

Approved by  
the Georgia State Board of Cosmetology

**Georgia 5 Hour Nail Technician CE Course (5 total hours)**

**CONTENT:** Module 1: Nail Art and Product Ingredients (2 hours)

Module 2: DTAE Health and Safety (3 hours)

Department of Technical and Adult Education health and safety course

**ELIGIBLE LICENSEES:** Nail Technician, Nail Technician Instructor,  
Master Cosmetologist, Cosmetology Instructor

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Nail Art and Product Ingredients (2 hours) & DTAE Health and Safety (3 hours)

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## Module 1: Nail Art and Product Ingredients (2 hours)

### **Module Outline**

- Color Schemes and Palettes
- The Color Wheel
- Nail Applications and Services
- Nail Art Tools and Implements
- Products and their Ingredients
- Ingredient Overexposure Effects
- Safe Practices
- Supplies and their Applications
- Hair Removal Procedures

### ***Learning objectives:***

#### **After completing this lesson you will be able to:**

- Identify foiling
- Explain gold leafing
- Describe nail art brushes
- Identify the airbrush
- Define nail art terminology
- List ways to decrease inhalation of chemicals
- List ways to decrease skin exposure to chemicals
- Describe salon cleanliness
- Explain protective gear and its use

**Introduction:** This course module focuses on nail art, application techniques and equipment. Perfecting nail art skills can lead to an impressive list of faithful clientele and allows the nail technician to express creativity. We will also study important aspects of nail products and their ingredients.

## Nail Art



### **Color schemes**

Color schemes are logical combinations of colors of the color wheel. Color schemes are used to create style and appeal. Colors that create a pleasing appearance commonly appear together in color schemes.

A basic color scheme uses two colors that look appealing together. More advanced color schemes involve several colors in combination, usually based around a single color.

For example: fingernails with such colors as **red**, **yellow**, **orange** and light **blue** arranged together on a black background.

Color schemes can also contain different shades of a single color; for example, a color scheme that mixes **different shades of green**, ranging from very light to very dark.

### **Polish**

**Traditional colors for nail polish are red, pink and brown, but nail polish is manufactured in many colors.**

### **French Manicure**

The French manicure is traditionally patterned after the color of natural nails, using a clear, beige or soft pink polish on most of the nail with a white finish at the tips.

Reverse French manicures are also a popular service but not as popular as the traditional French manicure.

### **Warm and Cool Colors**

**Warm colors** always contain **golden** undertones.

**Cool colors** always contain **blue** undertones.

Nail technicians often use color pallets that stay within the same category. Either all of the colors in the pallet will be cool, or all of the colors in the pallet will be warm.

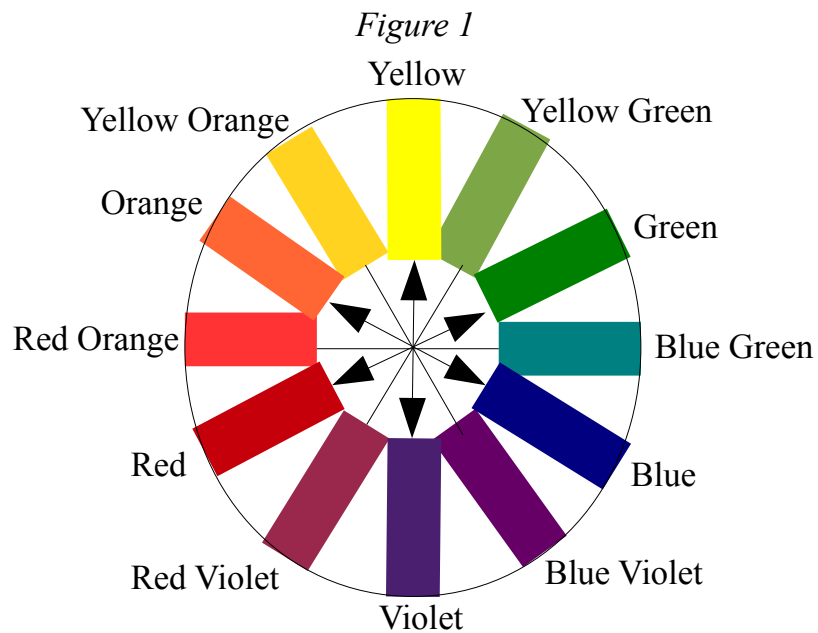
Most professionals agree that staying within one category creates a more esthetically appealing look. Using colors from opposing categories tends to create a more contrasting look with less cohesiveness in appearance.

Pallets of color can be created by applying the theory that certain color combinations work well together and appear harmonious.

The word pallet has several definitions. **Pallet is a term for color combinations used by an artist** and it is a term for the actual device that holds the paint while the artist is creating.

The color wheel is an irreplaceable tool in developing color pallets for the most beautiful nail artistry.

## The Color Wheel



**One method of developing a triad color scheme is to choose three colors equidistant around the hue circle.**

The color wheel is one of the best tools in color pallet determination.

Choosing colors of equal depth, in other words, equal levels of pigment, can be a favorable choice when a balanced appearance is desired.

**Using contrasting color choices for your pallet can create an appearance of multiple dimensions within the artwork.**

Pre-planned color pallets can be presented to the customer. The choices can range from vibrant colors to muted soft colors.

Choosing the overall background color should be the first step in developing a color pallet.

Then choosing a secondary dominate color is usually the next step, then third, fourth, and so on.

Occasionally, the customer might want to match a dominate color in her wardrobe for her background nail color.

On the other hand, neutral and natural nail colorings are popular choices making it completely unnecessary to match any wardrobe colors. In fact, the number one choice in nail color is neutral, natural and beige or light pink tones.

## **Gems**

Tiny gems are manufactured specifically for nail art. They come in various shapes and sizes. They are specifically designed with one side cut flat for attaching to the nail surface.

Apply the gem to the nail with top coat or nail art sealer. **Place sealer on the flat part of the gem so it will adhere to the nail.**

You may also apply the gem with a wooden pusher. First dampen the end of the pusher with the sealer.

Pick up the gem by touching the dampened stick to the colorful side of the gem and place it in the prepared spot on the nail. You can use tweezers as well to do this task.

Press the gem onto the nail and apply a generous amount of sealer to coat it.

**Gems can be removed with acetone and can be reused if the gem is in good condition.**

## **Foiling**

Foiling is easy and lends opportunity for endless creativity. **Foil comes in rolls and pre-cut pieces in many colors and designs.** Some of the most popular are silver, gold and snake skin.

Pre-cut pieces are easy to handle and convenient.

**Before applying foil, polish the nail and allow to completely dry.** Select the polish color as part of the color scheme.

**Apply foil adhesive to the dry nail. Apply the adhesive thinly and evenly. The adhesive is slightly tinted when wet and becomes clear and tacky when dry.** This tackiness is similar to double sided tape and is developed for easy adhesion to foil.

Foil comes attached to a cellophane base, so when the foil is touched to the tacky nail, it pulls off of the cellophane and adheres to the nail. Wait until the adhesive becomes clear, but do not wait too long or the adhesive will become overly dry and lose its stickiness.

**The timing of the tacky phase is imperative to the success of the service.**

There is a shiny side and a matte side to the foil. **The shiny side is always to be facing up and the matte side is to be against the adhesive.**

### **Foil Methods:**

**Method one** is a type of free hand designing. The nail technician pats the cellophane, foil side down, onto the nail. The cellophane is clear after the foil is removed from it, so the technician watches for coverage areas. The nail technician is careful not to touch the clear portions of the cellophane to the nail. If the nail is touched with the clear portion of the cellophane instead of the foil area, it is possible that the cellophane would stick to the adhesive which could in turn remove the adhesive along with the nail polish.

**Method two** involves complete coverage. The foil is gently laid on the surface of the nail and a wooden pusher is used to lightly burnish or lightly rub over the cellophane backing, applying the foil to the nail. This is the method used for pre-manufactured foil patterns.

**All nail art applications require that you use a final coat of nail art sealer.** To apply you must “float the bead”. In other words, drop a “bead” or drop of sealant onto the nail and pull the liquid gently to cover the entire nail. Do not brush using pressure as you would polish, but touch the “top” of the bead of dropped sealant and disperse it gently in that manner.

### **Striping Tape:**

Striping tape can be applied as the first design application after the nail polish is dry or it can be applied as the last design application when all other design features are in place and are dry.

Striping tape is manufactured in rolls and pages with many colors and sizes. The most used colors are gold, silver, and black. **Striping tape has a tacky backing.**

### **Gold Leafing:**

**Leafing material is very thin and fragile.** It has a foil-like consistency and is manufactured both in sheets and in loose pieces. Loose gold leafing is also referred to as nuggets and the gold leaf sheets are referred to as nugget sheets.

Leafing sheets are very delicate and must be handled with tweezers or the tissue paper that comes between the sheets in the packaging, otherwise they can crumble or blow away. Usually sheets of leafing come in quantities of 10 to 100 sheets per package. Keep the package closed or the slightest air movement can blow away the product.

### **The application method:**

Apply nail adhesive to the dry polished nail and allow to become tacky.

**Apply the leafing in small amounts using tweezers or a dampened wooden pusher.**

When applying a sheet, use the same method as foiling.

**When leafing is applied in pieces it appears more like nuggets,** and when applied in sheets you get a thin even coverage.

Complete the application with nail art sealer.

