

# DERMATITIS

## THE FACTS STARTING FROM SCRATCH

### About this Guide

The information contained in this Guide focuses on the control of contact dermatitis in the workplace.

- What is dermatitis?
- The extent of the problem
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### What is dermatitis?

Dermatitis is a general term used to describe any inflammation of the skin.

- **Contact dermatitis** describes those conditions that result from direct contact of the skin with external agents.
- **Irritant contact dermatitis** defines conditions where only that part of the skin contacted by the external agent becomes inflamed.
- **Allergic contact dermatitis** results from skin contact with a sensitising agent which stimulates an allergic response.

### The extent of the problem

The cost of workers compensation claims for dermatitis in NSW has been steadily increasing. In 1999/2000 the total cost for dermatitis related illness was \$3 million and the average cost for each claim was over \$4,000.

Two-thirds of all dermatitis claims were from the manufacturing industry.

### What causes contact dermatitis?

Dermatitis can affect anyone in any workplace. How you develop contact dermatitis depends on:

- the type of agent you are exposed to,

- the strength or concentration of the agent
- how long and how often it touches the skin.

Other contributing factors include:

- coming into contact with a combination of chemicals,
- the effectiveness of preventative measures and personal protective equipment (PPE), and
- a person's biological makeup.

Dermatitis which is **not** work-related may be **aggravated** by irritants in the workplace.

## What are the symptoms?

Areas of irritated skin may be red, swollen, tender, hot, painful or itchy. If the reaction to an irritant is severe, the skin may blister or weep and can become crusty. There may be some scaling as the skin heals. Skin affected for several weeks by dermatitis tends to thicken and change to a deeper colour. If exposure occurs to a sensitising agent, the reaction may spread to involve other areas of the body.

If you suffer from dermatitis, you may:

- experience severe discomfort over long periods
- suffer unsightly scarring, disfigurement or other long-term problems
- be unable to continue your normal duties at work
- experience problems with personal relations in the workplace, affecting performance and morale.

## How could dermatitis affect your business?

If your workers have dermatitis:

- they may be unable to continue their normal duties at work
- personal relations in the workplace may be disrupted, affecting performance and morale.

**Lost time injuries and workers compensation claims can increase your workers' compensation premiums.**



## Identify the causes of skin disease at your work

Are substances that can cause dermatitis used in your workplace?

You should:

- review the Material Safety Data Sheet (MSDS) for any dangerous goods or hazardous substances you use in the workplace, to identify possible problem areas.
- consider the way in which you perform your work, and any other agents with which you may come into contact, that could contribute to the aggravation of dermatitis.

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Consultation between employers and employees is also an essential part of the identification process.

The following table contains a list of some of the physical, chemical and biological agents that can cause dermatitis and other serious occupational skin diseases.

<b>CHEMICAL AGENTS</b>	<b>Effects</b>
<b>Strong irritants and corrosives</b>	Strong acids or alkalis used for etching, surface treatment, de-scaling or cleaning can cause burns.
<b>Irritants</b>	Skin contact with kerosene, turpentine, developing solutions, soaps, detergents and cutting oils can irritate the skin.
<b>Organic solvents</b>	Paint thinners, degreasers, dry-cleaning fluids, printing chemicals and glues can remove the protective oils from the skin.
<b>Oils and related liquids</b>	Lubricants, machine oils, engine oils and synthetic coolants can cause problems through blockage of the pores of the skin, which may cause infection.
<b>Chemical sensitisers</b>	Metal salts (e.g. chromium and nickel), dyes (e.g. 920 or aniline dyes), natural (e.g. epoxy's), formaldehyde, glutaraldehyde, isocyanates, some rubbers (including gloves) and various plant, or animal or chemical products, may cause allergic contact dermatitis.
<b>Fibreglass products (composites)</b>	Glass fibre and resins, catalysts and solvents, such as styrene may cause skin irritation, de-fatting of the skin and minimizing sensitization..
<b>Carcinogenic substances</b>	Derivatives of tar, pitch, shale and mineral oils, and some arsenic based compounds, are known to cause skin cancers.
<b>PHYSICAL AGENTS</b>	<b>Effects</b>
<b>Mechanical effects</b>	Mechanical effects such as abrasions and cuts can greatly increase the damage caused by chemical irritants.
<b>Heat, cold and humidity</b>	Burns, prickly heat, chill blains, wet feet, sweating inside impervious gloves and other types of PPE may soften the skin, increasing susceptibility to dermatitis. Excessive dry air related to some work processes may also dry out the skin.
<b>Water</b>	Prolonged contact with water softens the skin and makes it more susceptible to irritation. Soaps and detergents remove oils from the skin causing dryness and possible cracking.
<b>Sunlight and radiation</b>	Sunlight causes burns & skin cancer. Industrial processes such as welding and use of heat, curing and minimizing lamps, can also cause burns and cancer (UV wavelengths 200 – 380 nm).
<b>Photosensitivity</b>	Coal-tar products, such as creosote, can make the skin abnormally sensitive to sunlight.
<b>BIOLOGICAL AGENTS</b>	<b>Effects</b>

