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Healthy Body, Healthy Lungs-What Salon Workers Need to Know About Their Risk for Work-Related Asthma

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In collaboration with
the NH Department
of Health and Human
Services

*Some hazardous
ingredients in salon
products can be
avoided by purchasing
alternative products.*

*For those that can't be
avoided, you can take
precautions to protect
your health.*

***If you work
in a beauty
or nail salon,
you should
know about
work-related
asthma.***



Healthy Body, Healthy Lungs

What Salon Workers Need to Know About Their Risk for Work-Related Asthma

August 2015

What is work-related asthma?

Asthma is a chronic lung disease where the flow of air may be decreased, making it hard to breathe.

Asthma is considered work-related when it is caused or made worse by something in the workplace. Even small exposures to certain substances can cause or trigger asthma. Symptoms may start right after you breathe in the substance or may start hours after leaving work.

Sometimes a person can suddenly develop work-related asthma from chemicals they have worked with for years. It is not understood why some workers get asthma while others who have the same exposures do not.



Can hair and nail products cause or trigger asthma?

YES!

You might not expect it, but hair and nail salon products used at work can cause asthma or make your asthma worse. People who spend more of their day exposed to chemicals at work have the greatest risk. The following daily activities may cause the most harm: bleaching and coloring hair, permanent waving and chemically straightening hair, applying artificial nails, general nail manicuring, and cleaning and disinfecting of tools and equipment.

Where to look for hazardous ingredients

- Ingredients in salon products can sometimes be found on the product label, although manufacturers are not required to list all of the ingredients in products sold for professional use.
- Salon workers can look at the Safety Data Sheets (SDS) associated with the product, where all of the hazardous ingredients must appear.

How to Recognize Work-Related Asthma

- | | |
|------------------------|--|
| • Coughing | These symptoms may not occur until early the next morning or towards the end of the work week. |
| • Wheezing | |
| • Difficulty Breathing | Usually only some of the employees who are exposed to these chemicals develop occupational asthma and they may be affected at different times. However, if one employee is diagnosed with occupational asthma, others may also be affected in the future because they too could be exposed to the same chemicals in the workplace. |
| • Shortness of Breath | |
| • Chest Tightness | |

Hazardous Chemical List

- ◆ **Hair bleaches:** hydrogen peroxide, sodium peroxide, ammonium hydroxide, persulfate salts.
- ◆ **Oxidative hair color (permanent):** Primary intermediates: arylamines, such as para-phenylenediamine (PPD), para-toluenediamine (PTD) and other substituted para-diamines, ortho- or para-aminophenols. PPD is especially present in higher levels in brown and darker hair dyes and has been detected even when not indicated as an ingredient.
- ◆ **Couplers:** these include meta-substituted arylamines or their derivatives such as m-phenylene-diamines, m-aminophenols, resorcinol or others.
- ◆ **Oxidants:** hydrogen peroxide, urea peroxide, sodium percarbonate or perborate.
- ◆ **Alkalinizing agents:** ammonia, monoethanolamine or aminomethylpropanol.
- ◆ **Direct dyes** (temporary or semi-permanent)
Temporary coloring agents include azo-, triphenylmethane-, anthraquinone- or indamine dyes, whereas semi-permanent coloring agents contain nitro-phenylenediamines, nitro-aminophenols and some azo dyes.
- ◆ **Hair extension glue, lace wig glue:** styrene, trichloroethylene, 1,4 dioxane.
- ◆ **Permanent wave preparations:** ammonium thioglycolate, ammonia, hydrogen peroxide, alcohol, bromates, sodium hydroxide, boric acid, glycerol monothioglycolate.
- ◆ **Hairsprays:** ethanol, ammonium thioglycolate, isopropanol, various propellants: propane, pentane, butane and diethylether.
- ◆ **Thermal protection sprays:** cyclopentasiloxane or cyclomethicone (these create formaldehyde when heated).
- ◆ **Nail products:** acetone, acetonitrile, butyl acetate, dibutyl phthalate, ethyl acetate, ethyl methacrylate, formaldehyde, isopropyl acetate, methacrylic acid, quaternary ammonium compounds, toluene.
- ◆ **Semi- or demi-permanent hair smoothing products:** formaldehyde (also referred to formalin or methylene glycol), may also contain alcohol as a stabilizer.
- ◆ **Formaldehyde Releasing Preservatives:**
Formaldehyde releasing preservatives prevent bacteria from growing in water-based products. Other names include: formol, formalin, methanal, morbidic acid, formic aldehyde, methyl aldehyde, oxymethylene and methylene glycol. Formaldehyde may often be found in cosmetics such as shampoos, liquid hand soaps, and hair gels. Formaldehyde is also found in nail polish and nail hardeners.



