

Solar ultraviolet radiation

Managing the risks



Solar Ultraviolet Radiation can pose significant health and safety risks

The sun is the main source of ultraviolet radiation (UVR). Solar UVR cannot be seen or felt and can pass through clouds and loosely woven material. It is a known carcinogen like asbestos and tobacco, and is the main cause of skin cancer in Australia. It can also lead to significant and irreversible skin and eye damage. You must manage health and safety risks in your workplace, including risks associated with exposure to solar UVR.

1. IDENTIFY the hazard

Exposure to solar UVR is a risk for anyone who works outside. Not only is it a hazard when working in direct sunlight, it can also be reflected off certain materials, such as concrete, metal, snow and sand, increasing the level of exposure.

Solar UVR can reach levels high enough to damage unprotected skin for most months of the year across many parts of Australia.

All skin types can be damaged by exposure to solar UVR, however those with paler skin are at an increased risk.

2. ASSESS the risk

Once you have identified solar UVR risks, a risk assessment can help you determine:

- ☀ the severity and likelihood of the risk
- ☀ if existing control measures are effective
- ☀ what action you should take to control the risk, and
- ☀ how urgent it is.

However, a risk assessment may not be needed if a hazard, the relevant risks and their control measures are already known and understood.

3. MANAGE the risks

You must do as much as you reasonably can to eliminate the risks associated with solar UVR exposure.

For example, you can eliminate the risk by carrying out work indoors.

If this is not possible, you must minimise the risk through one or more of the following:

- ☀ **Substituting** or replacing a hazard with a safer one.
For example, carrying out the work during the early morning and late afternoon when the risk of solar UVR exposure is lower.
- ☀ **Isolation** by isolating or separating the risk from workers.
For example, ensure work is carried out undercover or in a well shaded area.
- ☀ **Engineering** controls are physical control measures to minimise risk.
For example, installing permanent shade structures to buildings and mobile plant, installing window tinting to mobile plant or vehicles, or altering a surface to be less reflective.

Solar ultraviolet radiation

Managing the risks



Administrative controls

Administrative controls should be designed to provide a systematic framework to support the higher controls already implemented and further minimise exposure to UVR. Examples include: workplace policies, safe work procedures, information and training, and supervision.

Personal protective equipment (PPE)

Any remaining risk must be minimised by providing and ensuring the use of PPE such as UPF 50+ clothing, broad-brimmed hats or hard hats with brims/flaps, and at least SPF 30+ broad-spectrum water-resistant sunscreen.

Sunscreen should always be used with other sun protection control measures. Ensure workers are aware of how to apply and use sunscreen effectively. It should be re-applied at least every 2 hours, or more if sweating.

While administrative controls and PPE are considered lower-level controls, they are essential in assisting to reduce exposure to UVR.

In most cases, a combination of control measures will provide the best solution to minimise the risk. For example, use engineering controls like shade structures along with PPE like sun protective clothing and administrative controls like rotating workers.

You should also check your chosen control measures do not introduce new hazards and risks. For example, PPE might protect from solar UVR exposure but if the clothing material and design are not considered it may make workers hotter and increase the risk of heat stress. Temporary shade structures that are not secured properly could introduce new risks.

You must consider these hazards and risks and, if necessary, introduce other control measures to eliminate or minimise them.

For more information, see our [Guide on exposure to solar ultraviolet radiation](#).

For more information on the risk management process, see the [model Code of Practice: How to manage work health and safety risks](#).

For more information on managing heat stress see the [Guide to managing the risks of working in heat](#).

You can also download the free [SunSmart App](#), which gives daily information on UVR hazards in your area, and personalised alerts to remind you to use sunscreen.