<b>Bacterial and viral infections</b>	Infections can occur through contamination of cuts and abrasions, particularly after prolonged immersion in water and for people handling meat products (e.g. veterinarians, farmers, shearers).
<b>Fungal</b>	Tinea, ringworm and other fungal infections may be spread by sharing showers and change rooms.
<b>Infestations and bites</b>	Skin eruptions can be caused by various mites, mosquitoes or midges. These can cause severe reactions in some workers.
<b>Plant and plant products</b>	Many plants contain saps or resin that can be corrosive and an irritant. Saps and dust from wood can also be irritants or sensitisers (e.g. Western red cedar, birch, maple etc).
<b>Protective clothing</b>	The added heat caused by wearing personal protective equipment may aggravate skin disorders.
<b>OTHER DAMAGING SUBSTANCES</b>	<b>Effects</b>
<b>Cement</b>	Cement is an abrasive substance which may act as an irritant and may contain minimizing agents such as chromium salts.
<b>Chlorinated Hydrocarbons</b>	Chlorinated hydrocarbons such as PCB's can cause chloracne, which is a severe form of acne.

## Risk assessment

The Occupational Health and Safety Act 2000 and the OHS Regulation 2001 requires employers to conduct risk assessments for all hazards, in consultation with their employees.

## How to reduce the danger

### Consultation

Consultation is a legal requirement, but is also a valuable means of improving the decisions made about health and safety matters. Consultation between employers and employees is an essential part of effectively managing health and safety at work (Refer to OHS Regulation 2001, Chapter 3).

### Training

Legislation requires employers to provide information, instruction and training, to enable employees to carry out their work safely.

Risk assessments undertaken in the workplace will determine the appropriate actions required to be taken. These actions should include the specific workplace requirements for training.

The training may need to include details about:

- the different types of substances used in the workplace,
- how to use and interpret Material Safety Data Sheets (MSDS),

- the selection of Personal Protective Equipment (PPE), and how to use and maintain this equipment. This type of training is particularly important for protection against skin exposure to hazardous substances. For example, the selection of the right type of gloves for a chemical being used at work, and the length of time these gloves can protect a person's hands against the chemical, must be explained.

Training in emergency procedures such as how to access first aid, should also be included. You should also consider training in the use of spill kits to allow for the safe management of spills.

Employees need to understand the importance of reporting skin problems immediately and seeking treatment when the problem first occurs. Early detection may prevent longer term and more serious problems.

## **Risk Control**

### **1. Eliminate the risk**

This is the most effective way to make the workplace safer. Always try to do this. workplace where they can manage the hazard safely.

### **2. Substitute materials**

If you can't eliminate the risk, then think about selecting a safer alternative.

### **3. Isolate the process or minimize the risk by engineering**

You should think about ways the work could be done differently to isolate the process, to stop employees coming into contact with the substance.

Use an isolating room or a localised containment and extraction system, to control the hazard. Another option is to automate the process or utilise tools designed to reduce the risk of contact.

### **4. Personal protective equipment (PPE)**

PPE is **the least effective way** of dealing with hazards.

- Use PPE only when you have no practical alternative.
- Use the correct type of PPE and ensure it is in good condition and always used correctly.
- People need to know when to wear and replace their PPE and how to fit and maintain it. The selection, maintenance, and effective life of PPE depend on your work situation. Consult your PPE and material supplier for more information or refer to the relevant Australian Standard.
- An effective PPE program should include hygiene procedures for the use of all PPE.

**Warning:** Some PPE may only last for minutes in hostile environments.

Effective risk management may ultimately require a combination of the above strategies. All risk control measures must be implemented with suitable work practices and training.

**All personnel should be supplied with their own PPE; sharing may cause the spread of disease!!!**

## **Further information and contacts**

Some of the information in this Guide was extracted from the National Occupational Health & Safety Commission (NOHSC) website. <http://www.nohsc.gov.au/>

The National Occupational Health & Safety Commission (NOHSC) guidance material – *Occupational Diseases of the Skin* - is available at the NOHSC web site:-

<http://www.nohsc.gov.au/publications> or through the NOHSC Library.

You can also call on 6279 1000 or email NOHSC <mailto:info@nohsc.gov.au>

Information is also available on WorkCover's website:

Summary of the Occupational Health and Safety Act 2000

[http://www.workcover.nsw.gov.au/pdf/SUMMARY\\_OHS\\_Act300801.pdf](http://www.workcover.nsw.gov.au/pdf/SUMMARY_OHS_Act300801.pdf)

Occupational Health and Safety Act 2000

<http://www.workcover.nsw.gov.au/pdf/2000-40.pdf>

OHS Regulation 2001

[http://www.workcover.nsw.gov.au/pdf/occ\\_health&safety.pdf](http://www.workcover.nsw.gov.au/pdf/occ_health&safety.pdf)

OHS Consultation Code of Practice

[http://www.workcover.nsw.gov.au/pdf/cop\\_ohsconsultation.pdf](http://www.workcover.nsw.gov.au/pdf/cop_ohsconsultation.pdf)

Risk Management Code of Practice

<http://www.workcover.nsw.gov.au/pdf/riskmanagement31-oct.pdf>

Copies of these publications can be also be ordered by completing an Order Form

<http://www.workcover.nsw.gov.au/pdf/orderform31-Oct.pdf> or calling WorkCover's Publications Order Line on 1800 658 134.

### **Contact WorkCover NSW**

You can call WorkCover's Assistance Service on 131 050 or contact WorkCover by email <mailto:contact@workcover.nsw.gov.au>. for further information.

Further information on suitability of prevention strategies may be obtained from product suppliers and PPE manufacturers and suppliers.

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