### **Free Hand Painting**

**Freehand painting is also referred to as flat nail art.**

It is when you use nail polish and brushes to create art design on the nail surface.

#### **Brushes:**

**To the artist, the proper choice and quality of brushes and nail color play a crucial part in creating precision designs.** Brushes come in many shapes and sizes and many varieties of bristle types. There are firm bristles and soft bristles, slender shapes and thicker shapes. **A complete knowledge of color theory is required to create the most desirable works of art.**

#### **Parts of a Brush:**

**The tip of the brush** is the end of the bristles farthest away from the handle. It is also called the edge of the brush.

The mid section of the bristles is called **the belly**. This is where the brush holds the most paint.

**The ferrule** is the metal band around the brush that helps to hold the bristles in place.

**The heel** of the brush is the area where the bristles meet the ferrule.

**Knowing the parts of the brush is the beginning of understanding why certain brush choices are made to achieve the desired result.**

**Round brushes** have pointed tapered tips and a large belly.

Round brushes vary in their tips making some better for detail work than others.

Softness of the bristles or hairs of the brush determine the amount of control in detail work as well.

**Liner brushes** are thin and pointed.

They are great for lettering or other fine work requiring detail.

They are best, for example, drawing thin lines and outlining other art applications.

**Flat brushes** are flexible with long bristles and a square tip.

Another name for a flat brush is shader brush.

It has a flat tip or chiseled edge.

It is used for multi-purposes.

Using the flat of the brush creates smooth strokes.

Each side of the brush can be loaded with different colors to create fade effects. This is called double loading.

The best way to understand its versatility is to practice designs on art paper to see the limitless creations from this one brush.

**Bright brushes** are short and flat with very firm bristles.

They are great for creating texture.

**Fan brushes** are flat brushes in which the bristles are spread out like a fan.

It's a great special effects tool and also can be used for blending. It's great for special effects.

It's great for special effects.

When used dry with just a dab of paint on the bristle ends, it can be floated across the top of a design and look similar to air brushing.

**Spotter brushes** and also called a detailer.

It is short and round with a small belly and a very fine point tip.

It is excellent for the most intricate of detail work.

**Striper brushes** are very long flat brushes with few bristles.

It's great for creating designs that need long lines or stripes.

**The stripette brush** also known as the short striper brush is simply a shorter version of the striper brush and it creates the same effects.

**The marbleizer brush** also known as a stylus comes with wooden handles, a rounded tip and a metal extension. They have rounded ball tips that come in different sizes. They are used for dotting small circles of color such as polka dots or bubbles. A marbled effect can be created by using different colored paints in a swirl motion similar to the look of marble.

## **Air Brushing**

Airbrushing has become a phenomenally popular salon service.

The technique of color fading can easily be achieved with the airbrush.

**Airbrushing is used for the French manicure to achieve the perfect white edge.**

A stencil is used to define the shape for the desired end results of the white nail tip.

**By using airbrushes and stencils you can easily apply images onto the nail.** Pre-cut stencils are readily available at all professional supply stores.

**Stencils are made of either plastic, paper or fabric.** You can create your own stencils.

### **Airbrush Equipment**

Airbrushes are usually classified by three characteristics.

- The first characteristic is the action performed by the user to trigger the nail color flow.
- The second is the mechanism for feeding the nail color into the airbrush.
- The third is the point at which the nail color and air mix.

### **Trigger**

The simplest airbrushes work with a single action mechanism where the depression of a single trigger results in nail color and air flowing into the airbrush body and the atomized paint being expelled onto the target surface.

Dual action or double action airbrushes separate the function for air and nail color flow so that the user can control the volume of airflow and the concentration of nail color flow through two independent mechanisms.

### **Technique**

Airbrush technique is the freehand manipulation of the airbrush, nail color, air pressure and distance from the surface being sprayed in order to produce a certain predictable result on a consistent basis with or without shields or stencils.

Airbrush technique will differ with the type of airbrush being used.

Read the manufacturers instructions for operating your airbrush. Practice on paper to become accomplished in technique. See what works and what does not.

There are specific practices to master in developing beautiful work. Practice proper aim.

Practice on nail tips mounted on wooden sticks. It's a great way to become accustomed to the exact thing of what you are trying to perfect, the nail.

Practice painting straight lines, dots and with stencils.

**Nail Art: Review the following terminology.**

belly	midsection of the brush bristles; the area that holds the most nail color
color wheel	color guide that illustrates and identifies the primary, secondary, tertiary and complementary colors
double loading	placing two different colors of paint on either side of the brush
floating the bead	technique used to seal nail art where a bead of sealer is dropped onto the nail surface, and the brush floats across the surface and completely covers it with sealer
foil adhesive	special adhesive just for foiling that is generally tinted white or pink and appears cloudy when it is wet
freehand painting	using no stencils or pre-formed patterns, creating art on nails also known as flat nail art
French manicure	airbrushing technique that creates a natural looking nail with a smooth white tip at the free edge
gem	tiny jewel added to a nail design, attached to the nail with adhesive
heel	the part of the brush where the bristles of the brush meet the ferrule
gold leafing	also known as nuggets or nugget sheets, foil like material used to create nail art
marbleizer	also known as stylus, tool with a rounded ball tip and wooden handle use for making dots or small circles
stencil	precut design made of plastic, paper or fabric used to create nail art
striping tape	tacky-backed tape available in various colors; applied over nail polish or other nail art to create bolder designs

## **Product Ingredients**

### **Precautions**

High quality services require the use of many formulations of key products. These products include dynamic active ingredients and can be hazardous to the health of the professional and to their client if not handled properly and professionally.

Minimizing exposure, especially inhalation of these ingredients, must be the forefront of concern for the successful salon professional.

Overall, product manufacturers have formulated products to help minimize exposure and have tried to lessen negative health effects for the user and client.

When the products are used in small amounts it is thought to minimize exposure of certain chemicals known to have effects on health.

There is only so much a manufacturer can do to protect the general public and much of the responsibility lies on the shoulders of the user. Injury can happen if products are improperly handled, such as injury to the eyes, nose or even lungs.

There can be allergic reactions and sensitivities to products or ingredients that only until after the reaction happens you are aware that you have an allergy.

**The Environmental Protection Agency protects the salon professional and their clients by setting regulations.**

### **Protection From Product Ingredients**

Although the Environmental Protection Agency sets standards of product labeling and handling it is up to the Salon Professional to apply the protective procedures that insure public safety.

The healthy environment of the salon or spa should be well established by the owner or manager of the facility. State Board mandatory inspections are well in place to grade accordance with their laws. Basic health considerations are incorporated into the rules and regulations set in place by State Cosmetology Boards.

Below is a list of specific product ingredients with its corresponding effects of overexposure.

<b>Product Ingredients</b>	<b>Effects of Overexposure</b>
Acetone nail polish remover and fingernail glue remover	Headache, dizziness, irritation to skin, eyes, and throat,
Benzoyl peroxide powder additive for artificial nails	Irritation to eyes, mouth, throat, nose, and lungs, and skin rash
Butyl acetate nail polish	Irritation to skin, eyes, mouth, nose and throat; skin rash, headache, drowsiness and confusion
Butyl methacrylate artificial nails	Irritation to skin, eyes, skin, mouth, nose, and throat, skin rash, and shortness of breath
Camphor nail polish	Irritation to skin, eyes, mouth, nose and throat, nausea, vomiting, diarrhea, headache, dizziness, and in extreme cases of overexposure, uncontrollable muscle contractions
Dibutyl phthalate nail polish, nail hardener	Irritation to eyes, stomach, and upper respiratory system
Ethyl acetate nail polish, fingernail glue	Irritation to skin, eyes, mouth, nose and throat, skin rash and confusion
Ethyl cyanoacrylate fingernail glue	Irritation to skin, eyes, mucous membranes and skin sensitization
Ethyl methacrylate artificial nails	Irritation to skin, eyes, respiratory track and skin sensitization
Formalin nail hardener	Irritation to skin, eyes, nose, throat and respiratory system, and wheezing.

## **Decreasing the inhalation of salon products**

An exhaust ventilation system must be in place near all working tables of the manicurist. This is in addition to any air conditioning system or heating system that is a standard modern part of the salon.

We must capture and expel vapors, nail filings and chemical powders and dust away from the clients and manicurists.

### **Actions that work to decrease inhalation:**

- The use of ceiling exhaust systems
- The use of table exhaust systems that are vented to the outside of the building
- The use of air conditioning systems
- The regular replacement of air filters in your air conditioning and heating systems
- The use of electronic air cleaners
- Not using excessive amounts of products when performing services
- Keeping products in small containers at the work table
- Keeping the work table clear of obstructions so your table exhaust system works optimally
- Keeping containers closed tightly containers when not in use
- Not using bulk product containers while performing a service
- Keeping lids on trash cans, emptying trash cans frequently and replacing liners often
- Wearing a dust mask while transferring products from one container to another

## **Decreasing skin exposure to salon products**

- Wash hands before and after touching a patron or performing a service
- Wash hands before eating or going to the bathroom
- Wash hands after handling products or product containers
- Wear disposable nitrile gloves
- Replace gloves as soon as they are damaged or compromised in any way
- Keep containers tightly closed
- Do not wear clothing that is too loose and could cause accidents with sleeves or other areas getting caught on equipment

- Do not use excessive amounts of products when performing services
- Keep products in small containers at the work table
- Wear eye protection and gloves while transferring products from one container to another

There are many things that the Salon Manager and the Professional Manicurist can do to create and maintain a health and safe environment for themselves and for the general public. The following topics and facts are the most direct and active ways to ensure public health safety for all.

