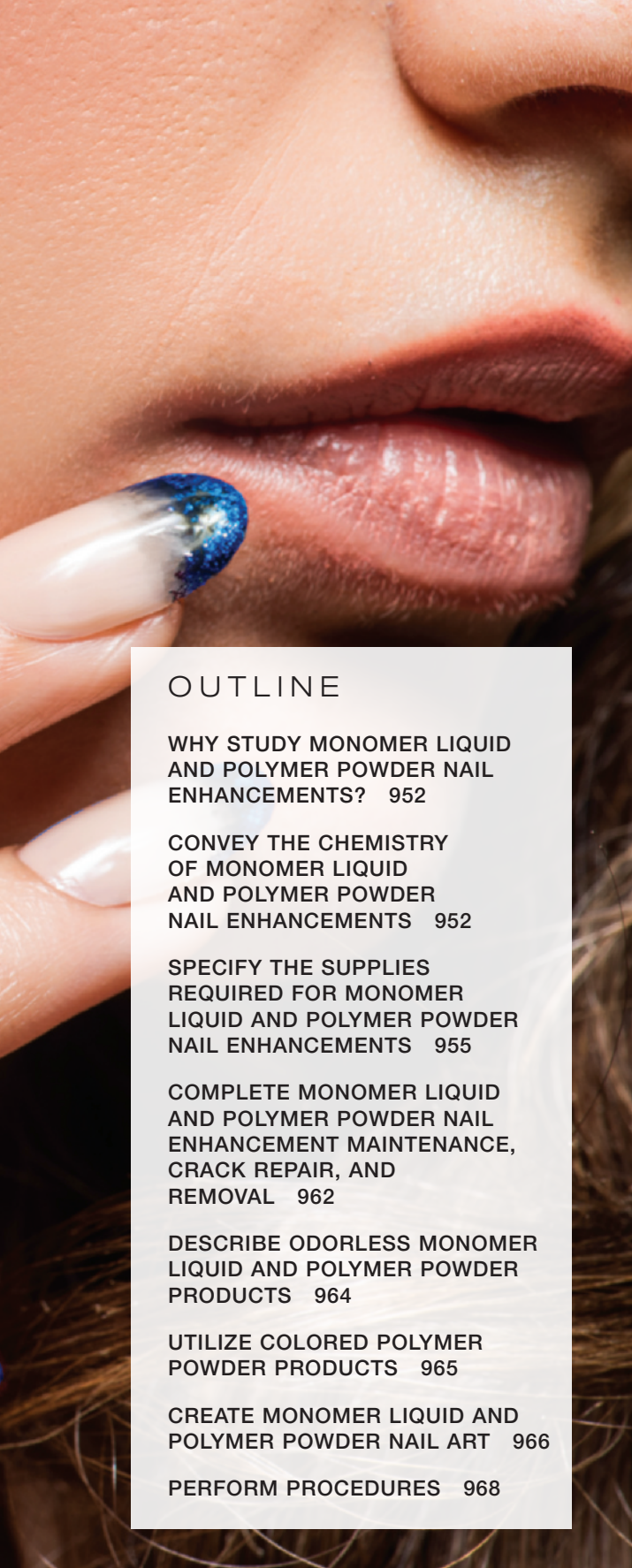




28

MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS



OUTLINE

WHY STUDY MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS? 952

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LEARNING OBJECTIVES

After completing this chapter, you will be able to:

LO1

Explain monomer liquid and polymer powder nail enhancement chemistry and how it works.

LO2

Name the specific tools, equipment, and supplies required to perform monomer liquid and polymer powder nail enhancements.

LO3

List the steps to apply nonacid and acid-free nail primers.

LO4

Explain how to properly store monomer liquid and polymer powder products.

LO5

Describe the apex, stress area, and sidewall, and tell where each is located on the nail enhancement.

LO6

Describe how to perform a one-color maintenance service on nail enhancements using monomer liquid and polymer powder.

LO7

Demonstrate how to perform crack repair procedures.

LO8

Implement the proper procedure for removing monomer liquid and polymer powder nail enhancements.

LO9

Describe the general process for using odorless products.

LO10

List two ways to create nail art from monomer liquid and polymer powder.

why study

MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS?

Cosmetologists should study and have a thorough understanding of monomer liquid and polymer powder nail enhancements because:

- Monomer liquid and polymer powder nail enhancements are popular services that will be frequently requested, and clients will expect expert service.
- Monomer liquid and polymer powder nail enhancements are lucrative services. Clients who desire them are committed to their upkeep, so if you earn clients' trust and respect, you will build a loyal clientele.
- Knowing how to properly work with the enhancement material and understanding its chemical makeup will allow you to perform the service safely for you and for your client.

After reading the next few sections, you will be able to:

LO 1 Explain monomer liquid and polymer powder nail enhancement chemistry and how it works.

Convey the Chemistry of Monomer Liquid and Polymer Powder Nail Enhancements

Monomer liquid and polymer powder nail enhancements, also known as *sculptured nails*, are created by combining a chemical known as **monomer liquid** mixed, with **polymer powder**, to form a nail enhancement. The ingredients in two-part monomer liquid and polymer powder enhancement systems belong to a branch of the acrylic family called methacrylates (METH-ah-cry-latz). Keep in mind that other industry literature, product marketing, and the like may use the word *acrylic*.

Mono means one and *mer* stands for units, so a **monomer** (MON-oh-mehr) is one unit called a molecule. *Poly* means many, so **polymer** (POL-i-mehr) means a substance formed by combining many small molecules (monomers) into very long, chain-like structures. This is important

to remember, since you will hear these terms many times throughout your career.

Today's monomer liquids and polymer powders come in many colors, including variations of basic pink, white, clear, and natural. These colors can be used alone or blended to create everything from customized shades of pink to match or enhance the color of your client's nail beds, to bold primaries or pastels that can be used to create a wide range of designs and patterns. With these powders, you can create unique colors or designs that can be locked permanently in the nail enhancement. They offer a wonderful way to customize your services or to express your artistry and creativity.

Monomer liquid and polymer powder products can be applied in four basic ways:

1. On the natural nail as a protective overlay
2. Over a nail tip
3. On a form to create a nail extension
4. To create small works of art on top or inside a nail enhancement.

P 28-1 One-Color Monomer Liquid and Polymer Powder Nail Enhancements Over Nail Tips or Natural Nails *See page 968*

A natural hair and pointed, round, or oval application brush is the best brush to use for applying these products. The brush is immersed in the monomer liquid. The natural hair bristles absorb and hold the monomer liquid like a reservoir. The tip of the brush is then touched to the surface of the dry polymer powder, and, as the monomer liquid absorbs the polymer powder, a small bead of product forms. This small bead is then carefully placed on the nail surface and molded into shape with the brush.

The monomer liquid portion is usually one of three versions of monomer liquid used in the beauty industry: ethyl methacrylate, methyl methacrylate, or odorless monomer liquid. All three often contain other monomers that are used as customizing additives. The industry standards are the ethyl methacrylate monomer liquid (EMA) and the odorless monomer liquid. Methyl methacrylate (MMA) is not recommended for use on nails and is not legal according to the state board rules in some states.

Here are four main reasons why MMA should *not* be used:

1. MMA nail products do not adhere well to the nail plate. To make these products adhere, nail technicians often shred (etch) the surface of the nail. This thins the nail plate and makes it weaker.
2. MMA creates the hardest and most rigid nail enhancements, which makes them very difficult to break. When jammed or caught, the overly-filed and thinned natural nail plate will often break before the MMA enhancement, leading to serious nail damage.



