



MotherToBaby

Medications & More During Pregnancy & Breastfeeding
Ask The Experts

Fact Sheet

by the **Organization of Teratology Information Specialists (OTIS)**

For more information about us or to find a service in your area,
call **(866) 626-6847**. Visit us online at **www.MotherToBaby.org**.

Find us! Facebook.com/MotherToBaby or @MotherToBaby on Twitter

Working in a Nail Salon

In every pregnancy, a woman starts out with a 3-5% chance of having a baby with a birth defect. This is called her background risk. This sheet talks about some of the general exposures present in nail salon work settings and outlines some resources available to help create a safe work environment. This information should not take the place of medical care and advice from your healthcare provider.

What types of hazards might be at my workplace?

In general, possible hazards that nail care workers might face include chemicals, dust, bacteria or viruses, and fungus.

What kinds of chemicals could I possibly be exposed to when I do my job?

Products used in nail salons can be made of many different chemicals. Nail polish can contain pigments, polymers, plasticizers, and solvents. Pigments provide the color. Polymers create the shininess and allow the polish to stick. Plasticizers are chemicals that increase flexibility and durability of the polish. Solvents make the polish spreadable. Solvents are also used in removing polish and breaking down glues (adhesives) and pigments.

Polymers you may be exposed to on the job can include nitrocellulose and tosylamide / formaldehyde resin (TSF Resin). Plasticizers in products may include dibutyl phthalate, triphenyl phosphate, and camphor. Commonly used solvents found in nail products include acetone, toluene, butyl acetate, and ethyl acetate. Products used with artificial nails include those used to prepare or prime the nail bed for adhesion (methacrylic acid), adhesives (cyanoacrylate or methacrylate products) and a solvent for removing the artificial nail (often acetonitrile). Formaldehyde gas can be released into the air when using some nail salon products. Along with nail products, disinfecting chemicals are also used to clean tools and soaking tubs.

How can I learn about the chemicals in the products that I work with in my salon?

To learn more about the specific chemicals that you work with ask your employer for the Safety Data Sheets (SDS) for each product that you use. These sheets will list the chemicals in the products. Some SDS are also available online.

The salon where I work has a strong smell. Does that mean I have high levels of exposure?

No. Nail salons often have a chemical smell. Most chemicals can be smelled long before they would cause a problem for the worker. For this reason, chemical odor cannot be used to determine if you have had an exposure that may be of concern.

Some small air quality studies in nail salons have found that most chemical concentrations (levels) found in the air were below the recommended occupational exposure limits. Occupational exposure limits are established to keep working adults healthy and this is reassuring. However, many of these air monitoring studies have noticed formaldehyde levels higher than recommended for a worker's respiratory health. Methyl methacrylate has also been measured in the air of nail salons. Because it is known that high levels of exposures in nail salons can be unhealthy for non-pregnant workers, some states are working on stricter guidelines for keeping salon workers healthy.

Do I only need to be concerned about fumes from the products I work with?

No. There are different ways that you can be exposed to chemicals. You can breathe in fumes or vapors of chemicals you or your co-workers use. Dusts created when filing and shaping, or when applying acrylic powders, can be inhaled (breathed in) or swallowed. These dusts may contain bacteria or fungus, depending on the health of your

client. Dusts can end up on your skin, and so can chemicals when applying products. If you eat or drink while using these materials, you could also accidentally get them in your mouth.

Can working around these chemicals and hazards harm my pregnancy?

Many of these chemicals are not well studied in pregnancy. Animal studies tell us that, for some of these chemicals, there might be problems for a pregnancy if the mother is exposed to extremely high levels that cause her to become ill. Because all salons are different, the amount of contact with chemicals and hazards can be different among workers. Your level of exposure can depend on the type of services your salon offers, the amount of hours you work, the kind of ventilation or air system in your workplace, and what kind of precautions you take to reduce your exposure. Just because you work around a possible hazard, it does not mean that you will be exposed to a level that would cause a problem.

Will working in a nail salon increase the chance for miscarriage?

