

Ultraviolet radiation

Why it's important

Sources of ultraviolet (UV) radiation in the workplace include various kinds of welding arcs and UV lamps. The sun is the main source of UV radiation outdoors.

UV radiation from the sun can cause both acute (short-term) and chronic (long-term) health problems. These problems can be painful at best and can be disfiguring or fatal at worst.

Sunburn is painful evidence of overexposure, and a sunburn that blisters is a second-degree burn. Suppression of the body's immune system, cataracts and skin cancer are serious, possibly deadly effects of ultraviolet radiation.

Welding arcs can exceed the UV guidelines in seconds within a few metres of the arc. Workers, bystanders and passers-by are often overexposed to UV from arcs.

Welder's flash, also known as arc-eye and snow-blindness, is a painful irritation of the cornea and the membrane connecting the eyeball with the inner eyelid. There is a feeling of "sand in the eye". The eye is more sensitive than the skin to UV radiation because it lacks the skin's outer layer and protective pigment.

How to control the hazards

- Most workers can't hide from UV rays altogether, but they can and should take precautions to minimize their exposure.
- When practical, exposure of outdoor workers to the sun's rays should be minimized by:
 - Making use of natural or artificial shade
 - Scheduling other tasks when the sun is most intense. (UV from the sun is highest in spring and summer from 11 a.m. to 4 p.m. UV exposure guidelines can be exceeded in 15 minutes on a clear summer day.)
- While working in direct sunlight when UV levels are high, outdoor workers should:
 - Wear a wide-brimmed hat

- Wear closely-woven clothing covering as much of the body as possible
- Use sunscreen with an SPF (sun protection factor) of 15 or higher
- Protect lips with sunscreen or lipstick with an SPF of 15 or higher
- Wear UV-blocking sunglasses or safety glasses that meet the "special purpose" requirements of the Canadian Standard for Non-prescription Sunglasses
- The above items are an outdoor worker's personal protective equipment.
- When welding, a proper welder's helmet must be worn to protect the eyes.

Overexposure

- The following steps should be taken if a worker has been overexposed to UV radiation:
- Provide first aid:
 - For UV overexposure of the eye, place a sterile dressing over the eye and seek medical attention.
 - For UV overexposure of the skin, apply cold water or ice to the affected area and seek medical attention.
- Carry out a UV Safety Audit:
 - Identify the sources and circumstances that lead to overexposure.
 - Determine UV exposure levels and make sure adequate controls are put in place.

Show and tell

Talk about your company's sun protection policy.

Be sure to remind workers not to turn their hardhats backwards — it reduces the effectiveness of the hardhat to shade the eyes from UV radiation.