3. MMA is extremely difficult to remove. Since it will not dissolve well in product removers, it is usually pried from the nail plate, creating still more damage.
4. *The FDA says not to use it!* This is clearly the most important reason. The FDA bases' their prohibition on the large number of consumer complaints resulting from the use of MMA nail enhancements in the late 1970's, and they continue to maintain this position today.

For these reasons, the Nail Manufacturers Council and the American Beauty Association have also taken a stance against the use of MMA liquid monomer as an ingredient in artificial nail liquids—not because MMA is toxic, but because it is an unsuitable ingredient. MMA is a widely used monomer with a long history of safe use in medical and dental products. It is fine for making bulletproof windows and shatterproof eyeglasses. However, artificial nails should be beautiful, and they should not damage the natural nail.

It may seem strange that polymer powder is also made mostly from ethyl methacrylate monomer liquid. The polymer powder is made using **polymerization** (POL-i-mehr-eh-za-shun), also known as *curing* or *hardening*, a chemical reaction that creates polymers. In this process, trillions of monomers are linked together to create long chains. These long chains create the tiny round beads of polymer powder of slightly varying sizes. The beads are then poured through a series of special screens that sort the beads by size. The ones that are the right size are separated and then mixed with other special additives and colorants. The final mixture is packaged and sold as polymer powder. It is a surprisingly high-tech process that requires very specific manufacturing equipment, lots of quality control, and scientific know-how to do it right.

Special additives are blended into both the liquid and the powder. These additives ensure complete set or cure, maximum durability, color stability, and shelf life, among other attributes. It is these “custom” additives that make products work and behave differently. The polymer powders are usually blended with pigments and colorants to create a wide range of shades, including pinks, whites, and milky translucent shades, as well as reds, blues, greens, purples, yellows, oranges, browns, and even jet black.

When liquid is picked up by a brush and mixed with the powder, the bead that forms on the end of the brush quickly begins to harden. It is then put into place with other beads and shaped into place as they harden. In order for this process to begin, the monomers and polymers require special additives called *catalysts* (KAT-a-lists), additives designed to speed up chemical reactions. Catalysts are added to the monomer liquid and used to control the set or curing time. In other words, when the monomer liquid and polymer powder are combined, the catalyst (in the liquid) helps control the set-up or hardening time. How? The catalyst energizes and activates the initiators.

The **initiators** found in polymer powder, when activated by a catalyst, will spring into action and cause monomer molecules to permanently link together into long polymer chains. This action is referred to as the polymerization process. Polymerization begins when the liquid in the brush picks up powder from the container and forms a bead. Creating



polymers can be thought of as a **chain reaction**, also known as *polymerization reaction*, a process that joins together monomers to create very long polymer chains. Think of it as many dominos, set on their edges and lined up—when you tap the first domino, it hits the next, and so on. This is how polymers form. Once the monomers join together to create a polymer, they do not detach from each other easily.

The initiator that is added to the polymer powder is called benzoyl peroxide (BPO). It is the same ingredient used in over-the-counter acne medicine, except that it has a different purpose in nail enhancement products. BPO is used to start the chain reaction that leads to curing (hardening) of the nail enhancement. There is much less BPO in nail powders than in acne treatments. Diverse nail enhancement products often use different amounts of BPO, since the polymer powders are designed to work specifically with a certain monomer liquid. Some monomer liquids require more BPO to properly cure than others. This is why it is very important to use the polymer powder that was designed for the monomer liquid that you are using. Using the wrong powder can create nail enhancements that are not properly cured and may lead to service breakdown or could increase the risk of your clients developing a skin irritation or sensitivity.

There are many monomer liquid and polymer powder systems available, and you might have to try several in order to find the product that fits best for you and your clients.

After reading the next few sections, you will be able to:

- LO 2** Name the specific tools, equipment, and supplies required to perform monomer liquid and polymer powder nail enhancements.
- LO 3** List the steps to apply nonacid and acid-free nail primers.
- LO 4** Explain how to properly store monomer liquid and polymer powder products.

Specify the Supplies Required for Monomer Liquid and Polymer Powder Nail Enhancements

Just as every type of nail enhancement service requires specific tools, implements, equipment, and supplies, so do monomer liquid and polymer powder nail enhancements. **Figure 28-1** shows examples of those products and supplies. In addition to the supplies in your basic manicuring setup, you will need the following items.

figure 28-1

Products used in monomer liquid and polymer powder nail enhancements: (a) medium-grit nail abrasive; (b) nail forms; (c) monomer liquid; (d) nail primer; (e) nail dehydrator; (f) dappen dish for polymer powder; (g) application brush; (h) polymer powder; (i) dappen dish for monomer liquid; and (j) buffer.



Monomer Liquid

The monomer liquid will be combined with polymer powder to form the nail enhancement. The amount of monomer liquid and polymer powder used to create a bead is called the **mix ratio**. A bead mix ratio can be best described as *dry*, *medium*, or *wet*. If equal amounts of liquid and powder are used to create the bead, it is called a *dry bead*. If twice as much liquid as powder is used to create the bead, it is called a *wet bead*. Halfway between these two is a *medium bead*, which contains one-and-a-half times more liquid than powder. In general, medium beads are the ideal mix ratio for working with monomer liquids and polymer powders. The perfect bead should be smooth, round, and shiny (**figure 28-2**).

The mix ratio typically ensures proper set and maximum durability of the nail enhancement. For example, if too much flour is added to cookie batter, the cookies will be dry and crumbly; if too little flour is added, the cookies will be soft and gooey. The same holds true for monomer liquids and polymer powders. If too much powder is picked up in the bead, the enhancement will cure incorrectly and may lead to brittleness and/or discoloration. If too little powder is used, the nail enhancement can become weak, and the risk of clients developing skin irritation and sensitivity may increase.



figure 28-2

The perfect bead should be smooth, round, and shiny.

Polymer Powder

Polymer powder is available in white, clear, natural, pink, and many other colors. The color(s) you choose will depend on the nail enhancement method you are using.

Nail Dehydrator

Nail dehydrators remove surface moisture and tiny amounts of oil left on the natural nail plate, both of which can block adhesion. Nail dehydrator should be applied liberally to the natural nail plate only; skin contact should be avoided. This step is a great way to help prevent lifting of the nail enhancement prior to applying primer.

Nail Primer

Nail primer is used on the natural nail prior to product application to assist in adhesion. Primers are used to chemically bond the enhancement product to the natural nail. One end of the primer molecule chemically bonds to the nail protein in the natural nail; the other end of the molecule is a methacrylate, so it bonds to the monomer liquid as it cures.

There are basically two kinds of nail primers for preparing the natural nail for a monomer liquid and polymer powder nail enhancement: *acid-based* and *nonacid* or acid-free primers. Acid-based nail primer (methacrylic acid) was once widely used to help adhere enhancements to the natural nail. Acid-based nail primers are very effective but can cause serious—and sometimes irreversible—damage to the skin and eyes. Never use acid-based nail primer or any other corrosive material without wearing protective gloves and safety eyewear.

