

The Nail Salon Next Door

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In the past decade, the National Institute for Occupational Safety and Health (NIOSH) has responded to several requests for health hazard evaluations of nail salons and adjacent businesses due to concerns about exposure to the chemicals nail technicians use. Considerable information is available about health hazards associated with exposure to chemicals from nail salons and methods for controlling these exposures. This article describes the causes of salon odors, outlines what nail salons can do to keep odors to a minimum, and offers measures to prevent these odors from migrating to adjacent businesses.

Chemical Hazards in Nail Salons

Ethyl methacrylate (EMA) is the chief chemical used to produce artificial nails. Methyl methacrylate (MMA), a similar chemical, was banned by the U.S. Food and Drug Administration in 1974 after it proved harmful to nail technicians and clients. However, illegal MMA use continues, especially in salons that offer low prices for acrylic nails, as MMA costs much less than EMA. Both chemicals have low odor thresholds, meaning that most people can smell them at low levels. These chemicals can also irritate the eyes, nose, and other mucous membranes and cause skin irritation, skin inflammation and asthma in some people.

Like EMA and MMA, exposure to acetone, another chemical commonly used in nail salons, can also irritate the eyes, nose, and throat. Acetone can also dry the skin, and upon repeated contact can result in skin irritation and inflammation. At higher concentrations, acetone can affect the nervous system and may cause drowsiness or sleepiness. Like EMA, acetone has a low odor threshold (approximately 2 parts per million), well below the NIOSH Recommended Exposure Limit, a criterion set up to protect workers from harmful exposures.

Controlling Odors within the Salon

The most efficient method for protecting nail technicians and clients from inhaling EMA and other airborne chemicals and reducing nuisance chemical odors is to apply artificial nails at a ventilated worktable. A ventilated table helps control chemical odors in the salon by placing local exhaust ventilation close to the work area where EMA is used. Such a table works best if the client's side of the table is a little higher than the nail technician's side. This allows the client's hands to hang over the local exhaust ventilation. The air the ventilated worktable captures should be exhausted outside the building, not recirculated. Optimally, exhaust air should be vented to the roof.

One of the most important ways to prevent nuisance odors from leaving a nail salon is to keep the salon at negative pressure relative to neighboring businesses. This means that air flows into the salon from surrounding areas, which helps prevent nuisance odors from spreading. Correctly operating the heating, ventilation, and air conditioning (HVAC) system can help create and maintain this negative pressure. Discussing this with the maintenance staff may be helpful. Another way to control odors is by diluting them with outside air. The American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE) recommend 25 cubic feet per minute of outside air for each person in the shop.

Better work practices may also decrease the amount of airborne chemicals and thus decrease odors. For example, nail technicians should place EMA-soaked gauze pads in sealed plastic bags before placing them in the trash can. Changing trash can liners daily should further minimize release of EMA into the air. Acetone dispenser bottles should have small openings, only large enough for the application brush to enter. The bottle stoppers should also be pressure sensitive. A dispenser bottle with a pressure-sensitive stopper and small opening should result in less liquid evaporation and less odor. Finally, the dispenser bottle should contain no more than the needed amount of liquid.

What Neighboring Businesses Can Do

Owners of neighboring businesses should inspect all the common walls between the nail salon and their buildings and seal any openings that could allow odors to enter. A potentially overlooked area in buildings with multiple tenants and shared walls is the space above suspended ceiling panels where wall openings or gaps often exist. To ensure that nail salon odors do not become a problem, building owners should also implement an indoor environmental quality (IEQ) management plan. The owners should select an IEQ manager and provide that person clearly defined responsibilities, authority, and resources. This individual should understand the building's structure and function and should be able to communicate effectively with occupants. This proactive approach can help prevent IEQ problems. The elements of a good plan include:

- Operating and maintaining HVAC equipment properly
- Overseeing the activities of occupants and contractors that affect IEQ (e.g., housekeeping, chemical product use, special processes)
- Maintaining and ensuring effective and timely communication with employees regarding IEQ
- Educating employees and building contractors about their responsibilities in relation to IEQ
- Identifying and managing projects proactively that may affect IEQ such as redecoration, renovation, the use of new chemicals or equipment, or relocation of personnel

The NIOSH document, *Controlling Chemical Hazards during the Application of Artificial Fingernails*, is available online at <www.cdc.gov/niosh/hc28.html>. It can also be obtained by calling (800) 35-NIOSH and asking for NIOSH publication 99-112. The NIOSH/Environmental Protection Agency (EPA) document, *Building Air Quality: A Guide for Building Owners and Facility Managers* is available online at <www.epa.gov/iaq/largebldgs/graphics/iaq.pdf>. This 228-page document may be purchased or downloaded as a PDF. The EPA's IEQ information clearinghouse (800) 438-4318 can provide information on other IEQ-related topics. □

Onsite Wastewater Collaboration

NALBOH has recently collaborated with the Ohio Department of Health to provide a guide to onsite wastewater treatment systems to boards of health in Ohio. Because new onsite sewage regulations have been approved in the state of Ohio, the guide will prove to be a valuable resource for all board members. Board members must actively seek to understand how onsite wastewater systems function, proactively work to assess their communities' needs, develop policies and programs to meet those needs, and assure that support is available to implement policies and programs. The guide also provides valuable information for environmental health specialists. Two continuing education units have been applied for through the Ohio State Board of Sanitarian Registration. □

NewsBrief

United We Stand



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President's Message

SATISFACTION



We just returned home from a superb National Association of Local Boards of Health (NALBOH) Annual Conference in San Antonio, Texas and, am I satisfied with what we have done? You bet. Am I satisfied that this is the best we can do? The answer to that is no. Can we do better next year? I think the answer to that question is yes. There are those who think that these conferences just happen with little, if any effort. After all what is the big deal about having lunch together or going to a training or orientation session?

A large number of people spent many hours putting this conference together. It would take a book to explain the intricacies of planning and executing such a monumental task. The NALBOH Board of Directors, Staff, Committee Chairs, and Committee members, with input from the membership, worked long hours to make this a successful conference.

The member orientation presenters were charged with the task of presenting a comprehensive session to help new, as well as seasoned board members, understand the important position to which they have volunteered or have been elected to serve. The Program and the Education and Training Committees played a most vital role in mapping out what would come first and who would play what role. These are just a few of the committees that organized this endeavor. Each committee was assigned a staff member to provide guidance and arrange the timetable to facilitate the flow, as the conference involves many simultaneous activities.

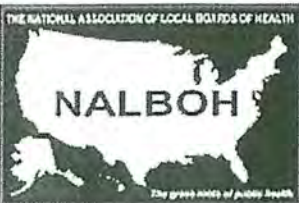
Planning for the conference was made more complex due to our co-location with the National Association of County and City Health Officials (NACCHO). Participants from both organizations enjoyed the joint sessions. The joint social event was thoroughly enjoyed by all who attended it. All of those involved are to be commended for using their time and talents to make this such a successful conference. Congratulations and many thanks to each of you!

We must now start the planning process for our conference next year. The first questions are what worked and where can we make improvements? We hope that answers to these questions and some suggestions with workable solutions will come from you, the membership. With a dedicated staff members and Board of Directors and our increasing membership, the future of NALBOH is bright. Our fifteenth annual conference is to be held on September 19 - 22, 2007 in Anchorage, Alaska. How many opportunities do people get to visit our 49th state? I'm looking forward to it. How about you?

Keep safe and stay healthy,

Lee Kyle Allen
President

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