
Chemical Exposure Dermatitis

What is Dermatitis and how to get rid of it



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Does dermatitis concern me?

“Dermatitis constitutes a key portion of occupational disorders in industrialised societies,” says Dr. Ai-Lean Chew, professor at University of California San Francisco.



Occupational dermatitis is a common skin disease found among auto industry workers, especially those who are involved with parts cleaning, engine cleaning and brake cleaning.

It can be caused by a number of irritants or allergens found in the automotive work environment. Specific preventative measures and special treatment can reduce the occurrence of dermatitis and prevent future outbreaks.

“Dermatitis is a common condition that usually isn’t life-threatening or contagious. But, it can make you feel uncomfortable and self-conscious,” say the doctors at Mayo Clinic, the leading non-profit medical research group in the United States.

Summary: Exposing your skin to metalworking fluids and other chemicals used in automotive industry can cause dermatitis.

¹ Sussell, A. “Dermatitis Prevention for Auto Mechanics.” Presented at The Public Health Conference by Center for Disease Control and Prevention—The National Institute for Occupational Safety and Health. 2009.

² Dicke, H., et al. “Importance of irritant contact dermatitis in occupational skin disease.” American Journal of Clinical Dermatology. 2002.)

³ Sussell, A. supra.

What is dermatitis?

Dermatitis is a rash or inflammation of the skin. There are many types of dermatitis.

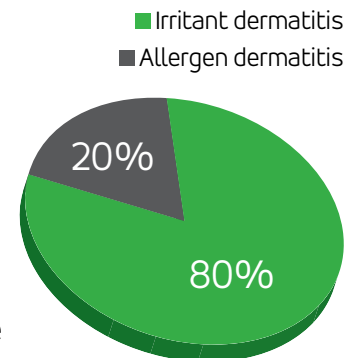
Irritant dermatitis is the most common type of occupational dermatitis.

It is also known as contact dermatitis. This condition is caused by substances that irritate the skin. These substances harm the skin by removing natural oils, penetrating the skin, damaging the skin, and causing inflammation.

Irritant dermatitis accounts for 80% of all occupational dermatitis.¹ Within the automotive industry, irritant dermatitis makes up 56% of the cases of occupational dermatitis.²

Allergic dermatitis is another common form of occupational dermatitis; it is caused by allergenic substances. Allergic dermatitis makes up 20% of the reported cases of occupational dermatitis.³

Typical irritants and allergens found in the automotive industry include water, detergents, solvents, alkalis, metalworking fluids and friction-reducing substances. Individuals with dermatitis, more than likely, will have been exposed directly to these substances. Parts washers, engine cleaners, and brake part washers are most affected by dermatitis.



Definitions

Occupational skin disease: various skin problems, including dermatitis, caused irritants and allergens found in the occupational environment.

Occupational dermatitis: rash or inflammation of the skin caused by chemicals and substances encountered at work.

Irritant dermatitis: dermatitis caused by substances that irritate the skin.

Allergic dermatitis: dermatitis caused by allergenic substances.

How does dermatitis affect me at work?

Dermatitis is a serious occupational problem for which many may need to seek medical treatment. Occupational skin diseases including dermatitis make up 50 percent of all occupational illnesses.⁴



Effects of Dermatitis

While dermatitis is responsible for about 25% of all absences from work,⁵ it can also reduce productivity at work and reduce the quality of life at home. It can often cause individuals to seek different work where they are not exposed to these dermatitis-causing substances. Retain a reliable workforce by keeping their workplace safe and hygienic.

Occupations Affected

Dermatitis is more likely to occur within the automotive industry due to constant exposure to irritants or allergy-inducing substances. More specifically, parts washers, engine cleaners, brake parts cleaners, and those involved with metalwork, wetwork, and others tasks using solvents, aqueous cleaners, and other chemicals are more susceptible to contracting dermatitis.

