

# Latex

**What is it?** Latex is a product derived from natural rubber produced from the purified sap of the rubber tree. The sap contains natural proteins and lipids which are cross-linked using heat and sulphur. Chemicals are added during manufacturing or other processing. These additives can cause allergic contact dermatitis.

Latex gloves are made from latex liquids that can contain free, soluble protein, which is believed to be the cause of latex allergies.

**Why use it?** Latex is light, flexible and cheap to produce, easily formed into thousands of products, from condoms to catheters. It lends itself easily to being disposable, which of necessity, is an obligatory piece of protocol for most of the uses required of it.

Whether as a glove, a piece of medical equipment, or some other frequently used object, latex products have been a boon to the modern health care system, and other areas where protection from contamination is required, such as research laboratories, food and cleaning products, etc.

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It has only been in recent years since the onset of highly infectious diseases such as HIV/AIDS, and its increase for other workplace uses, that the frequency and volume of contact with latex has increased substantially, leading to increased sensitivity amongst its users. Powdered gloves have also been a culprit, as the powder can absorb the soluble protein which can become airborne, thus affecting even those who are not in direct contact with the latex product.

Allergies to latex gloves are becoming all too common, and the Saskatchewan Ministry of Labour's Occupational Health and Safety department has identified that: workers who have frequent or prolonged use of disposable latex gloves, use multiple-use latex gloves for barrier protection against chemical substances, have pre-existing hand dermatitis, use powdered latex gloves or have personal histories of other allergies, are more apt to develop a latex allergy, especially if they have damaged skin. They also found, according to published reports, that the prevalence of allergies amongst health care providers are anywhere from three to 17%.<sup>1</sup>



**Allergies**  
The wearing of gloves causes mechanical irritation of skin.

**CHANGE gloves before punctures or tears develop during prolonged use.**

**DO NOT wash gloves instead of changing and disposing of them when required.**

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## WORKPLACE PRODUCTS THAT CONTAIN LATEX

(This list is not exhaustive.)

### Personal protective equipment

- . Gloves
- . Surgical masks
- . Respirators
- . Goggles
- . Rubber aprons

### Office supplies

- . Rubber bands
- . Erasers

### Emergency and first aid equipment

- . Blood pressure cuffs
- . Stethoscopes
- . Oral and nasal airways
- . Endotracheal tubes
- . Tourniquets
- . Intravenous tubing
- . Syringes
- . Electrode pads
- . Adhesive tape
- . Ace bandages

### Medical Supplies

- . Rubber tops of multidose vials
- . Anesthesia masks
- . Catheters
- . Wound drains
- . Injection ports
- . Dental dams
- . Dental bite block
- . IV tubing



Goggles



## Latex Reactions

### Irritant Contact Dermatitis (not a true allergic condition):

**Cause:** The wearing of gloves causes mechanical irritation of skin. Repeated hand washing and incomplete hand drying can also contribute.

**Symptoms:** Dry itchy patches of skin - usually on the hands.

**Prognosis:** Reversible. Not life threatening.

### Allergic Contact Dermatitis:

**Cause:** Allergic response to chemicals added to latex during processing and manufacturing.

**Symptoms:** Reddening of skin on hands (usually 4-6 hours of contact, peaking within 48 hours). May progress to oozing blisters.

**Prognosis:** Irreversible. Skin lesions will heal when contact ends but allergy persists and may force change in occupation. Not life threatening. May convert to severe allergic reaction without warning.

**Action:** Sensitized workers should seek a diagnosis; avoid wearing latex gloves; alert their medical and dental care providers; and wear a medical alert bracelet warning of their allergy.



### Latex Allergy:

**Cause:** An inappropriate response of the immune system to the "foreign" latex proteins. The response releases histamine which produces respiratory, cardiovascular and cutaneous symptoms.

**Symptoms:** Reaction usually begins within minutes of exposure. Reaction may be: **Mild** – redness of skin, hives or itching; **Severe** - runny nose, sneezing, itchy eyes, scratchy throat, asthma, coughing and wheezing; **Very severe** - shock reaction with dramatic drop in blood pressure and bronchospasm.

**Prognosis:** Progressive. People become increasingly allergic with continued latex exposure. Life threatening. Fatalities have occurred during surgery when allergic patients have been exposed to latex proteins from surgical gloves or latex-containing medical supplies.

**Action:** People who have experienced a severe reaction avoid all latex exposure and should ask a physician about carrying an Epi-Pen for emergency treatment of anaphylaxis.



### Persons allergic to latex

rubber products should consult an allergist to find out if they are actually allergic to latex (natural) rubber or to chemicals that are in synthetic rubbers. They should also advise their physicians and dentists so that they can decide if alternate products should be used in any treatment that normally requires the use of rubber products.

**"Hypoallergenic"** gloves are usually made from latex so latex-sensitive workers should check to see if they are made from latex or some other material.

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### Latex Alternatives

- Neoprene – Butyl
- Styrene/butadiene – Viton
- Polyvinylchloride - Nitrile

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### References

<sup>1</sup>Saskatchewan Labour, Occupational Health & Safety: Guidelines for Latex and Other Gloves

<sup>2</sup>Dalhousie University, Halifax, Nova Scotia

### Sources

Canadian Centre for Occupational Health and Safety; [www.ccohs.ca](http://www.ccohs.ca)

Canadian Allergy, Asthma and Immunology Foundation; [www.allergyfoundation.ca](http://www.allergyfoundation.ca)

### Regulations

The Medical Devices Regulations require that all medical glove brands sold in Canada be licensed to verify that they meet the mandatory quality standards of Health Canada (Policy on Medical Gloves - Therapeutic Products Program of Health Canada 1-800-267-9675), or equivalent standards (ISO 11193 or ASTM D3678-00). Disposable medical gloves with the Canadian General Standards Board (CGSB) symbol have been tested by CGSB and demonstrated sufficient barrier protection.

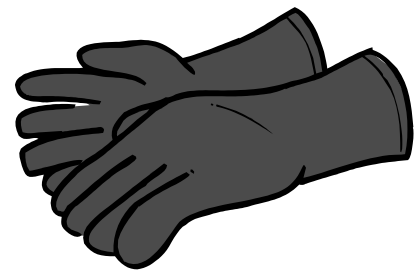
### Training should be provided on:

- ✓ What procedures require gloves
- ✓ What glove products contain latex
- ✓ What glove materials are recommended for a procedure
- ✓ How to recognize the signs and symptoms of latex allergy
- ✓ The need to promptly report to the employer possible reactions and changes in the nature and severity of reactions
- ✓ The need to consult a physician when a latex allergy is suspected (diagnostic tests are available to confirm and characterize latex allergy)
- ✓ The importance of avoiding the use of lotions or barrier creams under the gloves (such materials can react with the latex or compromise the integrity of the gloves)
- ✓ The importance of alerting co-workers when a latex allergy is suspected
- ✓ Procedures for dealing with suspected cases and procedural and product changes that will occur where a latex allergy is confirmed

### Reduction and Prevention

Employers should:

- develop a policy for glove use
- provide workers with non-latex gloves
- check for expiration dates
- ensure that workers use good housekeeping practices to remove latex-containing dust from the workplace
- provide workers with education programs about latex allergy
- work in concert with the JHSC to develop, implement and assess usage of all types of gloves in the workplace.



**Prevention** - work in concert with the JHSC to develop, implement and assess usage of all types of gloves in the workplace.