA standards.
- 5.2 The protective eyewear requirements and expectations shall be written into student safety manuals, guidelines, or course content. Students shall be responsible for providing their own protective eyewear unless it is otherwise provided. Instructors and activity supervisors are responsible for enforcing this eye and face protection policy by behavioral observation, dialogue, and zero tolerance for noncompliance.
- 5.3 Students enrolled in lab courses, or other courses where hazards exist, will be required to wear the prescribed CSA approved eye protection.
- 5.4 Faculty members are responsible for ensuring that every student wears eye protection suitable for each course, as defined in the eye safety guidelines.
- 5.5 Faculty members will ensure that each classroom where eye protection is required is adequately posted with advisory signs indicating that eye protection is required. They will also ensure that each student or visitor complies with the requirements of this policy.

## 6.0 Availability of Eye Protection:

- 6.1 Appropriate types of eye protection for employees of the University will be available through Central Stores.
- 6.2 Appropriate types of CSA approved eye protection for students enrolled in courses requiring eye protection will be available for purchase through the MUN Bookstore.
- 6.3 Users of eye and face protectors shall be instructed in the use, limitations, and maintenance of the eye protection and eyewear cleaning procedures. Supervisors shall facilitate this training as required.

## 7.0 Eye and Face Protection - Risk Assessments

- 7.1 In order to assess the need for eye and face protection, the following steps shall be taken:

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- 7.2 Conduct a walk-through survey of the workplace. The purpose of the survey is to identify hazards to the eyes and face. Consideration shall be given to the five basic hazard categories:
- Impact
  - Heat
  - Chemical
  - Dust
  - Optical radiation
- 7.3 During the walk-through survey, be observant for:
- Sources of motion
  - Sources of high temperatures
  - Types of chemical exposures
  - Sources of dust
  - Sources of optical radiation
  - Layout of workplace and location of co-workers
  - Electrical hazards
- 7.4 Following the walk-through survey, assess the hazards in the environment to properly select protective equipment for the eyes and face. Consider the possibility of exposure to several hazards simultaneously. Communicate eye and face protection requirements to all personnel. Reassess workplace hazards as conditions change.

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### Eye and Face Protection Selection Chart

Source	Assessment of Hazard	Protection
IMPACT - Chipping, grinding, machining, masonry work, woodworking, sawing, drilling, chiseling, powered fastening, riveting, and sanding.	Flying fragments, objects, large chips, particles sand, dirt, etc.	Safety glasses with side protection, goggles, face shields. See notes (1), (3), (5), (6), and (10). For severe exposure, use face shield.
	Hot Sparks.	Face shields, goggles, safety glasses with side protection.
HEAT - Furnace operations, pouring, casting, hot dipping, and welding.	Splash from molten metals.	For severe exposure, use face shield. See notes (1), (2), (3).
	High temperature exposure.	Face shields worn over goggles. See notes (1), (2), (3).
CHEMICALS - Acid and chemicals handling, degreasing, plating.	Splash.	Screen face shields, reflective face shields. See notes (1), (2), (3).
	Irritating mists.	Goggles, eyecup and cover types. For severe exposure use face shield. See note (3), (11). Special-purpose goggles.
DUST - Woodworking, buffing, general dusty conditions.	Nuisance dust.	Goggles, eyecup and cover types. See note (8).
LIGHT and/or RADIATION Welding: Electric arc	Optical radiation.	Welding helmets or welding shields. Typical shades: 10-14. See notes (9), (12).
Welding: Gas	Optical radiation.	Welding goggles or welding face shield. Typical shades: gas welding 4-8, cutting 3-6, brazing 3-4. See note (9).
Cutting, Torch	Optical radiation.	Safety glasses or welding face-shield.

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Source	Assessment of Hazard	Protection
brazing soldering		Typical shades, 1.5-3. See notes (3), (9).
Glare	Poor vision.	Safety glasses with shaded or special-purpose lenses, as suitable. See notes (9).

**Notes to Eye and Face Protection Selection Chart:**

- (1) Care should be taken to recognize the possibility of multiple exposures to a variety of hazards. Adequate protection against the highest level of each of the hazards must be provided. Protective devices do not provide unlimited protection, as PPE is simply a possible barrier against accident at contact with an energy source (i.e.; heat, light, electricity, dust, impact).
- (2) Operations involving heat may also involve light radiation. As required by the standard, protection from both hazards must be provided.
- (3) Face shields should **only** be worn over primary eye protection (safety glasses or goggles).
- (4) As required by the standard, filter lenses must meet the requirements for shade designations. Tinted and shaded lenses are not filter lenses unless they are marked or identified as such.
- (5) As required by the standard, persons whose vision requires the use of prescription (Rx) lenses must wear either protective devices fitted with prescription (Rx) lenses or protective devices designed to be worn over regular prescription (Rx) eyewear.
- (6) Wearers of contact lenses must also wear appropriate eye and face protection devices in a hazardous environment. It should be recognized that dusty and/or chemical environments might represent an additional hazard to contact lens wearers.
- (7) Caution must be exercised in the use of metal-framed protective eyewear in electrical hazard areas. Glasses constructed of conducting type metals are prohibited in performance of any live electrical work.
- (8) Atmospheric conditions and restricted ventilation of the protector can cause lenses to fog. Frequent cleaning may be necessary.
- (9) Welding helmets or face-shields should be used only over primary eye protection (safety glasses or goggles).

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- (10) Eye and face protection should be used so that it provides both adequate ventilation and protects the wearer from splash entry.
- (11) Protection from light radiation is directly related to filter lens density. See note (4). Select the darkest shade that allows task performance.

**Legislative and CSA reference:** OH&S Act Section 5 (e), 5.2 and 6, and OH&S Regulation Part VII 71, 72, 75, 76 and 77; and C.S.A. Code Z94.3 "Industrial Eye and Face Protectors."

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