



# Artificial Nails

## HOW CAN CHEMICALS IN ARTIFICIAL NAIL PRODUCTS GET INTO YOUR BODY?

### Skin and Eye Contact

- Some chemicals may harm your skin directly and/or be absorbed into your bloodstream.
- You may splash chemicals into your eyes.
- You may accidentally touch your eyes with chemicals on your hands.
- Chemical vapors or dust in the air may get into your eyes.

### Breathing

- You may breathe in chemical vapors through your nose or mouth.
- When filing nails, you may breathe in harmful dust.

### Swallowing

- If chemicals (including dust) are on your hands or in the air, they may contaminate your food or drink.

## HOW CAN CHEMICALS IN ARTIFICIAL NAIL PRODUCTS AFFECT YOUR BODY?

Different chemicals affect your body in different ways, depending on the *amount* of the chemical in the product, how *harmful* it is, the *length of time* you are exposed, and other factors. Not every person has the same reaction to a chemical. Some people experience health effects when they work with a product, others never do. Health problems that may be caused by chemicals in artificial nail products include:

**Central nervous system effects:** Headache, dizziness, nausea, drowsiness, restlessness.

**Nose and throat irritation:** Runny nose, scratchy throat, burning, itching.

**Skin irritation and dermatitis:** Redness, itching, skin rash, or dry skin that cracks and flakes — most common on the hands and arms.

**Eye irritation:** Redness, burning, watering, itching.

**Lung irritation:** Breathing difficulty, shortness of breath, coughing, swelling of lung tissue.

**Allergies:** Stuffy or runny nose, sneezing, asthma, dermatitis. If you become sensitive to a particular chemical, you will have an allergic reaction every time you use it.

**Cancer:** Studies with laboratory animals and humans have shown that chemicals found in some artificial nail products can cause cancer. This is not a common health problem.

**Reproductive problems:** Studies with laboratory animals have shown that chemicals found in some artificial nail products can cause reproductive problems, such as birth defects and infertility. This is not common.

## What harmful chemicals are sometimes found in artificial nail products?

### WARNING! EXPOSURE TO THESE CHEMICALS MAY CAUSE:

**1, 1, 2-trichloroethane or 1, 2, 2-trifluoroethane:** Central nervous system effects. Skin irritation and dermatitis.

**Acetone:** Eye, nose, and throat irritation. Central nervous system effects. Skin irritation and dermatitis.

**Acetonitrile:** Eye, nose, and throat irritation. Central nervous system effects. Skin irritation and dermatitis.

**Benzoyl peroxide:** Skin irritation and dermatitis. Cancer in animals.

**Butylated hydroxyanisole (BHA):** Breathing problems. Cancer with long-term use.

**Butyl methacrylate:** Eye, skin, nose, mouth and throat irritation, shortness of breath, skin rash.

**Dimethyl p-toluidine:** Eye, nose, and throat irritation.

**Ethyl acetate, butyl acetate or isopropyl acetate:** Eye, nose, and throat irritation. Central nervous system effects. Breathing problems. Skin irritation and dermatitis.

**Ethyl methacrylate:** Eye, nose, and throat irritation. Coughing and/or shortness

of breath. Asthma. Central nervous system effects. Skin irritation and dermatitis. Fire hazard.

**Formaldehyde:** Eye, nose, throat, and lung irritation. Watery, burning eyes. Central nervous system effects. Skin irritation and dermatitis. Breathing problems (such as asthma, coughing, and wheezing). Cancer with long-term use.

**Glycol ethers (a generic term for a group of chemicals):** Reproductive problems (birth defects and infertility shown in lab animal tests). Possible other effects depending on the specific chemical.

**Hydroquinone:** Eye, nose, and throat irritation. Skin irritation and dermatitis.

**Methacrylic acid:** Eye, nose, and throat irritation. Skin irritation and dermatitis.

**Methylene chloride:** Central nervous system effects. Causes cancer in lab animal tests.

**Methyl ethyl ketone (MEK):** Eye, nose, and throat irritation. Central nervous system effects.

**Methyl methacrylate (MMA):** Red, itchy, and swollen skin with tiny blisters. Scratch throat, runny nose, and cough. Numbness and muscle weakness. Central nervous system effects.

