



# What You Should Know about *Hexavalent Chromium*

## Introduction

Hexavalent chromium, or Cr(VI), is one of the most dangerous substances found in the manufacturing industry. Cr(VI) is rarely found in nature, but it is quite common in industrial processes involving arc welding, painting or surface coating, electroplating, stainless steel manufacturing/production, chromate chemical/pigment production, thermal cutting and chrome plating. **Cr(VI) is an occupational carcinogen, meaning it is capable of causing genetic mutation that leads to tumour development or genetic changes that affect the reproductive system and offspring.** Though Cr(VI) is certainly dangerous, you can protect yourself and your family by following proper workplace procedures and regulations.

## Health Effects

One of the reasons Cr(VI) is so dangerous and thus, strictly regulated, is because of the array of serious health effects Cr(VI) exposure can cause. Accidental or prolonged Cr(VI) exposure can cause:

- Irritation of the skin, nose, eyes and/or respiratory system
- Skin and/or nasal ulceration
- Allergic reaction
- Asthma
- Nasal inflammation or perforation
- Nosebleeds
- Kidney or liver damage
- Eardrum or eye damage
- Stomach pain
- Erosion or discolouration of the teeth
- Lung, nasal and/or sinus cancer

**If you work with or near Cr(VI) and experience shortness of breath or wheezing that gets progressively worse at work; nosebleeds; or redness, itchiness or blistering of exposed skin, notify immediately!**

You will receive proper medical attention and surveillance to ensure your safety.





## Exposure

Employees working near Cr(VI) may be exposed in two ways. The first is through inhalation – you could breathe in Cr(VI) dust, fumes or mist during any of the industrial processes mentioned above. The second is through physical contact. Cr(VI) may touch the skin when handling solutions, coatings or cements that contain the substance.

**You place of work should use engineering controls, work practice controls and personal protective equipment (PPE) to ensure you are not subject to dangerous Cr(VI) levels.**

## Government Regulations

While you are ultimately responsible for your own safety, your Employer is required by law take certain steps to protect employees from unacceptable Cr(VI) exposure. You can expect:

- Cr(VI)-level monitoring
- Use of regulated areas
- Use of engineering and work practice controls
- Proper changing rooms
- Ample washing facilities
- Eating/drinking surface regulation
- Thorough housekeeping
- Medical surveillance from

Employees will also be provided with personal protective equipment (PPE) and clothing at no cost to prevent Cr(VI) exposure.

## Employees Roles

Working with Cr(VI) can be safe if you take the necessary precautions to prevent exposure. **Cr(VI) safety is similar to any other hazardous substance – the most important steps are to follow training procedures closely, wear all required PPE and notify your supervisor if you experience any symptoms of Cr(VI) exposure.**

**The thing that sets Cr(VI) apart from many other hazardous substances is its ability to negatively affect non-employees if it remains on your clothes or skin after leaving the workplace.** Because of this, it is crucial to follow all protocol on equipment or clothing use, removal and cleaning. Any traces of Cr(VI) that you bring into your home could affect the health of your friends or family.





## Summary

Working with Cr(VI) is a dangerous and necessary part of your job. **But with help from the right educational materials and by taking proper safety precautions, you can eliminate the risk of occupational illness and disease caused by Cr(VI).** Take your safety seriously, and be sure to contact your Employer if you notice any unsafe or hazardous practices taking place.

If you have any questions or concerns about Cr(VI) in the workplace, ask them before being exposed to the substance. Your safety hinges on your awareness of the hazard, how you protect yourself from exposure and how you react in case of exposure.