Since acid-based nail primer is corrosive to the skin and potentially dangerous to eyes, acid-free and nonacid primers were developed. Acid-free and nonacid primers work as well as or better than acid-based nail primers, and have the added advantage of not being corrosive to skin or eyes. Even so, all nail primer products must be used with caution, and strictly in accordance with the manufacturer's instructions. Skin contact should be avoided during application, and the Safety Data Sheet (SDS) should be referenced for safe handling recommendations and instructions when using these products. Other guidelines to follow when using nail primers are to:

- Never apply nail enhancement product over wet nail primer. This can cause product discoloration and service breakdown.
- Avoid overuse of nail primers.
- Apply primer to the natural nail, but avoid putting it on the nail tips unless instructed by the manufacturer of the nail primer.
- Check your nail primer daily for clarity, to ensure that it does not become contaminated with nail dust and other floating debris, which can dramatically reduce primer effectiveness.
- Never use nail primers that are visibly contaminated with floating debris. To avoid contamination, wipe the primer brush on a clean, dust-free towel before placing the brush back in the bottle.



HERE'S A TIP

Monomer Liquid Bead Mix Ratio

Guidelines:

1 part monomer liquid + 1 part polymer powder = dry bead

1½ parts monomer liquid + 1 part polymer powder = medium bead

2 parts monomer liquid + 1 part polymer powder = wet bead

Application of Nail Primer

Manufacturer's instructions for using monomer liquid and polymer powder nail enhancement products may differ slightly from the general guidelines presented in this chapter. You should always use products in accordance with the manufacturer's instructions. If you are in doubt about how to use the products, contact the manufacturer.

- **To apply acid-based nail primers.** Using a tiny applicator brush, insert the brush tip into the nail primer. Touch the brush tip to the edge of the bottle's neck to release the excess primer back into the bottle. Using a light dotting action, carefully dab the brush tip to the center of the properly prepared natural nail. The acid-based primer will spread out and cover the nail plate. Do not use too much product—it will run onto the skin and can cause burns or injury. The brush should hold enough product to treat three or more nails. Let the primer dry to a chalky white before applying enhancement overlay. Be sure to read the label for the manufacturer's suggested application procedures and precautions.
- **To apply nonacid and acid-free nail primers.** Using the applicator brush, insert brush into the nail primer. Wipe excess product from the brush. Using a slightly damp brush, completely cover the nail plate with the primer. Do not use too much product—it will run onto the skin and can cause skin irritation or sensitivity. The brush should hold enough product to treat two or three nails. Be sure the entire nail plate is covered. Before dipping the brush back into the container, gently wipe the brush on a clean table towel so you do not contaminate the bottle with any debris the brush may have picked up. The nail will remain shiny after application; this primer does not dry to a chalky white. Be sure to read the label for the manufacturer's suggested application procedures and precautions.

Abrasives

The term *abrasive* is used to describe nail files and buffers. Although some abrasives have fancy names, they all have a **grit** number. Grit refers to how many grains of sand are on the file per square inch. For example if there were 100 grits of sand per square inch, then the particles would be spread



FOCUS ON

Proper Hand Washing

Always have your clients wash their hands thoroughly with a fingernail brush before any service. Hand sanitizers are an alternative when a hand washing station is not available, but they do not clean the hands. They cannot remove dirt or debris from hands and underneath the nails. They kill some of the bacteria on skin, but not all of it. Hand sanitizers do give clients peace of mind, though. Clients like to see cosmetologists using hand sanitizers, and many clients prefer to use them as well. Keep a high-quality, professional hand sanitizer at your station and offer some to your clients. Let them see you using it, and they will have a greater degree of confidence in the cleanliness of your services. Do not use hand sanitizers in place of hand washing—there is no replacement for proper hand washing.

apart creating a rough surface. If there were 240, the sand particles would be closer together creating a smoother surface. You now understand that the lower the number, the rougher the abrasive will be. The higher the number, the softer it will be. Be aware that the different abrasive core materials will also change how an abrasive works. Plastic and wood cores are used for files and plastic, and sponge cores are used in buffers. The wood will make the abrasive more aggressive, whereas the sponge core will form around the nail and therefore be gentle.

Here is a list of the most common abrasives used for filing, shaping, and buffing nail enhancements (figure 28-3):

- A course-grit abrasive (100 grit or lower) is strong enough to thin enhancement product to prepare the enhancement for a refill or rebalance. Avoid using coarser, lower-grit abrasives or aggressive techniques on freshly applied enhancement products, as they can damage the soft, freshly created nail enhancement.
- A medium-grit abrasive (150 to 180 grit) is used for initial shaping of the perimeter of the nail, refining the overall surface shape of a nail enhancement, or for smoothing the surface before buffing. If you avoid putting the product on too thick, a 180-grit is usually strong enough to shape the entire nail enhancement.
- A fine-grit abrasive (240 grit or higher) is used for finish filing, refining, and buffing. This grit of file is also used to shape the free edge of a natural nail.
- A **shiner** is a buffer (usually 400/1,000/4,000) used to create a high shine on a natural nail or a nail enhancement when no polish will be worn. This buffer usually has three sides and you must buff the entire nail with the lowest grit side first and then repeat with the other sides to create a glossy shine to the nail. Shiner buffers can also have two sides. In this case, you may want to buff the entire surface of the nail with a 240- or 350-grit buffer prior to buffing with the shiner.

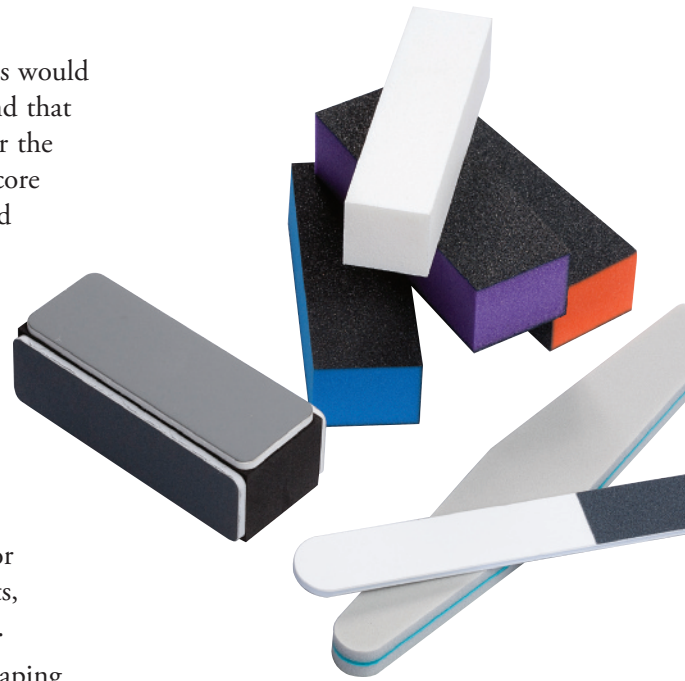


figure 28-3
Assortment of various buffers and shiners

Nail Forms

Nail forms are placed under the free edge of the natural nail and used as a guide to extend the nail enhancements beyond the fingertips for additional length. Single-use (disposable) nail forms often are made of paper or Mylar and coated with adhesive backs. Multiuse (reusable) nail forms are made of pre-shaped plastic or aluminum and can be cleaned and disinfected between clients.

If you are using disposable forms, peel a nail form from its paper backing and, using the thumb and index finger of each of your hands, bend the form into an arch to fit the client's natural nail shape. Slide the form into place and press adhesive backing to the sides of the finger. Check to see that the form is snug under the free edge and level with the natural nail.

