

*Safety and health hazards in nail salons**Safety and health hazards  
in nail salons*

There are about 14,500 certified nail technicians working in Oregon. This rapidly growing profession provides services such as manicures, applying artificial nails, and pedicures. Technicians, however, may not know that prolonged exposure to chemicals in nail-care products can harm them.

This fact sheet describes the hazards and what technicians and nail salon owners can do to minimize exposure.

**Products**

- **Nail enamels and hardeners** may contain *formaldehyde*, *toluene*, and *dibutyl phthalate*.
- **Nail polish removers and solvents** may contain *acetone*, *toluene*, and *methyl ethyl ketone* which are extremely volatile and flammable.
- **Nail tips and wraps** are glued with a solvent-based acrylic nail adhesive and may contain *cyanoacrylate adhesives* — sometimes known as “instant adhesives.”
- **Acrylic and gel nail systems** use a liquid monomer and powder polymer which may contain *methyl methacrylate* (MMA), *ethyl methacrylate* (EMA), or *benzoyl peroxide* as a hardener.

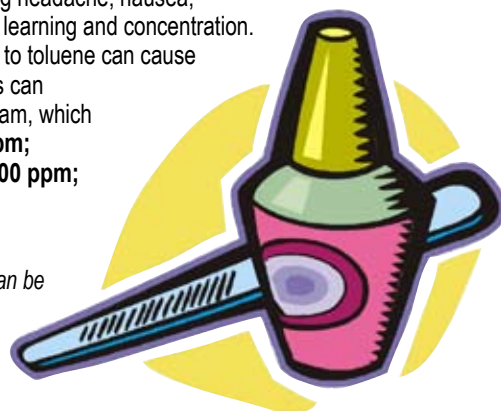
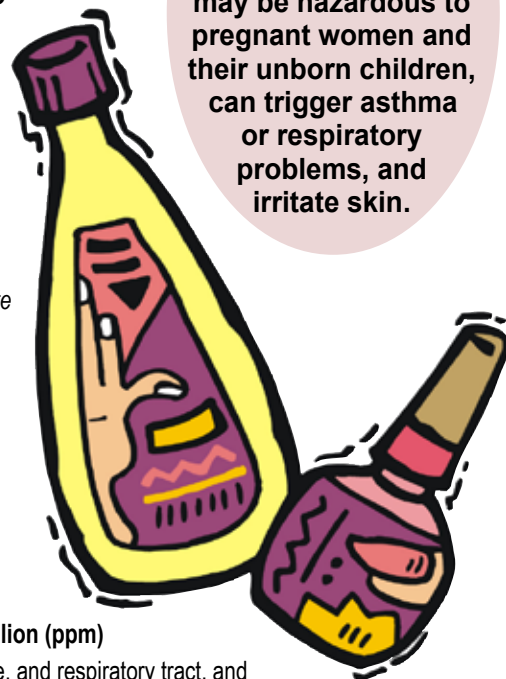
**Chemicals and health risks**

- **Formaldehyde** is a suspected carcinogen that irritates the eyes, nose, skin, and respiratory track. Prolonged exposure may cause asthma-like symptoms. **Permissible Exposure Limit (PEL): 0.75 parts per million (ppm)**
- **MMA and EMA** irritate the eyes, mucous membrane, and respiratory tract, and may cause contact dermatitis. MMA is highly toxic, may cause asthma, and is banned in many states. **MMA PEL: 100 ppm, EMA PEL: Not determined**
- **Dibutyl phthalate** irritates the eyes and upper respiratory system. Prolonged exposure is linked to miscarriage and infertility and is banned in Europe. **PEL: 5.0 mg/m<sup>3</sup>**
- **Solvents such as acetone, methyl ethyl ketone, xylene, and toluene** can affect the nervous system causing headache, nausea, dizziness, and irritability. Long-term exposure can affect learning and concentration. Studies have shown that long-term, high-level exposure to toluene can cause abortion, or harm the development of the fetus. Solvents can also irritate the skin and be absorbed into the blood stream, which may increase overall exposure. **Acetone PEL: 1000 ppm; Methyl ethyl ketone PEL: 100 ppm; Toluene PEL: 100 ppm; and Xylene PEL: 100 ppm.**

**Note: The Permissible Exposure Limit or PEL**

*is the maximum level of a specific contaminant that a worker can be exposed to, averaged over an eight-hour work day or over a specified portion of a work day.*

Prolonged exposure to nail care products such as nail polish and nail hardeners may be hazardous to pregnant women and their unborn children, can trigger asthma or respiratory problems, and irritate skin.