### **Active ways to prevent accidental swallowing of salon products**

- Wash hands every time before eating or drinking.
- Never eat or drink in service areas.
- Do not have food or drinks in service areas.
- Do not have salon products in food areas.
- Keep clear and separate areas for eating and working.

### **Clean your environment**

- Sanitize your salon.
- Dispose of gloves after each customer.
- Use clean unused towels for each customer.
- Clean implements before disinfecting them.
- Disinfect implements after each customer.
- Never give services to unhealthy nails, broken skin or any other signs of unsafe health.
- Before giving the service wash your patrons hands and/or feet.
- Do not use implements brought by customers.
- Do not use razor-type shavers to remove calluses.
- Follow your state cosmetology board's rules for proper cleaning and disinfection techniques.

## **Safe practices**

- Label all containers
- Only dispose of waste in accordance to manufacturers' directions or with local regulations
- Do not use outdated MSDS (Material Safety Data Sheets)
- Keep copies of MSDS in a binder for each product in your salon that requires it
- Keep copies of state board rules and regulations
- Be trained concerning OSHA (Occupational Safety and Health Administration) rules
- No smoking by you or patrons inside the salon building.

## **Important facts for the Manicurist**

- ◆ Wearing gloves keeps manicurists from damaging their nails and skin
- ◆ Wearing gloves keeps the skin from absorbing ingredients that could cause harm or irritation or allergic reactions to their hands.
- ◆ Solvents can be absorbed very quickly by the hands which can be extremely harmful.
- ◆ When solvents damage the skin it causes the damaged area to be more susceptible to further absorption and damage by other harmful products.
- ◆ Only nitrile gloves provide sufficient protection due to the fact that many product ingredients can penetrate them.
- ◆ Look at the MSDS for instructions on what kind of gloves to wear or contact the distributor of the product.
- ◆ Wear dust masks to keep from inhaling dust particles
- ◆ Wear dust masks when shaping artificial nails or filing natural nails
- ◆ Dust masks are approved by the National Institute for Occupational Safety and Health
- ◆ There are specific instructions on how to use dust masks
- ◆ MSDS will advise on which type of mask is best when using a hazardous product

Those around you in the Salon Environment are responsible for safety to themselves and others when it comes to product use.

Be aware of all Products and Ingredients that other Salon Professionals are using in your environment.

*Stay informed of the latest government news releases  
that may be relative to your profession.*

**The following is a copy of an OSHA News Release posted by the Occupational Safety and Health Administration.**

#### **OSHA News Release**

When new information regarding a hazardous chemical is discovered, OSHA releases the information to the public.

#### **HAZARD ALERT April 11<sup>th</sup>, 2011**

##### **Hair Smoothing Products That Could Release Formaldehyde**

The Occupational Safety and Health Administration (OSHA) and several State OSHA programs are investigating questions and complaints from hair salon owners and workers about possible formaldehyde exposure from using Brazilian Blowout and other hair smoothing products. Some of these products have been labeled as "formaldehyde-free." Oregon's Occupational Safety and Health Administration, California's Occupational Safety and Health Administration, the Connecticut's Dept of Public Health and several other state agencies have already issued warnings about these products to salon owners, stylists, other salon workers, and clients. This Hazard Alert provides information about OSHA's investigations, the health hazards of formaldehyde, and how to protect workers using hair smoothing products that contain or release formaldehyde.

Recent reports from Oregon OSHA, California OSHA, and now Federal OSHA should alert salon owners and stylists to look closely at the hair smoothing products they are using to see if they contain methylene glycol, formalin, methylene oxide, paraform, formic aldehyde, methanal, oxomethane, oxymethylene, or CAS Number 50-00-0. All of these are names for or treated as formaldehyde under OSHA's Formaldehyde standard. Products containing them can expose workers to formaldehyde; employers who manufacture, import, distribute, or use the products must follow OSHA's formaldehyde standard.

### **What have OSHA's investigations found?**

Federal OSHA and State OSHA programs are investigating complaints from stylists and hair salon owners about exposure to formaldehyde while using GIB LLC dba (doing business as) Brazilian Blowout products and other hair smoothing products. OSHA has found formaldehyde in the air when stylists use hair smoothing products. Some had "formaldehyde-free" on the label or did not list formaldehyde on the product label or in the Material Safety Data Sheet (MSDS).

During one investigation, Federal OSHA's air tests showed formaldehyde at levels greater than OSHA's limits in a salon using Brazilian Blowout Acai Professional Smoothing Solution, even though the product was labeled "formaldehyde-free." In most cases, OSHA found that hair salon owners did not know that a hair smoothing product contained or could expose workers to formaldehyde because manufacturers, importers, and distributors did not include the correct warnings on product information.

California OSHA recently found violations at one importer and distributor, GIB LLC dba Brazilian Blowout, that failed to list formaldehyde as a hazardous ingredient on the MSDS provided to downstream users (e.g., salon owners, stylists) for two products: Brazilian Blowout Acai Professional Smoothing Solution and Brazilian Blowout Professional Brazilian Blowout Solution. The MSDS also did not list the health effects from formaldehyde exposure. The MSDS is required to provide users information about the chemicals in a product, the hazards to workers, and how to use a product safely.

The first reports about formaldehyde in hair smoothing products surfaced when Oregon OSHA investigated a complaint from a hair stylist who had nosebleeds, eye irritation, and trouble breathing while using a Brazilian Blowout product labeled "formaldehyde-free." After testing the product, Oregon OSHA found that the product contained formaldehyde, a chemical that can cause the health problems reported by the stylist. Oregon OSHA tested more than 100 samples of keratin-based hair smoothing products and found formaldehyde levels in some products well above what could legally be labeled as "formaldehyde-free." In addition to the Brazilian Blowout products, Oregon OSHA found that other manufacturers, importers, and distributors of hair smoothing products also had not listed formaldehyde or included hazard information on the label or in the MSDS. Based on these findings, Oregon OSHA published a Hazard Alert and a full report in October 2010. Oregon OSHA also alerted Federal OSHA and State OSHA programs where the products were manufactured, imported, or distributed because the hazard information for the product was not correct and did not meet the requirements of OSHA's Hazard Communication standard or State equivalent).

OSHA continues to work with other agencies (e.g., Food and Drug Administration, National Institute for Occupational Safety and Health) to look at formaldehyde exposures in other salons and to make sure that workers and the public have correct information about these products.

### **What is formaldehyde and how can it affect my health?**

Formaldehyde is a colorless, strong-smelling gas that presents a health hazard if workers are exposed.

You can be exposed to formaldehyde if you breathe it into your lungs, if it gets into your eyes, or if it is contained in a product that gets onto your skin. You can also be exposed accidentally if you touch your face, eat food, or drink after using a product containing formaldehyde without first washing your hands. It can irritate the eyes and nose, and cause coughing and wheezing. Formaldehyde is a "sensitizer," which means that it can cause allergic reactions of the skin, eyes, and lungs such as asthma-like breathing problems and skin rashes and itching. When formaldehyde is in a product that gets sprayed into the eyes, it can damage the eyes and cause blindness. It is also a cancer hazard that is linked to nose and lung cancer.

Formaldehyde is a health hazard, whether in a product or in the air. OSHA's Formaldehyde standard covers employers who use formaldehyde, and products that contain or release formaldehyde. (OSHA has also published a formaldehyde fact sheet

### **Why do some hair smoothing products expose me to formaldehyde?**

Many keratin-based hair smoothing products contain formaldehyde dissolved (and chemically reacted) in water and other ingredients in the product. Because of the way the formaldehyde reacts in these products, some manufacturers, importers, or distributors might list other names for formaldehyde on product information or might claim that the product is "formaldehyde-free." Formaldehyde might be listed as methylene glycol, formalin, methylene oxide, paraform, formic aldehyde, methanal, oxomethane, oxymethylene, or CAS Number 50-00-0. All of these are names for formaldehyde under OSHA's Formaldehyde standard. The bottom line is that formaldehyde can be released from hair smoothing products that list any of these names on the label and workers can breathe it in or absorb it through their skin. Workers can be exposed to formaldehyde during the entire hair straightening process, especially when heat is applied (e.g. blow-drying, flat ironing).

### **How would I know if the product I'm using could expose me to formaldehyde?**

Read the product label and MSDS to determine if they list methylene glycol or any of the other names for formaldehyde listed above. If they do, the product can expose you to formaldehyde. Under OSHA's Hazard Communication standard, salon owners and other employers must have an MSDS for each product used in the salon that contains a hazardous chemical. Employers need to review the MSDSs they receive and make sure they understand the hazards of the products they use in their salon(s). They must also make the MSDSs available to their workers (e.g., stylists) and train all workers using the

product about the hazards and how to use it safely. If employers do not receive an MSDS automatically, they should request one. If the MSDS does not look complete (e.g., blank spaces that are not completed) then the employer should request a new one from the manufacturer. If the request does not produce the information needed, then the employer should contact the local OSHA Area Office for assistance in obtaining the MSDS.

Be aware that an MSDS may not contain all of the hazard information required, as initially found in the case of Brazilian Blowout products. In the Oregon case, it was only after a stylist reported health problems while using the products that the investigation began. Workers need to report any health problems they think are from the products they use in the workplace to their employer and employers need to follow up on reports of health problems from workers.