If you are using multiuse forms, slide the form into place, making sure the free edge is over the form and that it fits snugly. Be careful not to cut

into the hyponychium under the free edge. Tighten the form around the finger by squeezing lightly.

P 28-2 Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms *See page 972*

Nail Tips

Nail tips are preformed nail extensions made from acrylonitrile butadiene styrene (ABS) or tenite acetate plastic and are available in a wide variety of shapes, styles, and colors, including natural, white, and clear. Nail tips are adhered to the tip of the natural nail with a fast-set resin to extend the length. They are not strong enough to wear on their own, so they must be overlaid with an enhancement product.

P 27-1 Nail Tip Application *See page 935*

Dappen Dish

The monomer liquid and polymer powder are each poured into a special container called a **dappen dish**. These dishes must have narrow openings to minimize evaporation of the monomer liquid into the air. Do not use open-mouth jars or other containers with large openings. Those types of containers will dramatically increase evaporation of the liquid and can allow the product to be contaminated with dust and other debris. A dappen dish must be covered with a tightly fitting lid when not in use.

Each time the brush is dipped into the dappen dish, the remaining monomer liquid is contaminated with small amounts of polymer powder. So never pour the unused portion of monomer liquid back into the original container. Empty the monomer liquid from your dappen dish after the service, and wipe it clean with a disposable towel. To avoid skin irritation or sensitivity, do not contact skin with the monomer liquid during this process. Wipe the dish clean with acetone, if necessary, before storing in a dust-free location.

figure 28-4

Various sizes of kolinsky, sable, and blended brushes used for applying monomer liquid and polymer powder nail enhancements

Monomer Liquid and Polymer Powder Application Brush

The best nail brush to use with monomer liquid and polymer powder enhancement products is composed of natural kolinsky, sable, or a blend of both. The brushes are either oval, round, or square and come in a variety of sizes (**figure 28-4**). The most commonly used brush for monomer liquid or polymer powder is a #8 oval brush.

Synthetic and less expensive brushes do not pick up enough monomer liquid or do not release the liquid properly. Choose the brush shape and size with which you feel the most comfortable. Avoid overly large brushes (size 12 to 16), since they can hold excessive amounts of liquid and alter the mix ratio of the powder and liquid.

Their large size also allows the brush to touch the skin during application, which can overexpose your client to the monomer.



Having too much monomer liquid on your brush can increase the risk of accidentally touching the client's skin and may increase the risk of developing skin irritation or sensitivities. Odorless monomer liquid requires less liquid, so using a flat brush that holds less liquid is recommended.



HERE'S A TIP

Avoid wiping your brush too rapidly or too hard against a table towel. This can press hairs against the sharp edge of the metal ferrule that holds the hairs in place and cut them off.

Safety Eyewear

Safety eyewear should be used to protect eyes from flying objects or accidental splashes. There are many types and styles. You can get more information by searching the Internet or contacting a local optometrist, who can also help you with both nonprescription and prescription safety eyewear.

Dust Masks

Dust masks are designed to be worn over the nose and mouth to prevent inhalation of excessive amounts of dust. They provide no protection from vapors.

Protective Gloves

Both disposable and multiuse varieties of protective gloves can be purchased. Several types of materials are used to make these gloves. For many salon-related applications, gloves made of nitrile polymer powder work best.

Storing and Disposing of Monomer Liquid and Polymer Powder Products

Store monomer liquid and polymer powder products in a covered container. Store all polymers and liquids separate from each other in a cool, dark area. Do not store products near heat.

After a service, you must discard used materials. Never save used monomer liquid that has been removed from the original container. Use on one client only. Avoid skin contact with the monomer liquid. If skin contact should occur, wash hands with liquid soap and water.

To dispose of small amounts of monomer liquid, mix them with small amounts of the powder designed to cure them. This is safe for amounts ranging from less than a half-ounce of monomer liquid to quarts or gallons. They should never be disposed of directly into the trash or down the drain. Tiny amounts of monomer liquid left in the dappen dish can be wiped out with a paper towel, placed in a sealed plastic bag, and then disposed of in a metal trash can with a self-closing lid.

After all used materials have been collected from your manicure table, seal them in a plastic bag and discard the bag in a closed waste receptacle. It is important to remove items soiled with enhancement products from your manicuring station after each client. This will help maintain the quality of the air in your salon. Dispose of these items according to local rules and regulations.

After reading the next few sections, you will be able to:

- LO 5** Describe the apex, stress area, and sidewall, and tell where each is located on the nail enhancement.
- LO 6** Describe how to perform a one-color maintenance service on nail enhancements using monomer liquid and polymer powder.
- LO 7** Demonstrate how to perform crack repair procedures.
- LO 8** Implement the proper procedure for removing monomer liquid and polymer powder nail enhancements.

Complete Monomer Liquid and Polymer Powder Nail Enhancement Maintenance, Crack Repair, and Removal

Regular maintenance helps prevent nail enhancements from lifting or cracking. If the nail enhancements are not regularly maintained, they have a greater tendency to lift, crack, or break, which increases the risk of the client developing an infection or having other problems.

When a cosmetologist has a client with a piece or section of the monomer liquid and polymer powder enhancement that has broken, lifted, or cracked, it is repaired by filing the area and adding monomer liquid and polymer powder to it. This is called a crack repair.

Proper maintenance must be performed every two to three weeks, depending on how fast the client's nails grow.

If you choose to offer nail enhancement services to your clients, proper maintenance is a critical skill for you to learn. Do not let clients go too long without having a proper maintenance service, or you will have many more repairs to perform when they return. Proper maintenance is both safe and gentle to the nail unit and will not result in injury or damage. In the maintenance service, the nail enhancement is thinned down to blend with the new growth area of the natural nail. The apex of the nail is filed away, and the entire nail enhancement is reduced in thickness to prepare for an overlay of new product.

P 28-3 One-Color Monomer Liquid and Polymer Powder Maintenance
See page 977

P 28-4 Crack Repair for Monomer Liquid and Polymer Powder Nail Enhancements *See page 980*

Properly Structured Nail Enhancements

Nail enhancements should not only look good, but they should also remain strong and healthy while your client is wearing them. Several areas of the nail must be considered when the nail enhancement is being made to accomplish this. Paying particular attention to the following areas of the nail enhancement will help you to create the look your clients desire and also provide them with the best and longest-lasting nail enhancements.

The **apex**, also known as *arch*, is the area of the nail with the most strength. Having strength in the apex allows the base of the nail, sidewalls, and tip to be thin, yet leaves the nail strong enough to resist frequent chipping or breaking. The apex is usually oval shaped and is located in the center of the nail. The high point is visible no matter where you view the nail (**figure 28-5**).

The **stress area** is where the natural nail grows beyond the finger and becomes the free edge. This area needs strength to support the extension. This is also the area that you would create your smile line in a two-color method application. A **smile line** is the curved line where the pink and white meet each other on a French manicured nail. It is usually defined by using white polymer on the free edge and pink powder on the nail bed creating a French manicured look.

The **sidewall** runs straight from the cuticle down the side or wall of the nail to the end of the extension. (**figure 28-6**).

The **nail extension underside** is the actual underside of the nail extension (**figure 28-7**). The nail extension underside can jut straight out or may dip, depending on the nail style. The nail extension underside should be even, matched on each nail. Undersides should match in length from nail to nail on all fingers. The tip should fit the nail and finger properly, and the underside of the nail extension should be smooth, without any glitches.