Many of the products on this list contain chemicals that also fall under the New Hampshire Hazardous Waste Rules. When the products are no longer usable they cannot be disposed of in the trash or put down the drain). Follow state and federal guidelines for proper disposal of hazardous wastes. For more information call 1-866-HazWast.

Formaldehyde releasing preservatives commonly replace formaldehyde and release small amounts over time. These include: Quaternium-15, benzyl hemiformal, imidazolidinyl urea, diazolidinyl urea, bioban and DMDM hydantoin (formaldehyde releaser). People allergic to formaldehyde may also be sensitive to substances releasing it.

Safety Data Sheets (SDS)



The Occupational Safety and Health Administration (OSHA) requires product manufacturers to provide salon owners with safety data sheets (SDS) for the products they buy that contain hazardous chemicals.

Your employer must also train you on the chemicals' potential hazards and how to use the products safely. In general, an SDS must provide the following:

- Hazardous ingredients in the product;
- How you can be exposed to the ingredients;
- Health and safety risks you face when using the product; and
- Steps for safely using and storing the product, including what to do in emergencies.

Be aware that SDS may not contain all the information needed to help protect you. For example, the manufacturer may state that you should wear "impervious gloves," but not specify the type.

More information can be found at OSHA's Hazard Communication Standard web page:

www.osha.gov/dsg/hazcom/index.html

Best Practices to Reduce Exposure

Some harmful chemicals may be difficult to avoid in salon work, due to the current lack of viable alternatives and the lack of ingredient disclosure directly on product labels. For these chemicals, the best advice is to reduce your exposure as much as possible by following the steps below.

- ◆ Ensure you assess all new products **before use**.
- ◆ Make a list of all hazardous products used in the salon and obtain Safety Data Sheets (SDS) from the manufacturers.
- ◆ Prepare a Hazard Communication Plan that identifies hazardous chemicals in the workplace and describes hazards, warning labels, and training for staff.
- ◆ Train staff in the safe use and disposal of chemicals in the workplace.
- ◆ General ventilation should be provided with an adequate supply of fresh outside air (NH requirements at: www.nh.gov/cosmet).
- ◆ If your salon does not have an exhaust system, always keep the heating, ventilation, and air conditioning (HVAC) system on during work hours.
- ◆ Consider a ventilated down-draft table when working with artificial nails, with air exhausted to the outdoors.
- ◆ If fans are used, outside air from an open window should blow the chemicals away from the worker's face before being vented out of the salon.
- ◆ Keep trash cans tightly closed.
- ◆ Wear appropriate protective clothing, including respirators (check your product label or SDS).
- ◆ Use small amounts of the product when performing services.
- ◆ Close bottles tightly when you are not using them so the product does not spill or get into the air.
- ◆ Store chemicals in small bottles with small openings and label them with the information from the manufacturer's label.
- ◆ When possible, require workers to use lower heat settings on blow-dryers and flat irons.
- ◆ Wash hands before and after use.
- ◆ Keep food and drinks covered at all times, and do not store or eat food in work areas.



How to Choose Safer Alternatives

Salon Activity	Chemical Name	Safer Alternative
Hair Dyes and Lighteners	paraphenylenediamine (PPD)	Choose a botanical dye without hair lighteners, or use a PPD alternative with hydrogen peroxide to lighten hair and improve dye process
Hair Glue, for wigs and extensions	1, 4 Dioxane, Stryene, Trichlorthlene, Toluene	Choose a hair weave process that doesn't require glue, or use a botanical glue
Chemical Hair Straighteners	Cyclopentasiloxane or Cyclometicone, Fomaldehyde or Methylene glycol (Brazilian Blowout)	Use a flat iron with a botanical hair straightening spray, or just use water
Nails	Dibutyl Phthalate, Formaldehyde or methylene glycol, Toluene	Choose a nail polish without these chemicals. (look for "3 Free" or acid free). Or buff your nails with a pad once a week at most so not to thin the nail.
Nail polish remover	Acetone	Choose a botanical alternative with plant oils (always check the SDS before using them)

If salon owners decide to use products that contain formaldehyde, then they must follow the requirements in [OSHA's Formaldehyde Standard](#).



