

# Guidelines for Controlling and Minimizing Inhalation Exposure to Nail Products

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**These guidelines outline steps that nail professionals can take to improve workplace safety by minimizing inhalation exposure to potentially irritating or harmful substances. It is important for salon professionals to utilize techniques that ensure the nail services given are performed in the safest manner possible. Fortunately, when the proper steps are taken, it is easy to safely perform professional nail services and avoid excessive inhalation of dusts or vapors. Minimizing inhalation exposure is an important way to ensure that nail salon products are properly and safely handled.**

## What is Product Overexposure?

Nearly every substance on Earth has both a safe and potentially unsafe level of exposure. Injury may result if these safe levels are exceeded repeatedly or for pro-longed periods. For example, inhaling excessive levels of certain vapors or dusts found in salons for prolonged periods may result in overexposure to these substances. In general, the vapors found in salon air are well below the established OSHA safe limits. Even so, ventilation is an important way of improving the salon environment for customers and can also create a more pleasant workplace for salon professionals. Proper ventilation can help sensitive individuals avoid symptoms such as irritated eyes, nose or throat, headaches, difficulty breathing, nervousness or drowsiness. The best way to prevent inhalation overexposure is by controlling the amount of vapors and dust in salon air. One of the very best ways to ensure safe working conditions is to use these guidelines to improve salon air quality.

## Improving Salon Air Quality

Some salon professionals mistakenly believe that ventilation systems are solely for controlling strong odors, when in fact, odors are not the reason for ventilating. Just because a substance smells strange or unpleasant does not mean it is risky to breathe. The odor of a substance does not indicate whether it is safe or harmful. Dirty socks and burnt popcorn are good examples. Neither smell good and neither are harmful to breathe. Don't ventilate to control odors; ventilate to control vapors and dusts.

Avoid using fans, which only circulate vapors and dust around the salon and do nothing to improve air quality. The most effective type of salon ventilation captures vapors and dusts at their source and removes them from the salon air. These are called "local exhaust" systems and when used together with general room ventilation they can provide high-quality breathing air for salon workers. Local exhaust protects the "breathing zone", an invisible sphere in front of the mouth from which our breathing air is drawn. Local exhaust systems which are vented to the outdoors provide the best protection to nail professionals and do not require special filters that must be changed regularly. Ventilated tables are examples of local exhaust systems, but these should be vented to the outdoors since the filters in these tables do not contain enough activated charcoal to remove product vapors from the air. Depending on their design, local exhaust systems can also be wall mounted or ceiling mounted, preferably as close to the source of emissions as possible. Some use flexible hoses that can be placed near the breathing zone to increase usefulness. Any such systems must be professionally designed and installed to ensure they are effective.

General room ventilation and air-conditioning systems are classified as Heating, Ventilation and Air-Conditioning (HVAC) systems. HVAC systems are designed to exchange air inside the salon with fresh air from the outside and while these systems are important, they cannot alone (without local exhaust) ensure high-quality breathing air in the salon.

Remember that to be effective, all ventilation systems must be properly maintained and cleaned on a regular basis. A local HVAC specialist who can advise salons on installing, repairing, cleaning and maintaining salon ventilation systems can be found in the phone directory under "Heating, Ventilating, and Air Conditioning". These skilled professionals can diagnose the salon's air quality and ventilation systems and provide useful solutions and advice. They can ensure the system is adequate for the salon and keep it working at its peak capacity.

Ventilation systems that return filtered air into the salon are not nearly as effective as those designed to vent to the outdoors and are more costly to maintain. In the unlikely event no outside access is available, these systems can be useful if properly maintained. These types of systems rely on thick beds of absorbent materials, e.g. activated charcoal, to remove vapors from salon air. High quality systems use absorbent beds, preferably 4 inches thick or more, to ensure greater absorption. Absorbent beds eventually become saturated, making them ineffective, and, therefore, must be replaced on a regular basis, e.g. twice per year. It is best to use a professional quality ventilation system and avoid air cleaners designed for "home use". Home air cleaners are designed to remove pollen, cigarette smoke, etc. and are not effective for salon use.

Dusts are best removed from salon air by filtering them through a separate "HEPA filter", which is designed to remove particles as small as 100th the diameter of a human hair. However, HEPA filters cannot filter out vapors, only dust particles. Vapor molecules are thousands of times smaller than the tiniest dust particle. An efficient local exhaust system often includes an additional HEPA filter to control dusts, but even these high-tech filters are not as effective as using the proper dust mask (See below).