The thickness of the nail enhancement should be rather thin if a client is to wear it comfortably while going about her day (**figure 28-8**). The enhancement should graduate seamlessly from the cuticle to the end of the nail extension, so you do not feel an edge. The sidewalls and the tip's edge should be credit-card thin.

The C-curve of the nail enhancement depends on the C-curve of the natural nail. In the salon, a 35-percent C-curve is the average. The top surface and bottom side should match perfectly. The C-curve will provide structure to the nail so that it appears slender on the hand. More importantly, the C-curve provides strength, like the curve in a bridge or an egg.

To make sure the lengths of the nail extensions and enhancements are appropriate and even, be sure to measure the length of the index, middle, and ring fingers; these should be the same length. The thumb and pinkie fingers should also be in proportion and match.

Monomer Liquid and Polymer Powder Nail Enhancement Removal

There will be circumstances when your client wants to have her monomer liquid and polymer powder nail enhancements removed. Do not worry.



figure 28-5
The arch is the highest point in the center of the nail.

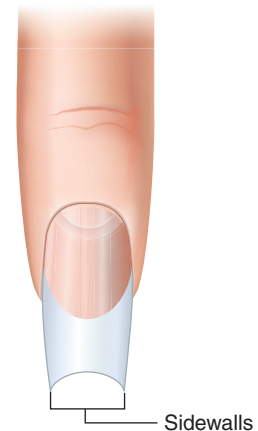


figure 28-6
The sidewall runs straight from the cuticle down the sidewall of the nail to the end of the extension.

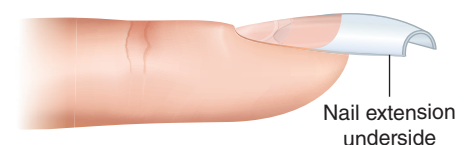


figure 28-7
The nail extension underside will come straight out or drop down a bit depending on the client's natural nail and the look she prefers.

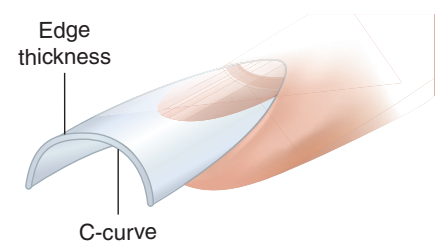


figure 28-8
The thickness of the edge should be credit-card thin, and there should be a consistent C-curve in the nail for strength.

The procedure is simple: Soak the enhancements off of the nail using acetone or the manufacturer's suggested removal solution, remove the enhancement, and complete the service. For client comfort and to avoid product evaporation, you may want to cover the hands with a hand towel during the soaking process.

Nail plates may appear to be thinner after enhancements have been removed. This is generally because there is more moisture in the natural nail plate, which makes them more flexible. It is not an indication that the nail plates have been weakened by the nail enhancement. This excess flexibility will be lost as the natural nails lose moisture over the next 24 hours, and the nail plates will appear to be thicker and more rigid.

P 28-5 Monomer Liquid and Polymer Powder Nail Enhancement Removal *See page 982*

After reading the next few sections, you will be able to:

LO 9 Describe the general process for using odorless products.

Describe Odorless Monomer Liquid and Polymer Powder Products

Odorless monomer liquid and polymer powder products are nail enhancement products that have little odor. These products do not necessarily have the same chemistry as all other monomer liquid and polymer powder products. Rather than use ethyl acrylic, these products rely on monomers that have little odor. Even though these products are called “odorless,” they do have a slight odor. Generally, if a monomer liquid does not produce a strong enough odor that others in the salon can detect its presence, it is considered to be an odorless product. Those that create a slight odor in the salon are called “low odor.”

In general, odorless products must be used with a dry mix ratio (equal parts liquid and powder in bead). If they are too wet when applied, the client risks developing skin irritation or sensitivity. This mix ratio creates a bead that looks frosted on your brush. After it is placed on the nail, it will slowly form into a firm glossy bead that will hold its shape until pressed and smoothed with the nail brush. Wipe your brush frequently to avoid the product sticking to the hairs. Never rewet the brush with monomer liquid. This will change the mix ratio, which can lead to product discoloration, service breakdown, and increased risk of skin irritation and sensitivity. Without re-wetting your brush, use the brush to shape and smooth the surface to perfection.

Odorless products harden more slowly and create a tacky layer called the inhibition layer. This layer can be rolled off or filed away with a 150-grit



ACTIVITY

To determine whether you have done the best possible job to ensure a smooth, balanced, and symmetrical nail, and that all nails are consistent, try viewing them from the following perspectives.

Top view. Make sure all the perimeter shapes are consistent.

Left side and right side views. Look at the profile of each nail and make sure your apex is consistently located in the correct place and that the apexes match from nail to nail. Also look at the left side and right side of the nail and make sure the extension's underside matches.

Down the center. Look at the degrees of C-curves. Do they match? Is the thinness/thickness of the product consistent and thick enough to withstand wear, or are the nails too thin?

From the client's perspective. Turn the client's hand around and fold the fingers toward the palm of the hand so you can view the top surface from the client's perspective. Sometimes you can see lumps and bumps from this view that you couldn't see when looking at them during application.

Line of light. After the nail is smooth and polished, or after a UV gel sealant has been applied, you can follow the line of light that reflects off the surface of the nail to see whether the nail is really smooth. If the nail surface is not smooth, the line of light will not follow perfectly.

abrasive used from cuticle to free edge. However, avoid skin contact with these freshly filed particles. Some manufacturers also make a resin that brushes on to cure the tacky layer that must be applied immediately after creating the enhancement. This will create a hard surface on the odorless product that makes filing and shaping easier.

Utilize Colored Polymer Powder Products

Polymer powders are now available in a wide range of colors that mimic almost every shade available in nail polish. Nail artistry with colored polymer powder is limited only by your imagination. Some professionals use colors to go beyond the traditional pink and white French manicure combinations and offer custom-blended colors to their clients. They



maintain recipe cards so that they can reproduce customized nail enhancements that clients cannot get from anyone else. As with all customized techniques, clients are willing to pay a few dollars more for the special service.

After reading the next few sections, you will be able to:

- LO10** List two ways to create nail art from monomer liquid and polymer powder.

Create Monomer Liquid and Polymer Powder Nail Art

Monomer liquid and polymer powder can be used in a variety of ways to create unique nail art. This medium can be challenging to master, but it also has the most versatile results. Designs can be as simple as placing five small beads on a nail to create a three-dimensional flower or fading six or seven colors as thin as paper to create a sunset backdrop for an inlaid design nail.

Three dimensional, or **3-D nail art** describes any art that protrudes from the nail. When applying 3-D art over nail polish, you will want the polish to be dried for at least three minutes before applying the art. You can add a topcoat to the polished nail before you add the art if you would like the art to look matte when complete. Or, you may also add the monomer liquid and polymer powder straight to the polish color, and then seal the nail and art with a shiny topcoat, leaving the entire nail and art with a glossy finish (**figure 28-9**).

Inlaid designs, designs inside a nail enhancement, are created when nail art is sandwiched between two layers of product while the nail enhancement is being formed. When inlaying flowers in the nail, use the



figure 28-9
3-D nail art is a great way to increase income in the salon.