### **When are manufacturers, importers, and distributors of hair smoothing products required to list formaldehyde as an ingredient in their products?**

OSHA requires manufacturers of products that contain or release formaldehyde to include information about formaldehyde and its hazards on the label and in the MSDS.

Formaldehyde must be listed if it is in the product at 0.1% or more (as a gas or in solution) or if the product releases formaldehyde above 0.1 parts of formaldehyde per million parts of air. Salons and other employers that directly import hair smoothing products from other countries have the same responsibilities as a manufacturer under the Hazard Communication standard - they must determine the hazards of the product and develop labels and MSDSs that communicate the hazards to users. These requirements are explained in OSHA's Hazard Communication standard (commonly referred to as the "Worker's Right-to-Know Rule") and OSHA's Formaldehyde standard.

### **What can I do to reduce exposure to formaldehyde when using formaldehyde releasing hair smoothing/straightening products?**

Employers, stylists, and other salon workers should read the product information and MSDSs for the products they buy and use so that they know what chemicals are in them and how to use them safely in the workplace. The best way to control exposure to formaldehyde is to use products that do not list formaldehyde, formalin, methylene glycol, or any of the other names for formaldehyde listed above on the label or in the MSDS. Beauty care companies are now making and selling products that they claim do not contain formaldehyde in the solution. Choosing one of these products might eliminate the risk of formaldehyde exposure. Note that just because a product doesn't list formaldehyde, formalin, or methylene glycol does not mean that it does not contain any other hazardous ingredients.

If salon owners decide to use products that contain or release formaldehyde, then they must follow the requirements in OSHA's Formaldehyde standard. The standard requires that employers test the air to find out the level of formaldehyde present in the air when the product is being used. If the test shows that formaldehyde is present at levels above OSHA's limits (0.75 parts of formaldehyde per million parts (or ppm) of air during an 8-hour work shift or 2 ppm during any 15-minute period), then the employer must:

- Install air ventilation systems in the areas where these products are mixed and used to help keep formaldehyde levels below OSHA's limit and perform regular maintenance to make sure the systems work correctly;
- When possible, require workers to use lower heat settings on blow-dryers and flat irons used during the process;
- Give workers respirators, if needed; train them to use the respirator properly; and meet the other requirements in OSHA's Respiratory protection standard;
- Ensure workers understand the information on a product's label and MSDS;
- Post signs at entryways to any area where formaldehyde is above OSHA's limit to tell workers of the danger and stating that only authorized personnel may enter;
- Tell workers about the health effects of formaldehyde, how to use the product safely, and what personal protective equipment to wear while using the product; and
- Train workers how to safely clean up spills and properly throw products out.

In addition, where the tests show that formaldehyde is present in the air at a level of 0.5 ppm during an 8-hour work shift or 2 ppm during any 15-minute period, then the employer must:

- Get workers the right medical attention (e.g., doctor exams), and
- Test the air periodically to make sure that formaldehyde levels are below OSHA's limits.

Whether or not air tests show formaldehyde levels above OSHA's limits, employers must follow certain parts of the standard if a product contains formaldehyde:

- Give employees appropriate gloves and other personal protective equipment (e.g., face shield, chemical splash goggles, chemical-resistant aprons) and train them on how to use this equipment while mixing and applying the products;
- Explain to workers how to read and understand the information on a product's label and MSDS;
- Make sure the workplace has eye and skin washing equipment if products that contain formaldehyde could be splashed onto the workers' skin or into their eyes;
- Train workers how to safely clean up spills and properly throw products out, and;
- Get workers the right medical attention (e.g., doctor exams) if they develop signs and symptoms of an exposure to formaldehyde or are exposed to large amounts of formaldehyde during an emergency (e.g., a large spill).

Employers must also keep records of the air tests they perform, any medical attention needed by their employees, and respirator fit-testing.

For more information about how to control formaldehyde exposures in hair salons, read Oregon OSHA's hazard alert and Cal/OSHA's Advisory.

### **How can OSHA help you?**

OSHA continues to monitor ongoing inspections that may have nationwide impact to ensure that health hazards and appropriate protections for products containing hazardous chemicals are communicated properly on the labels and MSDS. OSHA developed this webpage to give workers and employers useful, up-to-date information on formaldehyde hazards that might be present when using hair smoothing products that contain or release formaldehyde. Employers and workers should read OSHA's

Formaldehyde Fact Sheet for more information about formaldehyde hazards and how to work with it safely. Contact your local OSHA office if you have any questions about a product that you are using or its MSDS. Hair salon owners can also contact OSHA's free and confidential consultation service to help determine if there are hazards at their workplace. On-site consultations do not result in penalties or citations.

### **What rights do workers have?**

Workers have a right to a safe workplace. The Occupational Safety and Health Act of 1970 (OSH Act) was passed to prevent workers from being killed or seriously harmed at work. The law requires employers to provide their workers with a workplace that is free of potential hazards. The OSH Act created the Occupational Safety and Health Administration (OSHA), which sets and enforces protective workplace safety and health standards. OSHA also provides information, training and assistance to workers and employers. Workers may file a complaint to have OSHA inspect their workplace if they believe that their employer is not following OSHA standards or that there are serious hazards.

#### **- Disclaimer -**

This Hazard Alert is not a standard or regulation, and it creates no new legal obligations. It contains recommendations as well as descriptions of mandatory safety and health standards. The recommendations are advisory in nature, informational in content, and are intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with safety and health standards and regulations promulgated by OSHA or by a state with an OSHA-approved state plan. In addition, the Act's General Duty Clause, Section 5(a)(1), requires employers to provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm.

This concludes Module 1: Nail Art and Product Ingredients (2 hours)  
Please forward to the next study topic.

## Module 2: DTAE Health and Safety (3 hours)

Department of Technical and Addult Education health and safety course

### Module Outline

- Section 1: Bloodborne Pathogens
- Section 2: Decontamination and Infection Control
- Section 3: Skin, Diseases, Disorders
- Appendix A: Glossary of Legal Definitions
- Appendix B: Sanitary Regulations For Salons And Schools
- Appendix C: Sanitation and Health Code

### Section 1: Bloodborne Pathogens

#### Introduction

A bloodborne pathogen is a specific cause of disease, such as a virus or bacteria. “Bloodborne” means carried by or in blood and certain other body fluids. AIDS, hepatitis B and C, malaria, and syphilis are examples of diseases that are caused by bloodborne pathogens.

#### Objectives

- Discuss bloodborne pathogens,
- Identify two bloodborne pathogens of concern in the workplace,
- Explain how bloodborne pathogens are transmitted,
- List four high risk factors, and
- Discuss the precautions to be used in the workplace.

#### What Are Bloodborne Pathogens?

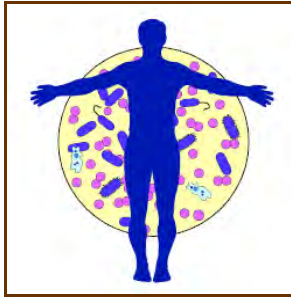


Two types of pathogens of concern in the workplace are:

1. Hepatitis B Virus (HBV)
2. Human Immunodeficiency Virus (HIV)

Hepatitis B is much more contagious than HIV.

## Hepatitis B Virus (HBV)



The HB Virus infects the liver: it's more common than HIV and is a greater risk on the job. Many HBV infected people have no problems or symptoms. Some, however, do develop serious or fatal problems such as cirrhosis, liver cancer, or chronic liver disease. There is a vaccine for HBV which is dispensed in three doses. Any employee at risk should take the vaccine.

## Human Immunodeficiency Virus (HIV)



HIV causes AIDS, it attacks the body's immune system, reducing its ability to fight disease.

To protect yourself against HIV and HBV, avoid direct exposure to infectious blood or body fluids - the prime transmitters of HBV and HIV.

## Signs and Symptoms

### Signs and Symptoms of (HVB)

The symptoms of HVB are much like a mild "flu". Initially there is a sense of fatigue, possible stomach pain, loss of appetite, and even nausea. As the disease continues to develop, jaundice (a distinct yellowing of the skin and eyes), and a darkened urine will often occur. However, people who are infected with HBV will often show no symptoms for some time. After exposure it can take 1- 9 months before symptoms become noticeable. Loss of appetite and stomach pain, for example, commonly appear within 1 - 3 months, but can occur as soon as 2 weeks or as long as 6 - 9 months after infection.

### Signs and Symptoms of (HIV)

The symptoms of HIV can vary, but often include weakness, fever, sore throat, nausea, headaches, diarrhea, a white coating on the tongue, weight loss, and swollen lymph glands. If you believe you have been exposed to HBV or HIV, especially if you have experienced any of the signs or symptoms of these diseases, you should consult your physician or doctor as soon as possible.

## Transmission

### Transmission Mediums

Body Fluids that can transmit infection are:

- Blood

- Semen
- Vaginal secretions
- Cerebrospinal fluid (brain and spinal fluid)
- Synovial fluid (lubricating fluid of joints and tendons)
- Pleural fluid (fluid around the lungs)
- Pericardial fluid (fluid around the heart)
- Peritoneal fluid (fluid in the abdomen)
- Amniotic fluid (fluid that surrounds an embryo)
- Saliva (in dental procedures)

### **Transmission Routes**

HIV and hepatitis are transmitted only in the following ways:

1. Unprotected sexual contact involving the transfer of body fluids such as blood, semen and vaginal secretions.
2. Direct contact with infected blood through needle-sharing, transfusions and needlesticks.
3. Infected mothers can transmit the virus to their babies while in the womb or in breast milk.

