

Chemicals in the Workplace – Don't Leave Yourself Exposed

Safety Talk

What's At Stake ?

Most of us don't give much thought to the chemicals we are at risk for exposure to at work. But did you know that workers in North America are exposed to 650,000 chemicals and chemical exposure causes 50,000 deaths and 200,000 injuries every year?

What's The Danger ?

Chemical hazards and toxic substances pose a wide range of physical and health hazards. Chemicals can be flammable, corrosive or reactive and cause fires and explosions. This safety talk is going to focus on health hazards—including irritation to the eyes, nose and throat; rashes and life threatening allergic reactions; organ failure; blindness; and cancer.

Chemicals can be solids, liquids, gases, dusts, fumes, fibres, vapors or mists. What form they are in determines how they can enter your body and the type of damage they can do.

There are four ways a chemical can enter your body:

1. **Inhalation:** Breathing contaminated air can cause immediate effects such as eye, nose, throat and lung irritation or asthma. Longterm effects of inhaling hazardous chemicals, such as asbestos, can cause a deadly form of lung cancer.
2. **Contact:** When corrosive chemicals like strong acids and bases come in contact with your skin or eyes, they can cause burns ranging from minor to severe. Allergic reactions and contact dermatitis after exposure to chemicals such as nickel and latex are two other negative results of chemical contact.
3. **Ingestion:** This happens when you swallow chemicals that have

contaminated your food or your hands.

4. **Injection:** This occurs when a sharp object, like a contaminated needle or a piece of broken glass, punctures the skin and the chemical goes directly into your bloodstream.

How to Protect Yourself

Once you know how chemicals can enter your body, you can take steps to protect against exposure.

To prevent chemical inhalation:

- Use exhaust, ventilation and enclosures, like fume hoods or biosafety cabinets, to safely take fumes, fibres, vapors and mists up and away from your breathing zone.
- Wear masks and respirators as instructed.
- Follow safe work practices to control dust, fumes, and vapors. For example, use wet methods on hazardous materials such as asbestos before removing it, or when cutting silica.

To prevent contact hazards:

- Wear eye, face and hand protection when working with hazardous chemicals.
- Use barrier creams and alternatives to latex gloves.
- Check with your supervisor about your workplace's policy on wearing contact lenses. In some cases, it's much safer to take them out before working with chemicals.

To prevent ingestion:

- Never eat or drink, take medication or apply makeup or lip moisturizer when working with or around chemicals.
- Wash your hands whenever you take off your PPE, when you finish a task, and before you eat or drink.

To prevent injection:

- Wear PPE as required.
- Clean up broken glass with a broom and dust pan or tongs and never your hands!

- In healthcare settings, use safe needle systems and never recap needles.
- Always use designated sharps disposal containers.

FINAL WORD

When you recognize the ways chemicals can enter your body, you can take steps to make sure you aren't leaving yourself exposed to chemical hazards.