Number of Workers Affected

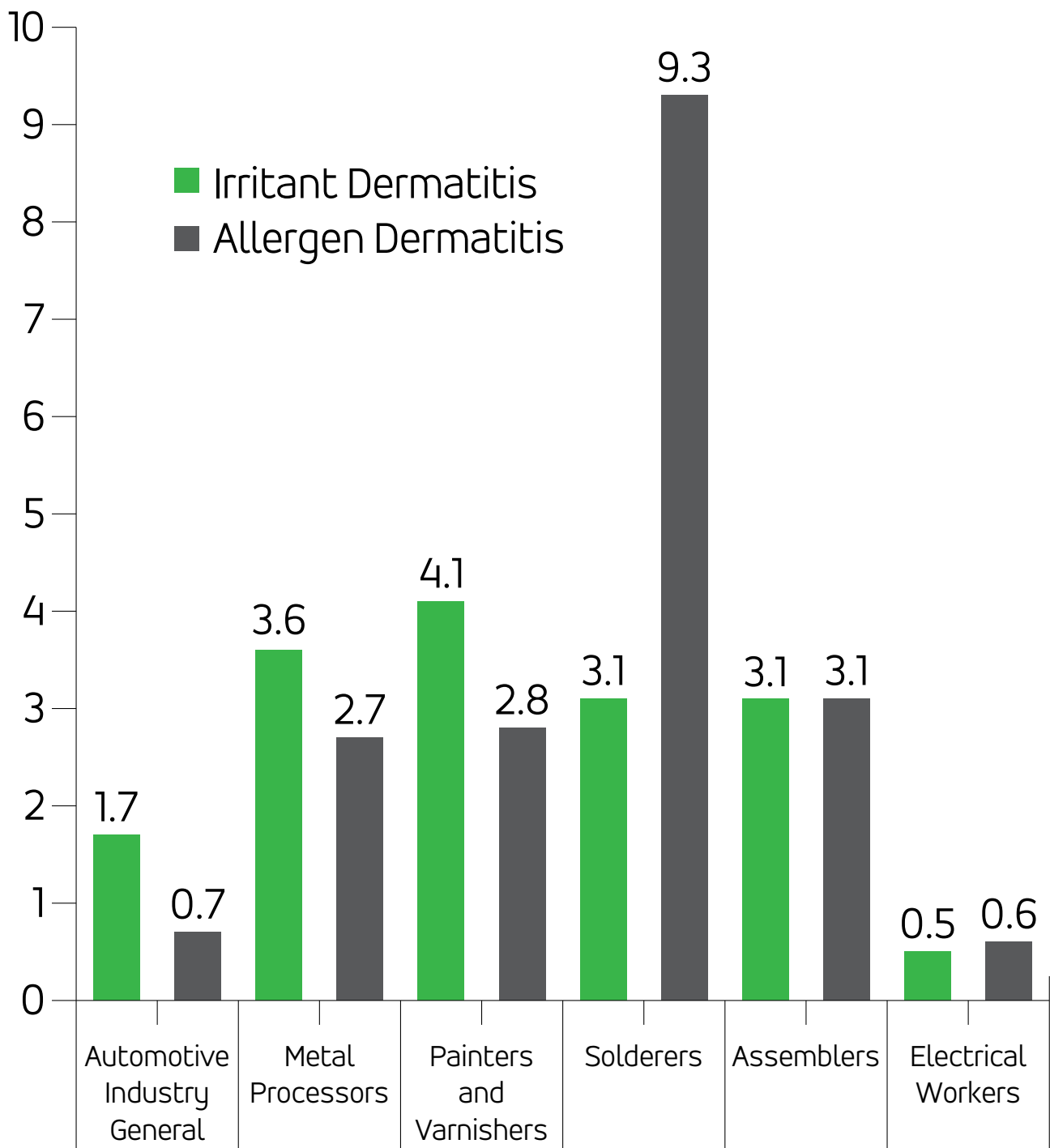
In a case study of workers in a Swedish automotive factory, 6% of workers tested positive for work related dermatitis.⁶ On average, each year, among 10,000 workers within the automotive industry, 0.7 workers will demonstrate allergic dermatitis each year, while 1.7 workers will exhibit irritant dermatitis.⁷

⁴ Rietschel, R. and J. Fowler. Fisher's Contact Dermatitis. Ed 6. 2008.