**You can't catch HIV through casual contact, such as touching, hugging, being coughed on or sneezed on or working around someone who has AIDS. Family members and health care workers who are constantly around patients with AIDS do not catch AIDS when they use proper precautions.**

### **Risk Factors and Behaviors**

In light of what we know about the way the HBV and HIV virus are transmitted, risk of exposure to either virus is increased for people who:

- Have unprotected sex or multiple partners.
- Have unprotected sex with an IV drug user.
- Have shared needles while using drugs.
- Have occupational exposure to the blood or body fluids of others.
- Between 1978 and the spring of 1985, received blood or blood products in transfusion.
- Between 1978 and the spring of 1985, received an organ transplant.
- Received artificial insemination from an untested donor.
- Between 1978 and the spring of 1985, received treatment for a clotting disorder.
- Have been exposed to blood or body fluids of a person known to have AIDS or be HIV-positive.
- Are immigrants from high risk areas (southeast Asia, Africa, Southern and Central Europe):

- Have tattoos.
- Are family of infected persons.

### **Personal Protective Equipment**

"Universal Precautions" is the name used to describe a prevention strategy in which all blood and potentially infectious materials are treated as if they are, in fact, infectious, regardless of the perceived status of the source individual.

In other words, whether or not you think the blood/body fluid is infected with bloodborne pathogens, you treat it as if it is. This approach is used in all situations where exposure to blood or potentially infectious materials is possible. This also means that certain engineering and work practice controls shall always be utilized in situations where exposure may occur.

Probably the first thing to do in any situation where you may be exposed to bloodborne pathogens is to ensure you are wearing the appropriate personal protective equipment (PPE). For example, you may have noticed that emergency medical personnel, doctors, nurses, dentists, dental assistants, and other health care professionals always wear latex or protective gloves.

This is a simple precaution they take in order to prevent blood or potentially infectious body fluids from coming in contact with their skin. To protect yourself, it is essential to have a barrier between you and the potentially infectious material.

### **Rules to Follow:**

- Always wear personal protective equipment in exposure situations.
- Remove PPE that is torn or punctured, or has lost its ability to function as a barrier to bloodborne pathogens.
- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.

If you work in an area with routine exposure to blood or potentially infectious materials, the necessary PPE should be readily accessible. Contaminated gloves, clothing, PPE, or other materials should be placed in appropriately labeled bags or containers until it is disposed of, decontaminated, or laundered. It is important to find out where these bags or containers are located in your area before beginning work.

This approach is used in all situations where exposure to blood or potentially infectious materials is possible. This also means that certain engineering and work practice controls shall always be utilized in situations where exposure may occur.

## Gloves

Gloves should be made of latex, nitril, rubber, or other water impervious materials. If glove material is thin or flimsy, double gloving can provide an additional layer of protection. Also, if you know you have cuts or sores on your hands, you should cover these with a bandage or similar protection as an additional precaution before donning your gloves.

You should always inspect your gloves for tears or punctures before putting them on. If a glove is damaged, don't use it! When taking contaminated gloves off, do so carefully. Make sure you don't touch the outside of the gloves with any bare skin, and be sure to dispose of them in a proper container so that no one else will come contact with them either.



**Always Check your gloves for damage before using them!!**

## Goggles



Anytime there is a risk of splashing or vaporization of contaminated fluids, goggles and/or other eye protection should be used to protect your eyes. Again, bloodborne pathogens can be transmitted through the thin membranes of the eyes so it is important to protect them. Splashing could occur while cleaning up a spill, during laboratory procedures, or while providing first aid or medical assistance.

## Face Shields



Face shields may be worn in addition to goggles to provide additional face protection. A face shield will protect against splashes to the nose and mouth.

## Aprons



Aprons may be worn to protect your clothing and to keep blood or other contaminated fluids from soaking through to your skin. Normal clothing that becomes contaminated with blood should be removed as soon as possible because fluids can seep through the cloth to come into contact with skin.

Contaminated laundry should be handled as little as possible, and it should be placed in an appropriately labeled bag or container until it is decontaminated, disposed of, or laundered.

## **Decontamination & Sterilization**

All surfaces, tools, equipment and other objects that come in contact with blood or potentially infectious materials must be decontaminated and sterilized as soon as possible. Equipment and tools must be cleaned and decontaminated before servicing or being put back into use.

### **Decontamination should be accomplished by using:**

- A solution of 5.25% sodium hypochlorite (household bleach/ Clorox) diluted between 1:10 and 1:100 with water. The standard recommendation is to use at least a quarter cup of bleach per one gallon of water.
- Lysol or some other EPA-registered tuberculocidal disinfectant. Check the label of all disinfectants to make sure they meet this requirement.

If you are cleaning up a spill of blood, you can carefully cover the spill with paper towels or rags, and leave it for at least 10 minutes. This will help ensure that any bloodborne pathogens are killed before you actually begin cleaning or wiping the material up. By covering the spill with paper towels or rags, you decrease the chances of causing a splash when you pour the bleach on it.

If you are decontaminating equipment or other objects, you should leave the disinfectant in place for at least 10 minutes before continuing the cleaning process.

Of course, any materials you use to clean up a spill of blood or potentially infectious materials must be decontaminated immediately, as well. This would include mops, sponges, reusable gloves, buckets, pails, etc.

## **Common Questions**

### **HBV**

#### **What symptoms do I have if I am suffering from hepatitis B infection?**

Many people with HBV do not have any symptoms and feel perfectly well. Occasionally, the hepatitis B infection may become active and make the patient feel ill with nausea, have a loss of appetite, and become jaundiced.

#### **What kind of outlook can I expect if I have a hepatitis B infection?**

Many patients with the hepatitis B infection can expect to lead a full and normal life. It is most important to regard yourself as a normal individual who happens to be infected with hepatitis B. However, it is important to take precautions not to spread the disease and to get medical checkups regularly.

**Can I get hepatitis from the vaccine?**

No. The hepatitis vaccine is a safe and highly purified vaccine. It does not contain any blood products or living or dead viruses.

**What should be done if the second or third vaccine dose is delayed?**

If the doses are delayed for less than one year, the remaining doses can be resumed to complete the vaccination without the need to restart the vaccination series. If the lapsed doses are more than one year apart, extra doses or restarting of the series may be required for high risk individuals.

**HIV****What will the AIDS test tell me?**

A positive result indicates the presence of antibodies to HIV, which has been found in people with AIDS.

**Does a negative test mean that I am not infected?**

Unfortunately, no. Although the test is reliable, there is a “window”- some say it’s six to twelve weeks, some say longer-when you could be developing the antibody, but the test will still be negative. That’s why you need to be retested at six to twelve weeks and again in 6 months.

If you test negative, but still carry HIV, it is still possible to transmit the virus.

**Counseling will be provided when you receive your test results whether they are negative or positive.**

**What happens if I test HIV positive?**

Currently, there is no known therapy to reverse antibody status. If an employee tests HIV positive, we recommend ongoing medical monitoring and possible anti-retroviral (contains RNA for protein productions) drugs.

**What is the prognosis?**

Research indicates that HIV - positive individuals will eventually develop AIDS.

Currently, there is no treatment for AIDS and it is generally believed to be eventually fatal. As discussed previously, there is a vaccine for hepatitis B which is available to all employees at risk.

**What HIV symptoms should I watch for?**

Almost half of the people who contract HIV experience a flu-like illness six to twelve weeks after exposure. Employees who experience an exposure incident should report any illness that feels like the flu or mononucleosis, especially if it is accompanied by fever, rash, or swollen glands.

**Will my employer know the results of my test?**

No. The health care professional will give the results of your tests to you only. All records, including test results, relating to an exposure incident are Strictly Confidential.

## Precautions

**The following precautions should be taken by anyone who has had an exposure incident so that others are not exposed.**

- Inform sexual or needle-sharing partners so they can be tested for the virus.
- Inform physicians and other health care givers so they can protect themselves.
- Don't give any blood, tissue, organs, or semen.
- Remove the organ donor designation from your driver's license.
- Hold off on getting pregnant until your health care provider says it is okay.
- If you are pregnant, get counseling.
- Don't breast-feed.
- Be careful not to expose others to your blood or bodily fluids.
- Don't share personal items such as toothbrushes, razors, etc.
- Use a bleach solution of 1:10, 70% isopropyl alcohol or other EPA-approved germicide to clean up any spills of blood.
- Refrain from sexual activity, or at least take the following **precautions:**
  - Limit the number of partners
  - Use latex condoms from start to finish, even if your partner is HIV-positive.

## Job situations which may result in exposure include:

- Job duties that bring you into contact with needles or other sharp objects such as glass



that might be contaminated with infected blood.

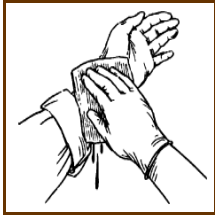
- Providing emergency first-aid assistance to co-workers. It is important that you use universal precautions to prevent becoming infected by contaminated blood. Universal precautions means that all blood and body fluids are considered potentially infectious.

## When first aid measures are needed, make sure that you adhere to the following:

1. Mouth-to-Mouth Breathing – The safest course of action is to use a breathing mask whenever you are called on to give mouth-to-mouth resuscitation.



2. Controlling Bleeding – To help the victim without infecting yourself (or the victim), wear rubber gloves.



While chance of infection on the job are small, why take unnecessary risks with your life? Following the necessary safety precautions is the best way to minimize risks.