**Ortho-phenylphenol (OPP):** Eye, nose, and throat irritation. Abdominal pain. Coughing and/or shortness of breath.

**Phthalates (such as dibutyl phthalate):** Reproductive birth defects.

**Quaternary ammonium compounds (such as benzalkonium chloride):** Eye, nose, and throat irritation. Breathing problems (such as asthma and shortness of breath).

**Toluene:** Eye, nose, and throat irritation. Central nervous system effects. Skin irritation and dermatitis. Reproductive problems.

**Xylene:** Eye, nose, and throat irritation. Central nervous system effects. Skin irritation and dermatitis. Reproductive problems.

Not all artificial nail products contain these chemicals, and some may contain harmful chemicals not listed above. Always check the product's Safety Data Sheet (SDS) for more information. Other manicuring products are covered in a separate fact sheet.

### HOW CAN YOU PROTECT YOURSELF FROM CHEMICAL HAZARDS?

When you work with chemicals in artificial nail products, it is important to take steps to protect your health.

#### **Avoid harmful chemicals**

- For any product used, read the label and Safety Data Sheet to know what is in the product and its health effects.
- Use products with the least harmful chemicals in them when possible.
- Don't use products that contain formaldehyde, methacrylates, or methylene chloride.

#### **Use safe work practices**

- Keep containers closed when you're not using them so the product doesn't spill or get into the air.
- Check that all containers of chemicals are properly labeled of their contents.
- Don't eat or drink in your work area as your food or drink may get contaminated.
- Wash your hands after working with chemicals, even if you wore gloves.

#### **Ventilate the room**

- Always work in a well-ventilated area. If there's no ventilation system, open windows and doors to bring in fresh air from outside.
- Use a manicuring table with a built-in ventilation system. The hood pulls dust and vapors away from your breathing area.
- Do not rely on fans. They only blow dust and vapors around the room — they don't get rid of them.

#### **Use protective equipment**

- Wear gloves designed to protect your skin from the particular chemicals you're using.
- Wear a NIOSH-approved dust mask to protect yourself from dust when you file nails.
- Wear safety glasses to protect your eyes from nail clippings.
- Wear safety goggles when mixing chemicals to protect your eyes from splashes.

#### **Know your rights as a worker**

- Employers must provide workers with Safety Data Sheets if requested.
- Employers must train workers on the hazards of the chemicals they are working with and how to protect themselves from the hazards.

#### **Report any health problems**

- Speak up if you are experiencing symptoms of health effects so your employer can help alleviate the problem and let other employees know.
- Seek advice from your doctor on how serious your issues are and how they should be handled.
- You have the right to report health hazards to Cal/OSHA by filing a complaint.

## ARE GEL MANICURES SAFE?

There are many chemicals in the shop or salon that you may be exposed to during manicuring services, but there is something else you should be aware of — UV ray exposure. This occurs during gel manicures as the polish is cured under ultraviolet lamps. These lights emit UVA rays — the same rays emitted by the sun and tanning beds, which have skin-damaging effects and can lead to cancer.

While the amount of UV radiation produced by a nail-drying lamp at a single visit to a nail salon is not a serious concern, it is important to recognize that exposure is occurring. Any exposure, no matter how little, is still exposure. UVA exposure is harmful and could lead to premature skin aging (such as wrinkles) and eventually skin cancer. Because the wattage of nail lamps varies and produces different levels of radiation, even as few as eight uses of a higher-wattage lamp may produce enough exposure to cause skin damage. There is no evidence that cancer is a direct effect from using these nail-drying lamps; however, it is possible that the lamps are a contributing factor.

All UV exposure adds up over one's lifetime. Physicians and The Skin Cancer Foundation recommend playing it safe by applying broad-spectrum (UVA/UVB) sunscreen with an SPF of 15 or higher to hands before exposing them to UV light emitted from nail-drying devices. Some clients may even wear dark opaque gloves with the fingertips cut off to protect their skin.

Because manufacturers are constantly developing new technologies, there is an alternative that poses a lower risk to one's health. Many salons are now using LED lights instead of UV lamps. These lights emit a significantly smaller dose of UV radiation and there has not been one study that shows LED lights cause cancer. In fact, LED lights are often used in beautifying services, such as treating signs of sun damage. In addition, LED lights cure gel polish much faster and the bulbs never need to be replaced.

Whether you or your salon chooses to use UV lamps or LED lights, make sure you recognize the health risks of both and make the best decision for you and your client.