⁵ Peate, W. F. "Occupational Skin Disease." American Family Physician. 2002.

⁶ Rietschel, R. supra.

⁷ Chew, A. and H. Maibach. Irritant Dermatitis. 2006.

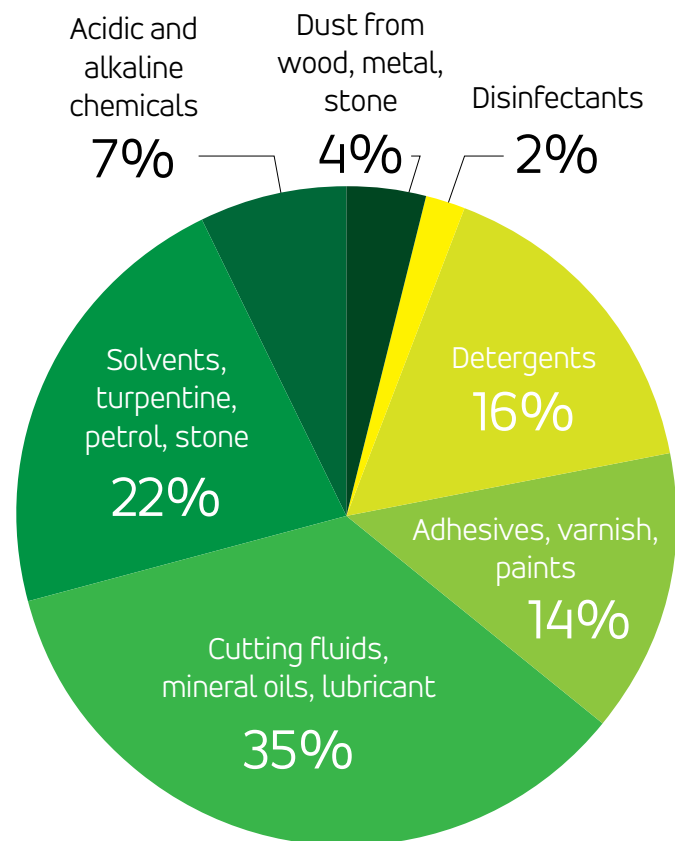


Annual Occurrence of Dermatitis
(average number of workers out of 10,000)

What chemicals can cause dermatitis?

Most workers in the automotive industry are exposed to one or more of the following irritants and allergens.⁸

- Solvents
- Metal-working fluids
- Oils and grease
- Primer paints including zinc chromate
- Dips to prevent corrosion of nuts and bolts
- Chrome alloys used in welding
- Antioxidants used in diesel engine radiators
- Cutting oils
- Paints and enamels (especially green, orange and yellow)
- Cleaning solutions including detergents and solvent-based degreasing substances
- Automotive brake fluid
- Anti-freeze fluid
- Engine oil



Dermatitis Causing Agents
(% of workers affected out of 83)

What tasks can cause dermatitis?

- Frequent or prolonged contact with any of the above substances.
- Contact with tools and parts contaminated by the above substances.
- Contact with clothing and gloves contaminated by the above substances.
- Frequent use of abrasive cleaning and degreasing substances, like solvent-based hand cleaners.
- Frequent or prolonged contact with water during wetwork.
- Contact with substances that can bring about an allergic reaction, varying from person to person.

Summary: Dermatitis is a serious occupational problem within the automotive industry. It can be caused by many substances commonly used by automotive workers.



⁸ Chew, A. supra.