### **Summary**

Bloodborne pathogens are a very real risk in the workplace. However, protective measures are in place for employees at risk. To avoid infection of bloodborne pathogens, it is very important to follow all precautions.

Knowing how infection occurs is the first step in preventing the spread of disease. Certain factors and behaviors put employees at risk. Avoid these behaviors as much as you can. Education combined with practicing safe behaviors can save your life.

## **Section 2: Decontamination and Infection Control**

### **Introduction**

Infection and disease control is one of the most important aspects of being a professional salon operator or owner. Federal and state laws govern what must be done by operators and owners to ensure the safety of the public and that no germs are allowed to spread uncontrolled.

This unit will provide trainees with the necessary elements to help control dangerous disease-causing germs. By following some very important basic procedures and by providing a clean salon it will be easy to provide your clients with the very best professional care without the fear of your clients becoming infected by a disease agent. It is important to understand that the removal of all disease-causing germs in a salon will be almost impossible, but the control of dangerous levels is the key to providing a safe salon.

### **Objectives**

- Decontamination
- Sanitation, disinfecting, and sterilization
- Use of disinfectant products
- Using disinfectants in the salon
- Salon professionalism.

## **Professional Salon Environment**

Let's take a close look and see what can be done to identify and control the professional salon environment. Things like tables, chairs, walls, and floors are very likely contaminated with a number of germs that may be very serious disease-causing germs. There may be millions of germs present that do not affect humans when contact is made. However, one case of an infected client can send your career and the reputation of your salon downward. By understanding contamination and knowing the proper techniques of decontamination, shop operators and owners can avoid ugly lawsuits and having the business they worked hard to build destroyed.

It is important to understand the more people that enter the salon environment, the greater the chance that new germs will be introduced and reintroduced as a result of the human contact factor. Control over where and what people do before they get to the salon is impossible to monitor, so contamination concerns must be continuous and ongoing.

Your responsibility as a professional to eliminate and control contamination is vital. *Decontamination* of surfaces and tools used in the salon will allow for a safe and professional experience for the client. Contamination can occur in many forms and on the surface of equipment, implements, and furnishings may not show signs of contamination. Soiled towels, combs, brushes, and even clippers can and more than likely are sources for contamination if not disinfected or sterilized properly.

Sanitation and disinfection are required in the salon to provide a safe environment for clients, co-workers, employees and oneself. Sanitation is the removal of large amounts of living organisms from a surface. By sanitizing tools and other items used in the salon, bacteria and germs are eliminated or lowered to safer levels.

Popular forms of sanitation are described below.

- **The Heat steam of an autoclave** has been used for many years and has proven to be one of the most dependable forms of sanitizing.
- **Hospital-grade disinfectants** are used to sanitize surfaces and tools as well.
- **Quaternary Ammonium Compounds (quats)** are available in liquid or tablet form. Implements should be immersed for 20 minutes or longer to ensure elimination of germs and bacteria.
- **Glutaraldehyde** is a germicidal used to disinfect and sterilize implements that cannot be heat sterilized.
- **Ethyl Alcohol** is used as a disinfectant. In order to remain effective, the strength of ethyl alcohol should be no less than 70%.
- **Bleach (sodium hypochlorite)**, commonly known as

house hold bleach, has for many years been utilized as a disinfectant at killing germs. As a result of more advanced techniques now being used, bleach is not the preferred method for decontamination. It is, however, very effective on floors, sinks, and general cleaning around the salon.

- **Ultrasonic Cleaners** are used in some salons but must be used with a **disinfectant**. The advantage of this device is that it may reach tiny crevices that may otherwise be omitted in the cleaning and sanitizing process.
- **Disinfection** is also a part of operating a safe salon. **Disinfection** is used when objects can be damaged due to exposure to extreme heat. Disinfection kills microorganisms with the exception of spores. It is important to understand that disinfectants should never be used on clients.

**Note:** It is important that directions are followed when using disinfectants. When directions are not followed money can be wasted. Furthermore, by not following directions properly, the product that is to be disinfected may not be if a solution is too weak. It is also important to understand that the disinfectant solution always remain at an effective level. In saying this, always remember to wash all products to be disinfected with soap and water. If you attempt to disinfect soiled implements, the solution may become too weak to do an effective job.

### **Safety Precautions**

Remember that disinfectants are industrial strength cleaners that are powerful and can be harmful if used improperly. Never use a disinfectant to clean your hands. This is an unsafe practice and can cause skin disease. You should wear protective equipment such as gloves and safety goggles while mixing chemicals for disinfection control. Use soaking baskets and tongs to insert and remove equipment in disinfectant solutions. Always remember to clearly mark containers that are used for storing disinfectants.

### **Look at the following definition.**

Sanitation is the process of reducing the levels of pathogens found on a surface. While the surface may be clean, there are still many microorganisms residing on the surface.

## **Material Safety Data Sheet (M.S.D.S.)**

Every chemical used in the United States must have an M.S.D.S. report developed by the manufacturer that developed the chemical. The purpose of the M.S.D.S. is to report the product name, active ingredients, directions for use, and safety instructions in case of accidents involving the chemical. The following is a break down of the sections on an M.S.D.S. report.

Product information of the chemical is listed at the very start of the report. The Manufacturer's/Distributor emergency contact number(s) along with product identity, product code number, product use, and hazard classification.

**Section 1** is a listing of the hazardous ingredients found in the product along with specific ingredient codes.

**Section 2** is the characteristics both physical and chemical of the product in general. These characteristics include but are not limited to physical state (liquid or solid), odor appearances like smell and color of product.

**Section 3** is fire and explosion hazard information on the product. Usually the fire/flame point will be listed and the level of danger to which this product will burn. Also, the extinguishing procedures are listed here in case there is a need to control a chemical fire as a result of this product.

**Section 4** is the reactivity data section. This section lists chemical(s), which this product must not come in contact with to ensure the product remains stable.

**Section 5** lists the health hazards and if special precautions need to be followed. This section discusses or lists exposure concerns and first aid procedures to follow in case of an accident.

**Section 6** lists control and protective measures that will need to be followed to ensure safe use of the product or chemical.

**Section 7** are control measures and precautions on the product. Safe handling is necessary to ensure that accidents are minimized. Waste disposal is also listed in this area.

**Section 8** is the regulatory information for the product. A listing of active ingredients that must be reported and a record maintained on file (M.S.D.S.).

## **Organizing an M.S.D.S. Notebook**

Suggestions for setting up an M.S.D.S. notebook include:

- Using a three-ring binder that pages can easily be placed in or removed from.
- Highlighting specific areas to identify key aspects of the M.S.D.S. report within the notebook.
- Alphabetizing the M.S.D.S. reports so that locating the sheets will be fast.
- Clearly mark the notebook on all sides to indicate it as the M.S.D.S. notebook.
- Use a white or bright colored notebook so it can be easily identified as the M.S.D.S. Notebook.
- When ordering products for the first time, request the company send you a product sheet (M.S.D.S.) page to add to your notebook.
- Remove any M.S.D.S. reports when the product is no longer used in the salon.
- Establish an emergency contact sheet that will be the very first page in your M.S.D.S. notebook. List the local emergency numbers for your salon area.
- Add the Centers for Disease Control and the National Poison Control Center to the emergency contact page.
- Have a sheet that states your salon operators have read and understand the concept of the M.S.D.S. notebook and have them sign a form stating the information has been read. Keep a copy of this form in their employment file.
- Make sure the M.S.D.S. Notebook is located in a place where all employees have access to it and they are aware of its location.



**Clorox Professional Products Company**  
 1221 Broadway  
 Oakland, CA 94612  
 Tel: (510) 271-7000

# Material Safety Data Sheet

<b>I Product:</b> COMMERCIAL SOLUTIONS® LIQUID-PLUMR® HEAVY DUTY CLOG OPENER	
<b>Description:</b> CLEAR ALKALINE LIQUID WITH A CHLORINE ODOR	
<b>Other Designations</b>	<b>Distributor</b>
Drain Cleaner	Clorox Sales Company 1221 Broadway Oakland, CA 94612
<b>Emergency Telephone Nos.</b>	
For Medical Emergencies call: (800) 446-1014 For Transportation Emergencies Chemtrec (800) 424-9300	