Nail Art by Alisha Rimando Botero.

same technique as in the 3-D flower design except pick up smaller beads and flatten them out so that the size of the flower remains the same, but the flower design will be much thinner. This allows for a layer of clear monomer liquid and polymer powder to cover the design without the nail being too thick (figure 28-10).

Monomer liquid and polymer powder nail art can be used over polish or any other hardened nail enhancement surface. Monomer liquid and polymer powder art does not hold well on a clean, natural nail unless you prep and prime the nail to receive this overlay. If you are working on a surface that can be easily ruined with acetone, be careful not to touch the surface of the nail with the monomer liquid and polymer powder brush too often, or you may damage it. When working on top of a polished nail, you can ruin the polish if you stroke the surface too many times with a brush wet with monomer liquid.

When using monomer liquid and polymer powder for art, there are many brushes and tools available to mold the product into the desired shape. When first beginning to work in this medium, use the same brush you currently use to apply the monomer liquid and polymer powder to nail tips and overlays.



Nails by Massimiliano Braga.

figure 28-10
Inlaid designs are a beautiful addition to your nail menu and promote client loyalty.

ONE-COLOR MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS OVER NAIL TIPS OR NATURAL NAILS



IMPLEMENTS & MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the One-Color Monomer Liquid and Polymer Powder Nail Enhancements Over Nail Tips or Natural Nails procedure:

- Abrasives
- Application brushes
- Dappen dishes
- Monomer liquid
- Nail dehydrator
- Nail primer
- Polymer powder
- Buffer

PREPARATION

PROCEDURE

Perform:

P 25-1 Pre-Service Procedure *See page 880*

1 Clean the nails and remove any existing polish, then use a pusher to gently push back the eponychium and carefully remove cuticle tissue from the nail plate. If you are applying nail tips, use a 180-grit abrasive or higher to shape the free edges of the natural nails so they match the shape of the nail tip to the stop point.



2 Gently file or buff the nail plate with medium/fine abrasive (180- to 240-grit) to remove the shine caused by natural oil on the surface of the nail plate. Avoid over-filing of the nail plate. Remove the nail dust with a clean, dry nail brush and do not touch the surface of the nails with your fingers as you may deposit oils from your fingertips, degrading the cleanliness of the nail. Cleanse the nails with surface cleanser and lint-free wipe.

3 Apply nail dehydrator to nails. Begin with the little finger on the left hand and work toward the thumb.

4 If your client requires nail tips, apply tips as described in **Procedure 27-1, Nail Tip Application** in Chapter 27. Cut tips to desired length.

5 Apply nail primer. Release excess primer from the brush and dab the brush to the prepared natural nail only. Always follow the manufacturer's directions. Acid-based nail primer will dry to a chalky white. Acid-free primer will dry to a shiny, sticky surface. Avoid applying primer to the nail tips.



6 Pour monomer liquid and polymer powder into separate dappen dishes.



7 Dip the brush into the monomer liquid and wipe on the edge of the container to remove the excess.



8 Dip the tip of the same brush into the polymer powder and rotate slightly. Pick up a bead of product—with a medium-to-dry consistency, not runny or wet—that is large enough for shaping the entire free-edge extension. If you have trouble using a large bead to shape the edge properly, two smaller beads may be easier.



9 Place the pink product bead in the center of the free edge of the tip or natural nail. Immediately wipe your brush on the table towel gently to remove any product left in the bristles and bring the brush back to a perfect point.



10 Use the middle portion or “belly” of your sable brush to press and smooth the product to shape the enhancement's free edge. Do not “paint” the product onto the nail. Pressing and smoothing produces a more natural-looking nail. Keep sidewall lines parallel and avoid widening the tip beyond the natural width of the nail plate.



11 Using a medium consistency, place the second bead on the nail plate below the first bead and next to the free edge line in the center of the nail. Immediately wipe your brush gently on the table towel to remove any product left in the bristles and to bring the brush back to a perfect point.



12 Press and smooth the product to the sidewalls, making sure that the product is very thin around all edges. Leave a tiny free margin between the product placement and skin. Avoid placing the product too close to the skin: This may cause the product to lift away from the nail plate or increase the chance of the client developing a skin irritation or sensitivity. Be sure to use a medium consistency mix that is not too wet.



13 Pick up smaller beads of pink polymer powder with your brush and place them at the base of the nail plate, leaving a tiny free margin between the product and the skin. Immediately wipe your brush on the table towel gently to remove any product left in the bristles and to bring the brush back to a perfect point.

14 Use the brush to press and smooth beads over the entire nail plate. Glide the brush over the nail to smooth out imperfections.



15 Apply more product near the eponychium, sidewalls, and free edge if needed to complete the application. Be sure that the product in these areas remains thin for a natural-looking nail.



16 Use a 180-grit abrasive to shape the free edge and to remove imperfections. Then refine with medium-fine abrasive (180- to 240-grit).

- 17 Buff the nail enhancement with fine-grit buffer (350-grit or higher) until the entire surface is smooth. Use a high-shine buffer if nail polish *will not* be worn. Remove any dust with a clean, dry nail brush before applying oil.
- 18 Apply and rub nail oil into the surrounding skin and nail enhancement, massaging briefly to speed up penetration.
- 19 Ask the client to wash her hands with soap and water at the hand washing station, or ask her to use the nail brush to clean her nails over a finger bowl. Rinse with clean water to remove soap residue that may cause lifting. Dry thoroughly with a clean, disposable towel.
- 20 Apply hand cream and massage the hands and arms. Thoroughly clean each nail of lotion.
- 21 Polish nail enhancements depending on your client's preferences.



- 22 Finished look.

POST-SERVICE

Complete:

P 25-2 Post-Service Procedure *See page 884*

TWO-COLOR MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS USING FORMS



IMPLEMENTS & MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Two-Color Monomer Liquid and Polymer Powder Nail Enhancements Using Forms procedure:

- Abrasives
- Dappen dishes
- Nail dehydrator
- Nail primer
- Application brushes
- Monomer liquid
- Nail forms
- Polymer powder (pink, white and soft white)

PREPARATION

PROCEDURE

Perform:

P 25-1 Pre-Service Procedure *See page 880*

1 Clean the nails and remove any existing polish.



2 Gently push back the eponychium and remove the cuticle tissue from the nail plate.

3 Gently file or buff the nail plate with medium/fine abrasive (180- to 240-grit) to remove the shine caused by natural oil on the surface of the nail plate. Avoid over-filing of the nail plate. Remove the nail dust with a clean, dry nail brush and do not touch the surface of the nails with your fingers, as you may deposit oils from your fingertips, degrading the cleanliness of the nail. Cleanse the nails with surface cleanser and lint-free wipe.



4 Apply nail dehydrator to all nails.



5 Position the nail forms. Further instruction on single-use and multiuse forms are on page p. 959.

6 Apply primer. Release excess primer from the brush and dab the brush to the prepared natural nail only. Always follow the manufacturer's directions. Acid-based nail primer will dry to a chalky white. Acid-free primer will dry to a shiny, sticky surface.



7 Prepare monomer liquid and polymer powder into separate dappen dishes.



8 Saturate your application brush with monomer liquid and wipe out the excess liquid.



9 Gently wipe your brush to create a flat edge with the hair and dip the tip slightly into the soft white powder to pick up a small bead on one side of the brush.



10 Place the bead toward the cuticle area. Press the product at the cuticle line to thin, and angle the brush so that the moon gradually thickens to create an edge.