A Note About Chemical Hair Smoothing Products and Labels

It can be difficult to determine which hair products contain or can release formaldehyde. Even products that do not list formaldehyde or methylene glycol on the label, or that claim to be "formaldehyde-free" or "no formaldehyde," can still expose workers to formaldehyde.

OSHA requires manufacturers of products that contain or release formaldehyde to include information about formaldehyde and its hazards on the label and in the SDS. Formaldehyde must be listed if it is in the product at 0.1% or more (as a gas or in solution) or if the product releases formaldehyde above 0.1 parts of formaldehyde per million parts (ppm) of air.

Salons and other employers that directly import hair smoothing products from other countries have the same responsibilities as a manufacturer under the Hazard Communication standard—they must determine the hazards of the product and develop labels and SDSs that communicate the hazards to users.

If a product contains 0.1% or more formaldehyde or can release formaldehyde into the air above 0.1 ppm, then the product label must include the following information, as required by OSHA's Formaldehyde standard, [29 CFR 1910.1048\(m\)\(3\)](#):

- a statement that the product has formaldehyde in it;
- the name and address of the manufacturer, importer, or other company responsible for the product;
- a statement that the employer and SDSs can readily give health hazard information.

Additionally, if the product can release formaldehyde into the air above 0.5 ppm, the label must also have the following information:

- a list of all product health and safety hazards;
- the phrase "Potential Cancer Hazard."

Resources

- American Lung Association** www.lung.org/workplacewellness
- ASHRAE standards** www.ashrae.org/home
- Breathe NH** www.breathenh.org
- Environmental Working Group Skin Deep** www.ewg.org/skindeep/
- NH Asthma Control Program** www.dhhs.nh.gov/dphs/cdpc/asthma
- NH Board of Barbering, Cosmetology and Esthetics** www.nh.gov/cosmet/index.htm
- NH Occupational Health Surveillance Program** www.dhhs.nh.gov/dphs/hsdm/ohs
- NH WorkWISE** www.keene.edu/academics/conted/safety/workwise/
- NIOSH Artificial Nails Topic Page** www.cdc.gov/niosh/topics/manicure/
- NJ Right to Know Hazardous Substance List** web.doh.state.nj.us/rtkhsfs/rtkhsl.aspx
- NJ Safe Schools Program** www.njsafeschools.org/Cosmetology/index.html
- Ontario Lung Association Work Related Asthma** www.on.lung.ca/work-related-asthma
- OSHA Occupational Asthma** www.osha.gov/SLTC/occupationalasthma/index.html
- OSHA's Nail Salon Site** www.osha.gov/SLTC/nailsalons/
- OSHA's Formaldehyde Site** www.osha.gov/SLTC/hairsalons/formaldehyde_in_products.html
- Campaign for Safe Cosmetics** www.safecosmetics.org
- Women's Voices for the Earth** www.womensvoices.org/
- California Safe Cosmetics Program** <http://www.cdph.ca.gov/programs/cosmetics/Pages/default.aspx>

Acknowledgements

Women's Voices for the Earth (www.womensvoices.org/issues/reports/beauty-and-its-beast/)

NJ Safe Schools, Health Concerns for Cosmetologists (sph.rutgers.edu/training/NJ_Safe_Schools/Cosmetology/health_concerns.html)

The Ontario Lung Association's Asthma Action Plan for Hair, Nail & Beauty Salons (www.on.lung.ca/document.doc?id=1128)

Photos on pages 3 and 4, compliments of Pellé Salon, Manchester, NH



NH Asthma Control Program
Telephone: 603-271-0855
www.dhhs.nh.gov/dphs/cdpc/asthma/

NH Occupational Health Surveillance Program
Telephone: 603-271-8425
www.dhhs.nh.gov/dphs/hsdm/ohs



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