

Dermatitis

Occupational skin diseases are a widespread problem. Despite numerous protective mechanisms, the skin remains vulnerable to new irritants found in the workplace.

The skin is a good protective cover but it can fail if the load put on it becomes too much. As a result, many workers in different occupations suffer from occupational skin diseases.

What is dermatitis?

Skin diseases caused by substances and processes used in the workplace are commonly known as **dermatitis** and usually involve inflammation of the skin.

Most of these skin diseases are due to contact with a harmful agent, which is why they are called **contact dermatitis**.

Irritant Contact Dermatitis

About 90% of all dermatitis inflammations are caused by contact with one or more of the many irritant agents in the workplace or elsewhere. (See the table over the page for common industrial irritants and allergans.) Irritant contact dermatitis can occur in anyone, and may occur suddenly after many years of exposure.

The skin becomes red at the site of contact (usually the hands) and blisters. Swelling and itching may develop. Over time, the skin becomes thick, rough and cracked. A good example is that of dermatitis in motor mechanics caused by washing car parts with kerosene.

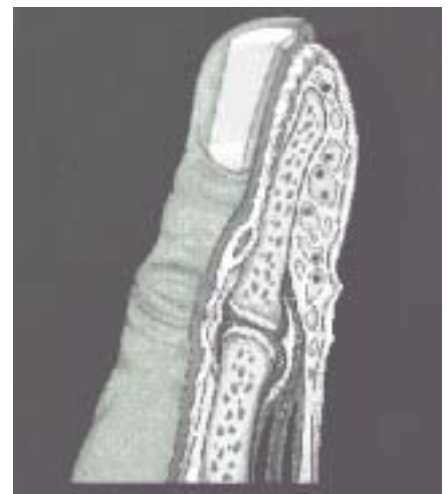
Allergic Contact Dermatitis

Some substances penetrate the dermis and sensitise the skin, so that even very low concentrations of the substance will trigger an allergic reaction in the future (see table over the page).

Sensitisation may occur within days of exposure, but usually takes months to years. That is why workers may suddenly develop an allergy to a substance that they have been working with for years without any problems. Once sensitisation occurs, however, it is life-long and any exposure to the sensitising chemical (or allergen) must be avoided.

Allergic responses vary from person to person, and the rash produced may look just like an irritant contact dermatitis.

If a worker has had severe dermatitis (allergic or irritant) in the past, they need to be made aware of the risks involved in employment in which they will be exposed to high levels of irritant substances, for example, hair-dressing, catering, nursing or motor repairs.



In addition to these forms of dermatitis, there are other skin disorders in which workplace substances or processes may be involved. These include acne, calluses and scleroderma (a relatively rare disease affecting blood vessels and connective tissue).

The Commonwealth Government's National Industrial Chemical Notification and Assessment (NICNAS) agency found that more than 400 cleaning products used in Australia contain a chemical substance called *2-butoxy-ethanol*. This chemical causes irritation of the skin but many of the products did not have adequate warning about the precautions that should be taken for its use.

If you are working with chemicals insist that your employer show you the Material Safety Data Sheet (MSDS) for the products you use. Your employer should take suitable measures to control any health effects and follow safe work procedures when using such products.

Common industrial <i>irritants</i>	Common industrial <i>allergens</i>
Detergents, solvents, petroleum oils and grease	Metallic salts and compounds of nickel, chromate, cobalt and gold
Machining (cutting) fluids and various lubricants	Uncured epoxy, acrylic and certain resins (hardeners and curing agents)
Food substances, plants and fibreglass	Organic dyes, biocides and germicides

What jobs are most at risk?

