

Eye Protection to Prevent Chemical and Dust Injuries



As construction and building activity ramps up in the spring and summer months, the risk of eye injuries from chemical exposure and airborne dust significantly increases. For occupational health and safety (OHS) managers and worksite directors, this seasonal shift demands renewed focus on eye protection strategies to prevent both acute and long-term harm.

Common Eye Hazards in Peak Construction Season

Warmer weather brings a surge in activities such as concrete work, cutting, grinding, landscaping, painting, and demolition. These tasks generate a variety of eye hazards.

Chemical splashes from wet cement, lime, solvents, adhesives, paints, and cleaning agents can cause chemical burns, irritation, or permanent vision damage. Wet cement is highly alkaline and can lead to severe ocular injury if not promptly treated.

Dust and particulate matter from cutting wood, drywall, masonry, or silica-containing materials can result in corneal abrasions, conjunctivitis, and long-term conditions such as occupational asthma or eye irritation.

UV exposure increases with outdoor work, contributing to photokeratitis (“welder’s flash”) and long-term risks like cataracts.

Recognizing and Treating Eye Injuries

Chemical exposure: Immediately flush the eye with clean water or saline for at least 15–20 minutes. Ensure eyewash stations are accessible and functional on-site. Do not allow workers to rub their eyes. Seek medical attention urgently, even if symptoms appear mild.

Dust or foreign particles: Rinse the eye gently with clean water. If the object does not dislodge easily, avoid further manipulation and refer for medical evaluation.

Abrasions or persistent irritation: Symptoms such as redness, tearing, pain, or blurred vision should be treated as potentially serious. Workers should be removed from exposure and assessed by a healthcare professional.

Training workers to report symptoms early is essential. Delayed treatment often leads to complications that could have been prevented.

PPE and Preventive Best Practices

Effective prevention starts with selecting the right eye protection and reinforcing consistent use.

- Safety glasses with side shields provide basic protection against flying debris and dust.
- Goggles (indirectly vented or non-vented) are critical when working with chemicals, fine dust, or high-risk splash environments.
- Face shields should be used in combination with goggles

for tasks involving corrosive chemicals or high-impact risks.

- UV-protective eyewear is important for outdoor work to reduce radiation-related eye damage.

Beyond PPE, OHS leaders should implement layered controls.

- Conduct hazard assessments before tasks begin, particularly for seasonal work involving new materials or processes.
- Ensure eyewash stations and emergency procedures are clearly communicated and routinely inspected.
- Reinforce housekeeping practices to reduce dust accumulation and airborne particles.
- Promote tool maintenance and dust suppression methods (e.g., wet cutting, local exhaust ventilation).
- Provide worker training and supervision to ensure proper fit, use, and maintenance of eye protection equipment.

Spring and summer productivity should not come at the cost of preventable injuries. By prioritizing eye safety through proper PPE, rapid response protocols, and proactive hazard control, OHS managers and safety directors can significantly reduce the incidence and severity of chemical and dust-related eye injuries on site.