Possibly. If you are actually exposed to high levels of chemicals, there might be a slightly higher chance. Some studies on organic solvents and formaldehyde have suggested a higher chance of miscarriage for workers with high levels of exposure. However, studies looking particularly at pregnancies of nail salon workers have not noticed a higher chance of miscarriage. Using proper protection and working in a ventilated space will help to keep exposures low.

Will working in a nail salon increase the chance of having a baby with a birth defect?

This is unlikely. The small number of studies that looked at the pregnancies of nail salon workers has not found an increased chance for birth defects. Information from animal studies about many chemicals found in nail salons does not suggest exposure will increase the chance for a birth defect. Some studies on some chemicals that are used in nail salons have suggested a greater chance for birth defects with high levels of exposure. Studies among women who abuse toluene (sniffing the fumes to get “high”) found effects similar to someone who abused alcohol in their pregnancy. Studies on formaldehyde have not noticed an increased chance for birth defects.

Can working in a nail salon cause other complications for me or my baby?

Possibly. Some products that you work with might cause allergy symptoms, asthma, or skin reactions. Some studies have also reported that workers in salons may be more likely to experience premature rupture of membranes (when the fluid around the baby in the womb leaks out). Some studies have also found a higher chance to develop high blood pressure. One study looking at Vietnamese women working in nail salons showed a greater chance to have babies that were smaller than expected.

Other hazards you might possibly be exposed to in a nail salon, such as bacteria, viruses, fungus, and dusts may possibly cause problems for your health, but are less likely to affect the developing baby unless you become very sick.

What if the father of the baby works in a nail salon?

In general, exposures that fathers have are unlikely to increase risks to a pregnancy. For more information, please see the MotherToBaby fact sheet Paternal Exposures and Pregnancy at: <https://mothertobaby.org/fact-sheets/paternal-exposures-pregnancy/pdf/>.

Is there anything I can do to reduce my exposures as a nail technician?

Yes. Following safe work practices and always taking precautions to keep exposures as low as possible will be good for you and your pregnancy. These precautions will help all workers, even if they are not pregnant or planning a pregnancy.

- Wash your hands before and after working on clients; before eating, drinking, or applying cosmetics; and after handling or transferring products.
- Wear nitrile gloves if working with any nail products containing chemicals. Latex and vinyl gloves may not provide a barrier for some chemicals. Gloves never offer a perfect barrier, so wash hands every time you take off your gloves.
- Cover and protect cuts or cracks in your skin. Damaged skin can allow chemical absorption and exposure.
- Wear goggles and the appropriate type of disposable gloves when handling and transferring products.
- Wear a dust mask, such as an N95 mask, designed to filter tiny particles. A regular surgical-style mask will not protect you from inhaling very fine dusts. Dust masks do not filter chemicals from the air.
- Do not eat or drink in your work area.
- If a person is bleeding, do not touch their blood. Ask the person to use a cotton ball or tissue to stop the bleeding and then

- have them throw it into the trash; have them put a bandage over the cut.
- Use trash cans that have lids, and keep the lids on.
- Keep all bottles and containers tightly closed with their proper lids and caps when not in use.
- Clean and disinfect tools and foot basins after each client, as required by your state's cosmetology board.
- Get fresh air into your salon (ventilation). This can be done by: having doors and windows open; using any ceiling vents or exhaust systems (always have them on). If there is no exhaust system then keep the fan heating, ventilation, and air conditioning (HVAC) system on during work hours (not on auto, which allows the fan to shut off and limit air movement).
- If your salon has manicure tables with built-in ventilation to draw fumes away from you, make sure they are always turned on. Change the charcoal filters at least once a month; clean out the catch basin at least once a week. Or, follow the specific maintenance schedule for your particular ventilation tables.
- When possible use products with the least amount of chemicals. Replace products that can release formaldehyde into the air.
- Read product labels and follow the manufacturers' instructions on how to use, store and dispose of the products.
- Discuss your immunizations (shots that can help to protect you from getting some diseases) with your health care provider. There are some that may be helpful, such as hepatitis B immunization.
- Your employer should offer proper personal protections for all parts of your job. Be certain to use them, even when not pregnant.

How can I get more information?