Ventilation systems claiming to remove "odors" may not be effective and some can actually create hazardous air quality conditions in the salon. Air cleaners which produce tiny amounts of ozone may neutralize some odors, but they do not remove the vapors or dusts. Ozone is a hazardous air contaminant, even at very low concentrations. The Environmental Protection Agency (EPA) has warned all consumers against using air cleaners which release ozone due to the health risks they create. These devices sometimes claim to use "activated or energized oxygen" or "pure air" or "triatomic air", which erroneously suggests that ozone is a healthy or safe form of oxygen. Even extremely low levels of ozone may cause symptoms such as headaches, irritation of the eyes, nose, sinuses, throat and lungs, watery eyes, runny nose, coughing, chest tightness, metallic tastes in the mouth, shortness of breath, and blurred vision.

## Selecting and Properly Using Dust Masks

Certain services, such as filing or shaping artificial nail enhancements, can generate large amounts of dusts. While performing nail services, disposable dust masks can be used to control and minimize inhalation of dusts. Dust masks prevent the breathing of dust particles, but cannot prevent the inhalation of vapors. Dust masks should never be used in place of proper ventilation. Even so, when properly used, the correct mask can be an important way to prevent inhalation of excessive amounts of dust particles and is especially useful if you have pre-existing asthma, allergies, or other breathing related conditions.

The best disposable masks are those approved by the National Institute for Occupational Safety and Health (NIOSH). Masks with "N95" ratings are the most effective for salon workers. Masks without this rating, such as surgical masks, will not provide enough protection and should not be used in the salon setting. Surgical masks may help prevent the spread of germs, but will not protect you from dusts. To be effective, dust masks must fit well, be used properly and also disposed of regularly. Be sure to follow manufacturer's instructions when using these important tools.

## Important Tips to Remember

- An effective exhaust system provides individual ventilation to each separate work table or station.
- The most effective and easy to maintain systems will vent to the outdoors, preferably to the roof and away from any intake vents for the salon and neighboring businesses.
- Salons should have their own ventilation systems and avoid sharing with adjacent businesses.
- The minimum recommended amount of fresh air per occupant for salons is 25 ft.<sup>3</sup> per minute
- Use professional quality systems and avoid devices designed for home use.
- Never use fans or open windows in place of proper ventilation.
- Odor does not indicate whether a vapor is safe or potentially hazardous.
- Don't ventilate to control odors, ventilate to control vapors and dust.
- Turn on all general ventilation systems (HVAC) during work hours and use local exhaust systems while performing services.
- Replace all filters regularly and according to the manufacturer's directions. If filters are not replaced, these systems may become ineffective.
- Avoid using ozone generating air cleaning devices. Healthy people, as well as those with respiratory difficulty, can experience breathing problems when exposed to even relatively low levels of ozone.
- Dispose of all product-contaminated materials, e.g. paper towels, gauze, cotton, or other absorbent material, in a sealed container or bag.
- Use trash cans with a self-closing lid and place one at every work table.
- Empty trash cans several times per day and change liners daily.
- Dispose of waste products according to manufacturer's instructions or MSDS.
- Properly ventilate storage area where professional products are kept.
- Keep top exhaust vents on work tables clear of any obstruction, e.g., cloth towels.
- Keep all product containers tightly closed when not in use.
- Avoid using bulk size containers when performing services. Instead, transfer products from large containers to smaller, properly labeled containers. Perform this task in a well ventilated area.
- Use dappen dish with small opening and cover it when not in use.
- Wear properly fitted N95 rated dust mask to prevent inhaling dust particles.
- Do not smoke in the salon and post "No Smoking" signs in the shop's work area.

## Important Tips to Remember (continued)

- Read and understand the product's MSDS before use and know where the MSDS can be quickly located.
- Always read, understand and follow all manufacturers' directions and heed all product warning labels.
- Maintain the latest copy of the state cosmetology board's rules and regulations.

You can get much more useful and important information on improving salon air quality and choosing the best ventilation by referring to, "Nail Structure and Product Chemistry", Second Edition, Douglas Schoon, Thomson/Delmar Learning, ISBN 1-4018-6709-X

### *Legal Notice*

*This document is intended to provide interested persons with helpful examples of procedures for use in the salon environment. This document is not intended to be a substitute for comprehensive training or requirements, or to prescribe rules or standards, or to define or create legal rights or obligations. All persons involved in providing manicuring and enhancement services have the responsibility to determine that the procedures they practice comply with any current federal, state and local laws and regulations that may be applicable.*

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