Web site:  
[www.orosha.org](http://www.orosha.org)

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### What nail salon owners can do to minimize exposure

**Prepare a hazard communication plan.** The plan must identify hazardous chemicals at the workplace and describe how material safety data sheets (MSDS), warning labels, and training will protect employees and inform them about the chemical hazards.

An MSDS for each product that contains a hazardous chemical must be readily accessible for employees who want to know about the product's hazards and how to protect themselves from overexposure.

**Provide employees with appropriate protective equipment.**

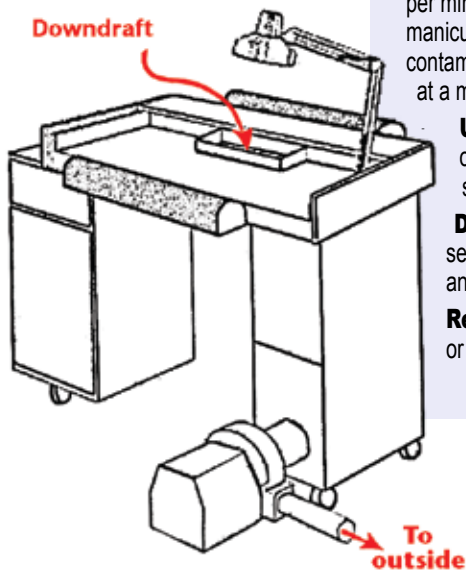
Gloves, goggles, and proper respiratory protection can reduce employee exposure to nail particles, chemicals, and chemical vapors.

**Ensure adequate ventilation.** The salon should have ventilation of at least 25 cubic feet per minute of outdoor fresh air per person during business hours. Each newly installed manicure or pedicure station must have an additional exhaust system that captures contaminants and odors at their source and exhausts them directly outside the building at a minimum 50 cubic feet per minute.

**Use appropriate dispenser bottles.** Use dispenser bottles that have openings just large enough for the application brush. The bottle stoppers should be pressure sensitive.

**Discard waste properly.** Place chemical-soaked gauze pads in a sealed bag before disposing them in the metal trashcan; close the lid securely, and change trash can liners daily.

**Require good hygiene.** Ensure that technicians wash their hands before eating or smoking and do not eat or drink at their workstations or near stored chemicals.



### Workplace safety requirements for nail salons

#### Oregon OSHA

1910.106: *Flammable and combustible liquids*

1910.132-1910.138: *Personal protective equipment*

1910.1200: *Hazard communication*

437-002-0382: *Oregon rules for air contaminants*

437-002-141: *Sanitation*

#### Oregon Building Codes Division

*Oregon Mechanical Specialty Code, Chapter 4, Ventilation.*

### Additional resources

Center for Research on Occupational and Environmental Toxicology (CROET) [www.croetweb.com/](http://www.croetweb.com/)

Immigration and Refuge Community Organization (IRCO) [www.ircoco.org/](http://www.ircoco.org/)

Multnomah County Health Department [www.co.multnomah.or.us/health/](http://www.co.multnomah.or.us/health/)

Oregon Building Codes Division [www.cbs.state.or.us/external/bcd/](http://www.cbs.state.or.us/external/bcd/)

Oregon Department of Environmental Quality (DEQ) [www.oregon.gov/DEQ/](http://www.oregon.gov/DEQ/)

Oregon Health Licensing Agency (OHLA) [www.oregon.gov/OHLA/](http://www.oregon.gov/OHLA/)

Oregon OSHA [www.orosha.org/](http://www.orosha.org/)

Organizing People-Activating Leaders (OPAL) [www.opalpdx.org/](http://www.opalpdx.org/)

Zero Waste Alliance [www.zerowaste.org/](http://www.zerowaste.org/)