11 Spread the bead from side to side to create the lunula, the whitish, half-moon shape underneath the base of the nail. The edges of the lunula should stop just before the sidewall.



12 Once the product is in place, use the tip of your brush to clean around the edge.



13 Dip the tip of the same brush into the white polymer powder and pick up a bead of product—it should have a dry-to-medium consistency that is large enough to cover the entire free-edge extension up to the edge of the smile line.



14 Place the white bead in the center of the nail form at the point where the free edge joins the nail form. Wipe your brush gently on a clean or disposable towel while you allow your bead to start to self-level and begin setting up.



15 Use the front of the brush flat to slide the bead to the corners of the natural nail. Then apply pressure to the center of the brush and pull it towards you. This will stretch the thickness of the bead out onto the form to create the extension edge.



16 Use the body of the brush around the perimeter of the nail to shape your extension.



17 Use the tip of the brush to push your smile line into place, and wipe the edge until a crisp, rounded smile line is achieved.



18 Pick up a tiny second bead of white powder, with a drier consistency, and place it on the left corner of the natural nail and brush it toward the smile line and center of the nail. Wipe your brush gently on a clean or disposable towel, and then use the tip of the brush to define the smile line to the corner.

19 Repeat step 18 on the right corner of your smile line.



20 Pick up a small bead of pink polymer powder with your brush and place it near the cuticle area of the nail plate. Guide the pink bead towards the cuticle area leaving a tiny free margin between the product and the skin. Smooth out imperfections.



21 When nail enhancement begins to harden, loosen the form and slide it off. The nail enhancements will harden enough to file and shape after several minutes; they should make a clicking sound when lightly tapped with a brush handle. Remove the form and gently press in the sides to narrow the nail as it dries.

22 Repeat Steps 8 through 17 on the remaining nails.



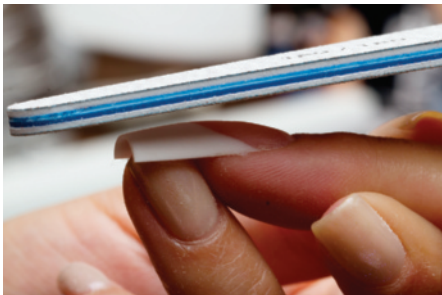
23 Use a medium abrasive (150- to 180-grit) to shape and remove imperfections. Begin by shaping the tip's edge on all nails. Be sure to measure the length so they are consistent.



24 File the left sidewalls and right sidewalls of all nails.



25 File the underside of the nail extensions on both sides of each nail to create a clean, straight lower arch.



27 Buff the nail enhancements with a 180- to 240-grit buffer. Remove any dust with a clean, dry nail brush before applying oil.

26 Glide the abrasive over the nail with long, sweeping strokes to further shape and perfect the enhancement surface. Remember that the product should be thin near the cuticle, free edge, and sidewalls.



28 Apply and rub nail oil into the surrounding skin and nail enhancement, massaging briefly to speed up penetration.

29 Have your client wash her hands thoroughly with soap, water, and a nail brush to remove dust and chemicals that may be present on the skin. Have the client dry her hands with clean or disposable towel.

30 Apply hand cream and massage the hands and arms.

31 Clean the nail enhancements by removing all traces of lotion from the nail plate with a lint-free wipe saturated with alcohol or polish remover.



32 Polish the nail with a clear gloss polish depending on your client's preferences.



33 Finished look.

POST-SERVICE

Complete:

P 25-2 Post-Service Procedure. *See page 884*

ONE-COLOR MONOMER LIQUID AND POLYMER POWDER MAINTENANCE



IMPLEMENTS & MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the One-Color Monomer Liquid and Polymer Powder Maintenance procedure:

- Abrasives
- Dappen dishes
- Nail dehydrator
- Polymer powder
- Application brushes
- Monomer liquid
- Nail primer

PREPARATION

Perform:

P 25-1 Pre-Service
Procedure See page 880

PROCEDURE

1 Remove the existing polish or gel sealant, then use a pusher to gently push back the eponychium and carefully remove cuticle tissue from the nail plate.



2 Using a medium-coarse abrasive (150- to 180-grit) flat against the existing product, carefully smooth down the ledge until it is flush with the new growth of nail plate. Smooth out any areas of product that may be lifting or forming pockets. Be careful not to damage the natural nail plate with your abrasive.



3 Hold the medium abrasive (150- to 180-grit) flat, and glide it over the entire nail enhancement to reshape, refine, and thin the product at the free edge until the white tip appears translucent.



4 Use a medium-fine abrasive (180- to 240-grit) or buffer to smooth the product and blend it into the new growth area. Gently buff the natural nail to prepare it.

5 Use a clean nylon manicure brush to remove dust. Cleanse the nails with a surface cleanser and lint-free wipe.

6 Apply nail dehydrator to all nails.

7 Apply nail primer and follow manufacturer's directions.

8 Prepare monomer liquid and polymer powder.



9 Pick up one or more small beads of enhancement product and place at the natural nail area, the regrowth.



10 Use the brush to smooth these beads over the new growth area. Glide the brush over the nail to smooth out imperfections. Enhancement product application near the eponychium, sidewall areas, and free edge must be extremely thin for a natural-looking nail. Be sure to leave a tiny free margin between the nail enhancement product and skin.

11 Pick up one or more small beads of enhancement product and place them at the center or apex of the nail.



12 Use the brush to smooth these beads over the entire nail enhancement. Glide the brush over the nail to smooth out imperfections.

13 Allow the nails to harden. Nails are hard when they make a clicking sound when lightly tapped with a brush handle. Once hardened, shape the nail enhancements with an abrasive board.

- 14 Buff the nail enhancements with a 180- to 240-grit buffer. Remove the dust.
- 15 Apply and rub nail oil into the surrounding skin and nail enhancement, massaging briefly to speed up penetration.
- 16 Ask the client to wash her hands with soap and water at the hand washing station, or ask her to use the nail brush to clean her nails over a finger bowl. Rinse with clean water to remove soap residue that may cause lifting. Dry thoroughly with a clean, disposable towel.
- 17 Apply hand cream and massage the hands and arms. Thoroughly clean each nail of lotion.
- 18 Polish nail enhancements depending on your client's preferences.



- 19 Finished look.

POST-SERVICE

Complete:

- P** 25-2 Post-Service Procedure. See page 884

CRACK REPAIR FOR MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENTS



IMPLEMENTS & MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Crack Repair for Monomer Liquid and Polymer Powder Nail Enhancements procedure:

- Application brushes
- Dappen dishes
- Monomer liquid
- Nail dehydrator
- Nail forms
- Nail primer
- Polymer powder

PREPARATION

Perform:

P 25-1 Pre-Service Procedure *See page 880*

PROCEDURE

- 1 Remove the existing polish or gel sealant, then use a pusher to gently push back the eponychium, and carefully remove cuticle tissue from the nail plate. Depending on nail maintenance needed, refer back to nail maintenance in previous procedures.
- 2 Gently file the nail surface with a medium/fine abrasive (180- to 240-grit). Avoid over-filing of the nail plate. Remove the nail dust with a clean, dry nail brush.



- 3 File a V-shape into the crack, or file flush to remove the crack. File more than just the crack for extra protection.

- 4 Buff and remove any dust with a clean, dry nail brush. Apply nail dehydrator to any exposed natural nail in the crack.