If you have specific concerns about your work site, discuss them with your healthcare provider or contact MotherToBaby with your specific questions. For ways to make your salon as safe as possible, you or your employer can contact a local industrial hygienist at <https://www.aiha.org/about-ih/Pages/Find-an-Industrial-Hygienist.aspx>. Small businesses can also contact OSHA's on-site consultation services to help determine whether there are hazards at the worksite: 1-800-321-OSHA (6742) and press number 4.

Some online resources:

- MotherToBaby has a general fact sheet on occupational exposures and ways to reduce workplace exposures: <https://mothertobaby.org/fact-sheets/reproductive-hazards-workplace/pdf/>.
- Health Hazards in Nail Salons – a booklet from the Occupational Safety and Health Administration (OSHA) about how to stay safe while working in a nail salon, in English, Spanish, Vietnamese, Korean, and Nepali: <https://www.osha.gov/SLTC/nailsalons/>
- Nail Technicians' Health and Workplace Exposure Control – National Institute for Occupational Safety and Health (NIOSH): <https://www.cdc.gov/niosh/topics/manicure/>
- Protecting the Health of Nail Salon Workers – United States Environmental Protection Agency (US EPA): <https://www.epa.gov/sites/production/files/2015-05/documents/nailsalonguide.pdf>
- The Effects of Workplace Hazards on Female Reproductive Health – NIOSH: <http://www.cdc.gov/niosh/docs/99-104/>
- Occupational Safety and Health Administration (OSHA): <https://www.osha.gov/SLTC/reproductivehazards/index.html>
- Office of Women's Health at the US Food and Drug Administration (FDA): <http://www.fda.gov/womens/default.html>

Selected References

- Attarchi MS, et al. 2012. Assessment of time to pregnancy and spontaneous abortion status following occupational exposure to organic solvents mixture. *Int Arch Occup Environ Health*. Apr;85(3):295-303.
- Arora H & Tosti A. 2017. Safety and Efficacy of Nail Products. *Cosmetics*, 4(3), 24; doi:[10.3390/cosmetics4030024](https://doi.org/10.3390/cosmetics4030024)
- Bracker A, et al. 2006. I'm pregnant: How can I protect myself and my pregnancy if I keep my job at the Nail Salon? Factsheet for patients. Available at: <https://www.mothertobaby.org/other-education-materials-and-links-s13109>
- Bracker A, et al. 2006. Can my pregnant patient keep her job at the Nail Salon? Factsheet for obstetricians. Available at: <https://www.mothertobaby.org/other-education-materials-and-links-s13109>
- Ferguson KK, et al. 2014. Environmental phthalate exposure and preterm birth. *JAMA Pediatr*. Jan;168(1):61-7.
- Garcia E, et al. 2015. Evaluating a county-based healthy nail salon recognition program. *Am J Ind Med*. Feb;58(2):193-202.
- Herdt-Losavio ML et al. 2009. The risk of congenital malformations and other neonatal and maternal health outcomes among licensed cosmetologists. *Am J Perinatol*. Oct;26(9):625-31.

- Herdt-Losavio ML, et al. 2009. The risk of having a low birth weight or preterm infant among cosmetologists in New York State. *Matern Child Health J.* Jan;13(1):90-7.
- Hines CJ, et al. 2009. Urinary phthalate metabolite concentrations among workers in selected industries: a pilot biomonitoring study. *Ann Occup Hyg.* Jan;53(1):1-17.
- Kwapniewski R, et al. 2008. Occupational exposure to dibutyl phthalate among manicurists. *J Occup Environ Med.* Jun;50(6):705-11.
- OSHA publication OSHA 3542-05 2012. Stay Healthy and Safe While Giving Manicures and Pedicures: A Guide for Nail Salon Workers. <https://www.osha.gov/Publications/3542nail-salon-workers-guide.pdf> available in other languages at <https://www.osha.gov/SLTC/nailsalons/>.
- Pavidonis B, et al. 2018. [Assessing indoor air quality in New York City nail salons.](#) *J Occup Environ Hyg.* Mar 1:1-23.
- Quach T, et al. 2014. Adverse birth outcomes and maternal complications in licensed cosmetologists and manicurists in California. *Int Arch Occup Environ Health.*

April, 2018