<b>II Health Hazard Data</b>	<b>III Hazardous Ingredients</b>									
<p><b>CORROSIVE</b> to the eyes. Injures eyes, skin and mucous membranes on contact. Harmful if swallowed, nausea, vomiting, and burning sensation of the mouth and throat may occur. No adverse health effects are expected with recommended use. Occasional clinical reports suggest a low potential for sensitization upon exaggerated exposure to sodium hypochlorite if skin damage (e.g. irritation) occurs during exposure. However, clinical tests conducted on intact skin with Liquid-Plumr found no sensitization in the test subjects.</p> <p>Although not expected, heart conditions or chronic respiratory problems such as asthma, chronic bronchitis or obstructive lung disease may be aggravated by exposure to high concentrations of vapor or mist.</p> <p><b>FIRST AID:</b>  <b>EYE CONTACT:</b> Immediately flush eyes with water for 15 minutes. Contact a physician.  <b>SKIN CONTACT:</b> Remove contaminated clothing. Flush skin with water. Contact a physician if irritation or discomfort persists.  <b>INGESTION:</b> Drink a glassful of water. DO NOT induce vomiting. Immediately contact a physician or Poison Control Center.  <b>INHALATION:</b> Remove from exposure to fresh air.      HMIS/NFPA: H=3, F=0, R=1, PP=B  <b>HMIS Hazard Scale:</b> 1=slight 2=moderate 3=serious 4=severe</p>	<table border="1"> <thead> <tr> <th>Ingredient</th> <th>Concentration</th> <th>Worker Exposure Limit</th> </tr> </thead> <tbody> <tr> <td>Sodium hypochlorite CAS# 7681-52-9</td> <td>5-10%</td> <td>Not established</td> </tr> <tr> <td>Sodium hydroxide CAS # 1310-73-2</td> <td>0.5-2%</td> <td>2 mg/m<sup>3</sup> - TLV-Ceiling limit<sup>a</sup> 2 mg/m<sup>3</sup> - PEL<sup>b</sup></td> </tr> </tbody> </table> <p><sup>a</sup>TLV-Ceiling limit = ACGIH Threshold Limit Value-Ceiling limit  <sup>b</sup>PEL = OSHA Permissible Exposure Limit-Time Weighted Average</p> <p>None of the materials in this product are on the IARC, OSHA, or NTP carcinogen lists.</p>	Ingredient	Concentration	Worker Exposure Limit	Sodium hypochlorite CAS# 7681-52-9	5-10%	Not established	Sodium hydroxide CAS # 1310-73-2	0.5-2%	2 mg/m <sup>3</sup> - TLV-Ceiling limit <sup>a</sup> 2 mg/m <sup>3</sup> - PEL <sup>b</sup>
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Sodium hydroxide CAS # 1310-73-2	0.5-2%	2 mg/m <sup>3</sup> - TLV-Ceiling limit <sup>a</sup> 2 mg/m <sup>3</sup> - PEL <sup>b</sup>								

<b>IV Special Protection and Precautions</b>	<b>V Transportation and Regulatory Data</b>
<p><b>Hygienic Practices:</b> Wash skin after direct contact. Do not wear product-contaminated clothing.</p> <p><b>Engineering Controls:</b> Use general ventilation to minimize exposure to vapors.</p> <p><b>Personal Protective Equipment:</b> Wear safety glasses and gloves. The availability of an eye wash and shower is recommended in a manufacturing environment.</p> <p><b>KEEP OUT OF REACH OF CHILDREN.</b> Avoid all splashing, particularly in eyes, on skin and on clothing. Keep children away from basins containing Liquid-Plumr®. Do not use Liquid-Plumr® with plunger or in toilets. Do not use Liquid-Plumr® with ammonia, toilet bowl cleaners or other drain openers. Do not reuse empty container. Rinse container and replace cap before discarding.</p>	<p><b>DOT/ATA/MDG:</b> Not restricted.</p> <p><b>EPA - SARA Title III/CERCLA:</b> This product is regulated under Sections 311/312. This product contains no chemicals regulated under Section 313 and contains sodium hypochlorite and sodium hydroxide which are regulated under Section 304/CERCLA.</p>

<b>VI Spill Procedures/Waste Disposal</b>	<b>VII Reactivity Data</b>
<p><b>Spill Procedures:</b> Absorb and containerize. Wash residual down to sanitary sewer. Contact the sanitary treatment facility in advance to assure ability to process washed down material. For spills of multiple products, responders should evaluate the MSDS's of the products for incompatibility with sodium hypochlorite. Breathing protection should be worn in enclosed, and/or poorly ventilated areas until hazard assessment is complete.</p> <p><b>Waste Disposal:</b> Dispose of in accordance with all applicable federal, state, and local regulations.</p>	<p>Stable under normal use and storage conditions.</p> <p>Reacts with other household chemicals such as acid toilet bowl cleaners, rust removers, acids, and ammonia-containing products to produce hazardous gases, such as chlorine and other chlorinated compounds.</p>

<b>VIII Fire and Explosion Data</b>	<b>IX Physical Data</b>
<p>Not flammable or explosive. In a fire, cool containers to prevent rupture and release of sodium chlorate.</p>	<p>Boiling point ..... ~212°F/100°C (decomposes)          Specific gravity ..... ~1.1          Solubility in Water ..... complete          pH ..... ~13.2</p>

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 DATA SUPPLIED IS FOR U.S. ONLY IN CONNECTION WITH OCCUPATIONAL SAFETY AND HEALTH DATE PREPARED 4/02

## **Section 3: Skin, Diseases, Disorders**

### **Introduction**

The flexible, waterproof, tough protective covering known as the skin is the largest organ in the body both by weight and surface area. Skin accounts for approximately 16% of the body's weight.

Healthy skin has a fine texture that is slightly moist, soft, and flexible. Varying in thickness, the skin is thinnest on the eyelids and thickest on the palms and soles. A callous can be caused by continuous friction on any part of the skin.

The skin has appendages that include the hair, sweat and oil glands, and the nails. Composed of the substance known as keratin, this protein gives the skin its protective ability. The skin is slightly acidic in pH, which enables good immunity responses to intruding organisms.

Normally the skin separates the internal environment from the external. However skin diseases and infections can invade that barrier. For this reason, a thorough understanding of the histology of the skin and its diseases and disorders is needed for a better position to give clients professional advice.

### **Objectives**

- Explain the structure and the composition of the skin.
- Identify the functions of the skin.
- Describe terms relating to skin disorders.
- Recognize which skin diseases/disorders may be dealt with in the salon and which should be referred to a physician.
- Identify online dermatology resources.

### **Anatomy and Histology of the Skin**

The two major divisions of the skin are the dermis and the epidermis. The outermost layer of the skin is the epidermis that is composed of sheets of dead cells that serve as the major waterproof barrier to the environment.

The epidermis is the visible layer of skin. This layer contains numerous nerve endings, but no blood vessels. The human epidermis is renewed every 15-30 days.

The epidermis consists of many layers. The stratum corneum is the outer layer that is often called the horny layer. Cells are continually being shed and replaced. This layer of skin for the most part is dead – it is composed of cells that are almost pure protein.

The stratum lucidum consists of translucent cells through which light can penetrate.

The stratum granulosum, known as the granular layer, consists of cells that resemble granules. These cells are transforming into a harder form of protein.

The stratum mucosum is also known as the basal cell layer. Basal cells are continuously being reproduced. It is the deepest layer of the epidermis.

This layer also contains melanocytes that produce the coloring matter known as melanin and determines skin color. Melanocytes also react to ultraviolet rays to darken the skin for added protection.

The middle layer, the dermis, provides a tough, flexible foundation for the epidermis. In the dermis, body temperature is regulated by sweat glands and blood vessels. It also contains arrector pilli muscles, papillae, and hair follicles. Nerve endings send sensations of pain, itching, touch, and temperature to the brain. The skin is moisturized by oil glands that produce sebum.

The dermis consists of two layers. The papillary layer connects the dermis to the epidermis. Tactile corpuscles are nerve fiber endings that contain looped capillaries. Tactile corpuscles are responsible for the sense of touch. The papillary layer also contains some of the melanin.

The reticular layer is the deepest layer of the dermis. It contains fat cells, blood vessels, lymph vessels, oil glands, sweat glands, hair follicles, and arrector pilli muscles. The reticular layer supplies the skin with oxygen and nutrients.

Subcutaneous tissue is the fatty layer found below the dermis. It is also called the adipose or the subcutis tissue. It varies in thickness according to age, sex, and general health of the individual. The subcutaneous tissue contains fats for energy, gives smoothness and contour to the body, and acts as a protective cushion for the outer skin. Arteries and lymphatics maintain circulation to the body.

### **Nerves of the Skin**

Sensory nerves are receptors and send messages to the brain causing reactions to heat, cold, touch, pressure, and pain.

Motor nerve fibers, attached to the hair follicles, are distributed to the arrector pilli muscles which may cause goose flesh when you are frightened or cold.

The secretory nerve fibers regulate the excretion of perspiration from the sweat glands and regulate the flow of sebum to the surface of the skin.

### **Glands of the Skin**

There are two types of duct glands contained in the skin that pull out minerals from the blood to create new substances. The sudoriferous glands are the sweat glands and the sebaceous glands are the oil glands.

Sweat glands excrete perspiration. This secretion is odorless when excreted, but in a short period of time produces an offensive odor due to the bacteria on the skin's surface feeding on the fats of its secretion. Perspiration is controlled by the nervous system.

About 1-2 pints of liquid containing salts are excreted daily through the sweat pores in the skin. The sweat glands consist of a coiled base or fundus and a tube-like duct that

ends at the skin surface forming the pores. Sweat glands are more numerous on the palms, soles, forehead, and armpits. Body temperature is regulated by the sweat glands that also aid in the elimination of waste.

Oil glands secrete sebum through little sacs whose ducts open in to the hair follicles. These glands are found in all parts of the body with the exception of the palms and soles. The oily substance produced by the oil glands is called sebum. Sebum lubricates the skin and preserves the pliability of the hair. When the duct becomes clogged with hardened sebum, a blackhead is formed.

### **Nourishment of the Skin**

Blood and lymph circulate through the skin providing nourishment essential for growth and repair of the skin, hair, and nails.

