

## Have You Been Exposed to MMA?

### Here's how to tell:

- Low pricing for acrylic service (not a special sale or offer).
- Acrylic difficult or impossible to remove with acetone or other solvents.
- Technicians or management secretive about acrylic product brands used. Just because they have a Name brand polish in the salon does not mean they are using that brand of acrylic. Ask to see original containers.
- Technicians often wear masks to prevent inhalation of the powerful distinct odor - Noxious, sharp and pungent.

**Based on available information, knowingly using MMA is irresponsible, endangering the client's health. It is inexpensive to buy and its use is obviously driven by greed and not professional concern for clients.**

**Choose a knowledgeable, reputable technician and ask many questions and if the technician cannot answer them to your satisfaction choose another salon. It's your health that is at stake.**

**If you suspect a salon might be using MMA Contact your local state board.**

## HAZARD SUMMARY from the Materials Data Safety Sheet

### Potential Acute Health Effects

**Eyes** Liquid and vapors causes moderate irritation (burning sensation, tearing, redness, swelling). May cause corneal damage.

**Skin** May cause skin irritation and/or skin sensitization.

**Inhalation** High concentration is irritating to the respiratory tract and may cause dizziness, nausea, or anesthetic effects.

**Ingestion** Causes irritation, a burning sensation of the mouth, throat and gastrointestinal tract and abdominal pain.

### Potential Chronic Health Effects

Repeated or prolonged exposure to the substance can produce target organs damage (kidneys, lungs, liver).

### Medical Conditions Aggravated by Overexposure

Preexisting eye and skin disorders.

### Overexposure /Signs /Symptoms

Skin inflammation is characterized by itching, scaling, reddening. Redness, watering, and itching characterize inflammation of the eye. May cause allergic skin reactions with repeated exposure. Inhalation of vapors may cause dizziness, nausea, or anesthetic effects.



Last year women spent more than \$4 billion on artificial fingernails and business continues to boom. But underneath that veneer is a chaotic scene of unanswered questions, brutal competition and even claims of racism. At issue is a chemical called **Methyl methacrylate, or MMA.** Millions of women who paid for acrylic nail services in recent years may have been unknowingly exposed to the chemical, which has been blamed for fungal infections, nail plate damage, nail loss and deformation, loss of sensation in the fingertips and respiratory ailments and other numerous problems.

In 1974 the American Food and Drug Administration (FDA) declared MMA to be a **Poisonous and deleterious (harmful) substance when used on fingernails**. Responsible manufacturers quickly and voluntarily switched their products over to Ethyl methacrylate (EMA), a more expensive and safer bonding liquid. Reputable nail salons followed suit. The difference in EMA and MMA is the same as the difference between wood alcohol (methanol) and beverage alcohol (ethanol). Wood alcohol when consumed is deadly. Beverage alcohol is considered safe (if not used in excess).

MMA is safely used to make resins, plastics, and specifically plastic dentures. In the case of the dental industry these processes are done outside of the mouth. Once cured, dental composites are safe when placed in contact with human tissue. The exposure rate is also different. Acrylic nails are filled every 2 - 3 weeks. A dental client may only have a few prostheses throughout their lifetime.

Discount salons may offer a full set of nails for \$25 compared to \$50 or more at their competitors. Some of the differences can be explained by the low overhead of the discount salons, which often operate in

cheap storefronts and rely on poorly trained, low wage technicians. But the main reason for this price difference is the use of MMA which can cost as little as \$15 a gallon compared to as much as \$300 for a gallon of EMA.

The problem with MMA is that its atoms are so small that they easily penetrate the skin and nail plate. MMA is a sensitizer that can cause irritation and allergic reactions once it is in contact with the skin. **EMA is much safer, larger in atomic size, and doesn't damage nail plates. It is also hundreds of times less likely to cause allergic reactions.**

While it is the incredible strength of MMA enhancements that attracts some users, it is not appropriate or safe for use on soft nail tissue. MMA-based products have extremely poor adhesion. For enhancements to adhere, the natural nail plate receives severe abrasions (horizontal grooves carved by a large oversized drill bit). The nail plate is overly filed (drilled) and excessively thin before the methyl methacrylate artificial nail is applied. It is this dangerous strength that increases the potential for nail damage when applied to the weakened nail plate. If the nail breaks the whole nail plate may be removed. Women have had their natural nails ripped

out (sometimes permanently) because the MMA acrylic did not break off when exposed to trauma.

Salons using large or oversize brushes in order to save time, make beads of acrylic that are far too wet. The belly of a large brush can carry enough liquid for 4 medium wet beads (or three nails). This means the product, which may appear to be hardened, does not set up in the correct amount of time and the harmful chemical MMA leeches through the nail plate, into the nail bed and then directly into the blood stream. In short, brushes that are too large don't save time; they can lead to serious allergic reactions.

MMA creates nails that are not easily removed sometimes causing severe damage to the nail plate. It takes only 15 - 30 minutes to remove a set of EMA-based acrylics by soaking in acetone but up to 2 hours to remove MMA-based ones. In order to save time, discount salons often pry or nip the acrylic nail off which pulls off layers of the natural nail and may injure the matrix (which is crucial in the formation of cells for the new nail) leading to permanent deformities of the nail.