



52-56 Rouse Street, Port Melbourne
PO Box 203, Port Melbourne, Vic., 3207
Tel: 1300 727 614 Fax: (03) 9646 1792
E-mail: info@twu.asn.au
www.twu.asn.au

President: Kevin Hoey
Vice President: David White
Branch Secretary: Bill Noonan
Branch Assistant Secretary: Wayne Mader
Trustees: Anna Gileno, Michael Nealer

Tasmania and Victorian Country
Telephone: 1300 727 614

TWU – VIC/TAS

(15/5/99) Jan 2009

OHS GUIDANCE NOTE - No. 1

“Seasonal Heat”

Occupational health and Safety Representatives and Committees should request from their employer a *Heat* policy. Workers exposed to high temperatures fluctuating daily are at risk from heat stress unless preventative measures are taken.

Recommended guidelines - temperature rises above a constant 30 + Celsius

Paid work breaks:

- 15 minutes per hour 30 > 32 C
- 30 minutes per hour 32 > 34 C
- 45 minutes per hour 35 > 36 C
- 60 minutes per hour 36 > 38 C
- Stand-down on pay 38 C and above

Hot conditions and or physical work may induce heat stress. When heat is being absorbed into the body that cannot be dissipated efficiently will result in heat stress. The short term effects of heat stress are *heat illness* which significantly reduces concentration possibly leading to an accident (Researchers have found that accident rates increase 4% for every degree as the temperature moves above 20 degrees).

Long term effects of **heat stress** include chronic heat exhaustion, high blood pressure and heart disease, sexual impotence and other reproductive problems which may lead to birth deformities.

Heat Illness - the primary symptom is visible on the skin (such as prickly heat, dehydration), heat exhaustion (fainting) or heat cramps (body water and salt balance incorrect). In the most severe cases, a heat stroke which occurs when the body's thermoregulatory mechanisms break down altogether and core body temperature rises rapidly.

This can be fatal!

Control factors may be discussed with workers to effectively manage the risks. For example, rescheduling work to a cooler part of the day, replacing the process with a cooler one, reducing workloads, increasing rest periods, air conditioning, rotation of workers, shade, mechanize tasks and so on.

Environmental Factors

- Air temperature - Humidity
- Air movement - Radiant temperature

Personal Factors

- Clothing worn - Level of intensity of work activity
- Water and salt balance in body - Acclimatisation

Apart from obligations under *duty of care*, there is no statutory limit covering hot working conditions so workplace policies should be developed. There is an Australian Standard (1668 Part 2 - 1991)

Although each individual will handle heat in a different way, the hazards and risks must be taken into account. Generally the TWU recommends that *maximum acceptable* air temperature at a workplace reaches **38 degrees Celsius for un-acclimatised workers** they should be stood down with pay.

Workers under medication or medical supervision but are fit for work, may require special consideration if they are affected by temperature lower than 30 degree Celsius. Further if other adverse working conditions are present, such as high winds, dust, fumes or chemical vapours are prevalent along with high temperature, workers may have to cease work at temperatures lower than 38 degrees Celsius.

In excessive heat conditions fluid intake must be increased as the body may sweat 1 x litre of water per hour. It is advised that less tea, coffee, alcoholic and soft drink be consumed, as these types of drinks will increase the loss of water from the body. Water is best.

Acclimatised workers need time to become accustomed to heat. The U.S. National Institute for Occupational Safety and Health recommends that new workers require 6 working days to acclimatise. The acclimatisation process begins with half the anticipated work load, followed by 10% increase building up to 100% on the sixth day.

Regular *acclimatised* workers who return from 4 consecutive days illness or who have had 9 or more consecutive days leave should undergo a 4-day re-acclimatisation process, again starting with half the regular workload on the first day.

Take Precautions:

To regulate core body temperature we must be able to lose excess heat through:

- i. **Sweating** a natural occurring function which is the main method the body uses to rid excess body heat.
- ii. **Convection** air movement across the body will improve the cooling effect.
- iii. **Radiation** avoid direct or indirect heat sources.

Wear appropriate clothing, replace fluid loss and stay in the shade

- Consult with workers about an acceptable level of work / heat
- If under medical supervision / medication take extra precautions
- Reduce workload, increase rest periods
- Reschedule work
- Ensure fluids are available and personal fluid intake is adequate
- Wear appropriate clothing
- Work in shade
- Wear a broad hat and 15+ sun-block (if exposed to sunlight)
- Increase air movement over workers
- Educate (preventative measures and work safe practices in heat, symptoms of heat stress)
- Mechanise tasks

Sunglasses

Where you need to wear sun glasses, choose one which meets Australian Standards for safety glasses (AS-1337) and also offers protection from UVR.

Prescription glasses - either tinted or clear - will give some protection from UVR. Check with an optometrist about your particular glasses. You can buy clip-on lenses or a colourless film which screens out most UVR and can be applied cheaply to plastic lenses.

Lens - Glasses with total UV protection (above 98%) can result in the inability to distinguish colours and hence are not suitable for driving. The colour or darkness of the lens gives no indication of the UVR absorbing characteristics.

Polarising lenses reduce glare substantially, but polarisation itself has little effect on the UVR absorbing properties of lenses. Similarly, mirror finishes by themselves do not significantly reduce UVR transmission. Shape - The best fit are a contoured shape which fit close to the face to reduce scattered and reflected light. Peripheral lenses (or wrap-around) styles gives protection in side-light situations.

Sunscreens

Sunscreens work by stopping the UVR from reaching the skin. This may be done by either having the sunscreen absorbed by the skin which then forms a chemical barrier, or the sunscreen (ie zinc) applied to form a physical blocker which reflects or scatters all or part of the UVR away from the skin.

Note: zinc creams should only be applied to small areas of skin, as it can prevent normal body heat loss and perspiration.

Sun Protection factor (SPF) is an indication of how much UVB the sunscreen will filter out after it is applied in a thin and even layer on the skin. Australian made sunscreens have SPF ratings between 4 and 30+ (a sunscreen of *SPF 16* for example reduces the amount of UVB penetrating the skin by 93.7%)

Sunscreens should be applied 15 to 30 minutes before you go outside, to allow time for it to interact with the skin. Particularly between the hours of 11am and 3pm which is when 60% of the day's radiation occurs.

Take notice any new **freckles, moles, spots, sores or sunspots on your skin** that look differently, by changing shape or colour over the past few weeks or months, see your doctor and have it (them) checked out.

Further information regarding "Guidance for Protection from Ultraviolet Radiation in Sunlight" and "Welfare at Work" is available for Members who can contact the *TWU Health and Safety Section* or the TWU Member Assist Officer for a copy the Union's Policy

Phone: 1300-727614
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Email: info@twu.asn.au