Occupational skin diseases are a widespread problem. Some occupations where workers can contract severe skin problems are:

Occupation	Substance
Construction workers, painters	Cement, epoxy resins, paint
Paint and plastic producers	Isocyanates
Kitchen, hotel and health care workers	Surfactants, soap, detergents
Metal machining workers	Mineral oils
Degreasing workers, cleaners, painters	Solvents
Drug manufacturers, preparation assistants	Pharmaceuticals
Hairdressers	Hair treating chemicals

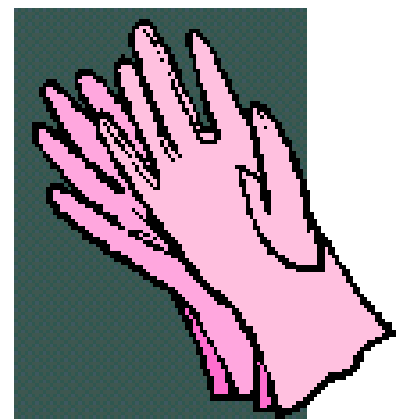


How can skin diseases be prevented?

The following control measures should be taken - the ones at the top of the list are most effective, and should be tried first. As you go down the list, the effectiveness of the control measure decreases.

1. A **safer alternative** to the product giving the problems should be sought. For example, paints containing epoxies can be replaced by non-epoxy paints, thereby decreasing the risk of sensitisation.
2. The work process should be totally or partially **enclosed**. For example, total or partial enclosures around machines, parts of machines, or conveyer belts can prevent oil mist and oil splashes contaminating workers' hands and clothing. If it is necessary to see the part being machined, these enclosures can be transparent. Mineral oils are one of the commonest causes of dermatitis.

3. Some work processes can be **automated**. For example, using a machine to wash paint trays instead of workers scrubbing the trays with solvents. This will eliminate the problems caused by breathing in solvent vapours, as well as skin problems caused by contact with solvents.
4. **Work practices could be changed**, to eliminate or reduce the chances of skin contact with chemicals. For example, automatic dispensing of organic solvents from drums to containers will reduce the risk of skin irritation from solvent vapours and splashes.
5. **Good housekeeping** is important. Work areas should be kept as clean as possible. Ensure that surfaces and the outside of bottles and their containers are not splattered with substances.
6. Insist that **paper or disposable towels** are provided for drying the skin. Toxic materials should not be wiped off with a reusable towel.
7. **Isolate** work involving chemicals likely to cause skin diseases, so that other workers are not exposed.
8. **Protective clothing** should be supplied, and laundered, by the employer. Protective clothing should never be taken home. **Get advice** from manufacturers or suppliers of protective clothing (such as gloves, overalls) whether that material had been **tested for resistance** to the particular chemicals you use. Some gloves used as protection against substances at work **may themselves cause skin problems to some users. If a tight fit is not needed, PVC gloves can be used rather than latex gloves.** Hand care is important. During long periods of work, remove gloves and give hands an "airing" regularly - at least every hour.



9. **Cleansing** should be done with soap or other solvent-free hand cleansers, **not organic solvents**. **Hand creams** should be provided to replace the oils in the skin removed by frequent washing.

Any substance that may irritate and affect your skin should be identified early and this is helpful in preventing an epidemic of dermatitis in your workplace.

- Read labels on containers, and ask your union delegate, safety committee representative or supervisor to find out more about the skin hazards associated with those chemicals. Follow any precautions that are recommended.
- A Material Safety Data Sheet (MSDS) should be available for each substance used at work. If not, ask for one from your supervisor or the supplier of the product. If you have difficulties in getting one, contact your union or the Workers Health Centre.

- If you notice any changes in your skin, see a doctor immediately. Early diagnosis and advice is essential in preventing occupational dermatitis.



Useful References

National Occupational Health and Safety Commission, *Occupational Diseases of the Skin*, Australian Government Publishing Service, Canberra, November 1990. Available through NOHSC: Phone 132 447 Website www.nohsc.gov.au

For further information and advice contact the Workers Health Centre



The Workers Health Centre provides a range of quality services in occupational health and safety including

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- Medical screenings
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