How does dermatitis affect my health?

Symptoms of dermatitis

Dermatitis is a skin rash that may exhibit some of the following characteristics:

- redness
- swelling
- dryness
- splitting
- itchiness
- scaling
- peeling
- burning
- blistering
- tingling
- flaking
- skin lesions

Dermatitis is not only physically distressing, but also emotionally distressing. Due to its unsightly appearance, dermatitis can be a cause for embarrassment. Dermatitis—ranging from being mildly itchy to severely painful—can hinder individuals from optimally performing tasks at work or at home.

When your daily routine and livelihood are threatened by this uncomfortable skin condition, it is time to treat the pain and get to the root of the problem-- irritants and allergens in the workplace.

How can I treat and prevent dermatitis?

Diagnose Dermatitis

If a rash occurs where the skin contacts substances used in auto repair, metal work, engine work and any aqueous cleaning task (including parts washing, engine cleaning, and brake parts washing), it is possible that you have occupational dermatitis.

To properly diagnosis dermatitis, consult your doctor. Your doctor may administer a patch test to identify the causes of allergic dermatitis. However to diagnose irritant dermatitis, your doctor will enquire



Summary: Dermatitis is a skin rash that ranges in symptoms which could have serious affects on your work life and personal life.



about your home environment, your work environment, the history of your general health, and the history of your skin rash.

The good news is that contact dermatitis is treatable. The itchy red rash can disappear in two to four weeks if the offending substance is avoided. Your doctor can help create a treatment plan that is tailored to your health needs. In the mean time, avoid scratching and choose to wash with mild soaps without dyes or perfumes that may further irritate the skin.

Treat Dermatitis

To treat dermatitis, first, try to eliminate or limit direct contact with substances that aggravate the skin. If your skin has been in recent contact with irritants or allergens, wash the affected area. Your doctor may prescribe moisturisers, topical creams, emollients, corticosteroids, or oral antihistamines to help treat your dermatitis. If your skin rash has also developed a secondary bacterial infection, your doctor may prescribe antibiotics.

Follow the treatment plan faithfully to eliminate the symptoms and avoid coming into contact with harmful substances again so the inflammation does not return.



Prevent Dermatitis

At work you can prevent future contractions of dermatitis by protecting yourself with protective gear like chemical-resistant gloves, masks and aprons. You can also use barrier creams that may help reduce direct contact with abrasive chemicals.

Your workplace may also be able to reconfigure your environment and equipment so as to limit your exposure to irritating substances. You should always employ good personal hygiene by washing with nonirritating soaps.

If possible, get creative and consider how your work tasks could be re-imagined so that you and your coworkers are not immersed in harmful substances. Treating your skin condition is just the first step in creating a healthier, more hygienic work environment.

Summary: In order to prevent dermatitis, limit exposure to irritants and allergenic substances.

Additional Resources

<http://www.occderm.asn.au/contact-dermatitis.html>

http://www.skincarephysicians.com/eczemanet/occupational_dermatitis.html

<http://www.hse.gov.uk/pubns/guidance/mw02.pdf>

<http://www.allergy.org.au>

<http://www.cdc.gov/niosh/>

<http://www.dermnetnz.org/dermatitis/>

<http://www.mayoclinic.com/health/contact-dermatitis/DS00985>

AlSCO's EcoSafe Washer offers a solution for reducing incidences of dermatitis.



Watch a video demonstration



ECOSAFE WASHER

The mobile Ecosafe Washer outperforms all other part cleaners without the need for harmful solvents.

- ✓ Non toxic, non flammable, non hazardous and solvent free
- ✓ Removes OH&S and environmental concerns
- ✓ Mobile and simple to use

For a demonstration, please visit ecosafewasher.com.au

Imagine the benefits when your work environment is safe from harmful, irritating substances.



For more information about the AlSCO Ecosafe Washer, please contact us on **1300 136 784** or visit our website ecosafewasher.com.au