5 Apply nail primer to any exposed natural nail in the crack.



6 If the crack needs support, apply a nail form.



7 Prepare monomer liquid and polymer powder. Pick up one or more small beads of product, and apply them to the cracked area. If you are using the two-color system, be sure to use the correct color of polymer powder.



8 Press and smooth the enhancement product to fill the crack. Be careful not to let the product seep under the form.



9 Apply additional beads, if needed, to fill in the crack or reinforce the rest of the nail. Shape the enhancement and allow it to harden.



10 Remove the form, if used.

11 Reshape the nail enhancement using a medium abrasive (150- to 180-grit).

12 Buff the nail enhancements with a 180- to 240-grit buffer, then remove dust.

13 Apply and rub nail oil into the surrounding skin and nail enhancement, massaging briefly to speed up penetration.

14 Ask the client to wash her hands with soap and water at the hand washing station, or ask her to use the nail brush to clean her nails over a finger bowl. Rinse with clean water to remove soap residue. Dry thoroughly with a clean, disposable towel.

15 Apply hand cream and massage the hands and arms. Clean the nail enhancements of lotion.

16 Polish nail enhancements depending on your client's preferences.



17 Finished repaired nail.

POST-SERVICE

Complete:

P 25-2 Post-Service Procedure *See page 884*

MONOMER LIQUID AND POLYMER POWDER NAIL ENHANCEMENT REMOVAL

IMPLEMENTS & MATERIALS

In addition to the basic materials on your manicuring table, you will need the following supplies for the Monomer Liquid and Polymer Powder Nail Enhancement Removal procedure:

- Acetone
- Metal or glass bowl
- Hand towel

PREPARATION

Perform:

P 25-1 Pre-Service Procedure *p. 880*

PROCEDURE

1 Have the client wash her hands thoroughly, and then remove existing nail polish if applicable. Start by applying a thick lotion or barrier cream to the hands and cuticle. This will help protect the surrounding skin prior to soaking in acetone or product remover.



2 Fill the glass bowl with enough acetone or product remover to cover ½-inch (1.27 cm) higher than client’s enhancements. One option is to place the bowl inside another bowl of hot water to heat the acetone safely and speed up the removal procedure.



3 Place the client’s nails into the bowl and cover the hands with a hand towel if desired. Soak the client’s nail enhancements for 20 to 30 minutes or as long as needed to remove the enhancement product. Refer to the manufacturer’s directions and precautions for nail enhancement product removal.



4 Once or twice during the procedure, use a wooden or metal pusher to gently push off the softened enhancement. Repeat until all enhancements have been removed. Do not pry them off with nippers, as this will damage the natural nail plate. Avoid removing enhancements from the acetone or product remover, or they will quickly re-harden, making them more difficult to remove. The key is to leave the nails in the acetone until they fall off and leave the natural nail free of product. Use a plastic-backed cotton pad to remove the remaining product.

- 5 Lightly buff the nails with a 240-grit buffer to smooth any remaining ridges or residue. Remove any dust with a clean, dry nail brush. Cleanse the nails with surface cleanser and lint-free wipes.
- 6 Apply and rub nail oil into the surrounding skin and nail enhancement, massaging briefly to speed up penetration.
- 7 Recommend that the client receive a basic manicure. If client is not receiving a basic manicure, then complete steps 8 and 9.
- 8 Ask the client to wash her hands with soap and water at the hand washing station, or ask her to use the nail brush to clean her nails over a finger bowl. Rinse with clean water to remove soap residue. Dry thoroughly with a clean, disposable towel.
- 9 Apply hand cream and massage the hands and arms. Clean the nails of lotion.



10 Finished look.

POST-SERVICE

Complete:

P 25-2 Post-Service Procedure. See page 884

REVIEW QUESTIONS

- 1 What is the chemistry behind monomer liquid and polymer powder nail enhancements, and how does it work?
- 2 What are the definitions of *apex*, *stress area*, and *sidewall*, and where is their location on the nail enhancement?
- 3 What is the proper procedure for applying one-color monomer and polymer nail enhancements over tips and on natural nails?
- 4 What is the proper procedure for applying two-color monomer and polymer nail enhancements using forms?
- 5 What is the proper procedure for performing a one-color maintenance service on nail enhancements using monomer liquid and polymer powder?
- 6 How is a crack repair performed?
- 7 How are monomer liquid and polymer powder removed from the nail?
- 8 List a variety of ways to create nail art for monomer liquid and polymer powder.

STUDY TOOLS

- **Reinforce what you just learned:** Complete the activities and exercises in your Theory or Practical Workbook, or your Study Guide.
- **Expand your knowledge:** Search for websites about the topics in this chapter and make a list of additional resources.
- **Study and prepare for your quiz:** Take the chapter test in your Exam Review or your Milady U: Online Licensing Prep.
- **Re-Test your knowledge:** Take the Chapter 28 Quizzes!
- **Learn even more:** Look up in a dictionary or search the internet for the definitions of any additional terms you want to learn about.

CHAPTER GLOSSARY

3-D nail art	p. 966	Describes any art that protrudes from the nail.
apex	p. 963	Also known as <i>arch</i> ; the area of the nail that has all of the strength.
chain reaction	p. 955	Also known as <i>polymerization reaction</i> ; process that joins together monomers to create very long polymer chains.
dappen dish	p. 960	Special container that holds monomer liquid and polymer powder.
grit	p. 958	Refers to how many grains of sand are on the file per square inch.
initiators	p. 954	Found in polymer powder; when activated by a catalyst, will spring into action and cause monomer molecules to permanently link together into long polymer chains.
inlaid designs	p. 966	Designs inside a nail enhancement.

mix ratio	p. 956	The amount of monomer liquid and polymer powder used to create a bead.
monomer MON-oh-mehr	p. 952	One unit called a molecule.
monomer liquid	p. 952	Chemical liquid mixed with polymer powder to form the sculptured nail enhancement.
monomer liquid and polymer powder nail enhancements	p. 952	Enhancements created by combining monomer liquid and polymer powder.
nail extension underside	p. 963	The actual underside of the nail extension.
nail forms	p. 959	Used as a guide to extend the nail enhancements beyond the fingertip for additional length.
nail primer	p. 957	Used on the natural nail prior to product application to assist in adhesion; used to chemically bond the enhancement product to the natural nail.
odorless monomer liquid and polymer powder products	p. 964	Nail enhancement products that have little odor; must be used with a dry mix ratio (equal parts liquid and powder in bead).
polymer POL-i-mehr	p. 952	Substance formed by combining many small molecules (monomers) into very long, chain-like structures.
polymerization POL-i-mehr-eh-za-shun	p. 954	Also known as <i>curing</i> or <i>hardening</i> ; chemical reaction that creates polymers.
polymer powder	p. 952	Powder in white, clear, pink, and many other colors that is combined with monomer liquid to form the nail enhancement.
stress area	p. 963	The part of the nail enhancement where the natural nail grows beyond the finger and becomes the free edge. This area needs strength to support the nail extension.
shiner	p. 959	A multi sided buffer (usually 400/1,000/4,000 grit) used to create a high shine on a natural nail or a nail enhancement when no polish will be worn.
sidewall	p. 963	The line of the nail enhancement that runs straight from the cuticle down the side or wall of the nail to the end of the extension.
smile line	p. 963	The curved line where the pink and white meet each other on a French manicured nail.