### **Functions of the Skin**

The major functions of the skin are sensation, heat regulation, absorption, protection, excretion, and secretion. The functions of the skin can easily be remembered using the acronym: SHAPES

S – ensation – response to heat, cold, pressure, and pain

H – eat regulation – maintains body temperature of 98.6

A – bsorption - substances can enter the body through the skin and affect it to a minor degree

P – rotection – from bacterial invasion

E – xcretion – sweat glands excrete perspiration

S – ecretion - sebum is secreted by the sebaceous glands

### **Terminology**

**Dermatology** study of the skin, its nature, functions, and treatment

**Dermatologist** a medical skin specialist

**Disease** a pathological condition of the body, organ, or mind making it incapable of carrying on normal functions

**Disorder** abnormal condition usually not contagious

**Immunity** freedom from or resistance to disease

<b>Integumentary system</b>	one of the 10 systems of the body; pertains to the skin, its appendages and functions
<b>Pathology</b>	study of disease
<b>Etiology</b>	study of the causes of diseases
<b>Trichology</b>	study of hair
<b>Diagnosis</b>	recognition of a disease by its symptoms
<b>Prognosis</b>	foretelling of the probable course of a disease
<b>Objective symptom</b>	visible symptom
<b>Subjective symptom</b>	symptom that can be felt by client, but not by observation
<b>Acute</b>	rapid onset with severe symptoms of short duration
<b>Chronic</b>	long duration, usually mild, but often recurring
<b>Infectious</b>	invasion of body tissue by bacteria that cause disease
<b>Contagious</b>	communicable; by contact
<b>Occupational</b>	due to certain kinds of employment
<b>Seasonal</b>	influenced by weather
<b>Parasitic</b>	caused by vegetable or animal parasites
<b>Pathogenic</b>	produced by disease causing bacteria
<b>Systemic</b>	due to over or under functioning of the internal glands
<b>Venereal disease</b>	acquired by sexual contact
<b>Epidemic</b>	emergence of a disease that affects a large number of people simultaneously
<b>Allergy</b>	reaction due to extreme sensitivity to normally harmless substances

<b>Inflammation</b>	skin disorder characterized by redness, pain, edema, and heat
<b>Rhytidectomy</b>	face lift
<b>Blepharoplasty</b>	eyelid surgery
<b>Chemical peel</b>	chemical solution applied to skin areas causing a mild, controlled burn of the skin
<b>Rhinoplasty</b>	plastic surgery of the nose
<b>Mentoplasty</b>	chin surgery
<b>Dermabrasion</b>	sandblasting irregularities of the skin
<b>Injectable fillers</b>	tiny injections of collagen to soften wrinkles
<b>Retin-A</b>	a prescription cream used in the treatment of acne

### **Diseases and Disorders**

In a salon, you will come in contact with diseases and disorders of the skin and its appendages: the hair and nails. Your license requires you to be responsible for the recognition of potentially infectious diseases. Some disorders can be treated in cooperation with and under the supervision of a physician.

CAUTION: DO NOT TREAT OR REMOVE  
HAIR FROM MOLES.

WARNING: NEVER TRY TO DIAGNOSE A DISEASE;  
ALWAYS REFER TO A PHYSICIAN.

**NOTE: COLOR CHANGES, A CRACK ON THE SKIN, A TYPE OF THICKENING, OR ANY DISCOLORATION, RANGING FROM SHADES OF RED TO BROWN AND PURPLE TO ALMOST BLACK, MAY BE SIGNS OF DANGER AND SHOULD BE EXAMINED BY A DERMATOLOGIST.**

## **Skin Conditions /Descriptions**

<b>Condition/ Disease/Disorder</b>	<b>Description</b>
<b>Pigmented Lesions</b>	Lentigo small, yellow to brown spots
<b>Chloasma</b>	moth patches, liver spots = increased deposits of pigment
<b>Naevus</b>	birthmark (portwine or strawberry) small-large malformation of skin due to pigmentation or dilated capillaries
<b>Leucoderma</b>	abnormal light patches due to congenital defective pigmentations
<b>Vitiligo</b>	acquired condition of leucoderma-may affect skin or hair
<b>Albinism</b>	congenital absence of melanin pigment
<b>Stain</b>	abnormal, brown, skin patches having a circular & irregular shape

## **Disorders of the Sebaceous Glands**

<b>Comedones</b>	blackheads, a worm-like mass of keratinized cells & hardened sebum
<b>Milia</b>	whiteheads, an accumulation of dead, keratinized cells and sebaceous matter trapped beneath the skin
<b>Acne Simplex</b>	chronic inflammatory disorder usually related to hormonal changes & overactive sebaceous glands
<b>Acne Vulgaris</b>	acne-pimples
<b>Acne Rosacea</b>	chronic inflammatory congestion of the cheeks & nose
<b>Seborrhea/Seborrhea</b>	overactive sebaceous glands- <b>Oleosa = Oily Dandruff</b> often the basis of acne
<b>Steatoma Asteatosis</b>	wen or sebaceous cyst (subcutaneous tumor) ranges in size from a pea to an orange dry, scaly skin characterized by absolute or partial deficiency of sebum

**Furuncle**                boil-a subcutaneous abscess that fills with pus

**Cysts**                    sac-like, elevated (usually round) area, contains liquid or semi-liquid substance-when a follicle ruptures deep within the dermis & irritating oil & dead cells seep into the surrounding tissues-often cause acne pits

**Pimples**                follicle filled with oil, dead cells, & bacteria-inflammation causes white blood cells to rush to fight bacteria creating a pus

### **Disorders of the Sudoriferous Glands**

**Bromidrosis**            osmidrosis=foul-smelling perspiration

**Anhidrosis**            lack of perspiration

**Hyperhidrosis**        excessive perspiration

**Miliaria Rubra**       prickly heat-eruptions of small red vesicles accompanied by burning & itching-caused by excessive heat

### **Hypertrophies**

**Keratoma**              callus-superficial, round, thickening of the epidermis caused by friction (inward growth is called a corn)

**Mole**                    a small, brown spot-believed to be inherited-may be flat or deeply seated-pale tan-brown or bluish black

**Verruca**                wart, a viral infection of the epidermis-benign

**Skin Tag**                bead-like fibrous tissue that stands away from the flat surface-often a dark color

**Polyp**                    growth that extends from the surface or may also grow with the body

## **Inflammations**

**Eczema** dry or moist lesions accompanied by itching, burning, & various other unpleasant sensations-usually red-blistered, & oozing

**Psoriasis** rarely on the face, lesions are round, dry patches covered with coarse, silvery scales-if irritated, bleeding points occur- may be spread to larger area-not contagious

### **Herpes Simplex/**

**Herpes Zoster = Shingles** fever blisters/cold sores-single group of vesicles on a red swollen base

## **Allergy Related Dermatitis**

**Dermatitis Venenata** allergy to ingredients in cosmetics, etc.- protection is the prevention-gloves, etc.

**Dermatitis Medicamentosa** dermatitis that occurs after an injection of a substance

**Urticaria** hives-inflammation caused by an allergy to specific drugs/foods

## **Primary Skin Lesions**

**Macule** small, discolored spot or patch on the skin's surface, neither raised nor sunken-ex: freckles

**Papule** small elevated pimple containing no fluid, but may have pus note: yellow or white fatty papules around the eyes indicate an elevated cholesterol level-refer to a physician (xanthelasma).

**Wheal** itchy, swollen lesion that lasts only a few hours-ex: mosquito bite

**Tubercle** solid lump larger than a papule- projects above the skin or lies with-sized from pea to hickory nut

**Tumor** external swelling-varies in size, shape & color

**Vesicle** blister with clear fluid-lie within or just beneath the epidermis-ex: poison ivy

**Bulla** blister containing a watery fluid-larger than a vesicle

**Pustule** elevation with inflamed base, containing pus

### **Secondary Skin Lesions**

**Scale** accumulation of epidermal flakes, dry or greasy-ex: abnormal dandruff

**Crust** accumulation of serum & pus- mixed with epidermal material- ex: scab

**Excoriation** abrasion produced by scratching or scraping-ex: raw surface after injury

**Fissure** crack in the skin penetrating into the dermis

**Ulcer** open lesion on skin or mucous membrane, accompanied by pus & loss of skin depth

### **Acne Scars**

**Ice Pick Scar** large, visible, open pores that look as if the skin has been jabbed with an ice pick-follicle always looks open-caused by deep pimple or cyst

**Acne Pit Scar** slightly sunken or depressed appearance-caused by pimples/systs that have destroyed the skin & formed scar tissue

**Acne Raised Scar** lumpy mass of raised tissue on the surface of the skin-caused where cysts have clumped together

### **Contagious Disorders**

Tinea [ringworm, due to fungi (plant or vegetable parasites) with scaling]

Tinea Unguium - Ringworm of Nails

Tinea Capitis - Ringworm of Scalp

Tinea Sycosis - Barber's Itch

Tinea Favosa - Honeycomb Ringworm

Athlete's Foot - Ringworm of Feet - patch of little small reddened blisters that spread outward and heal in the middle

CAUTION! NEVER ATTEMPT TO DIAGNOSE BUMPS, LESIONS, ULCERATIONS, OR DISCOLORATIONS AS SKIN CANCER, BUT YOU SHOULD BE ABLE TO RECOGNIZE THE CHARACTERISTICS OF SERIOUS SKIN DISORDERS AND SUGGEST THAT THE CLIENT SEE A PHYSICIAN OR DERMATOLOGIST.

### **Extremely Serious Disorders-Skin Cancers**

**Basal Cell Carcinoma** least malignant-most common skin cancer-characterized by light or pearly nodules & visible blood vessels

**Squamous Cell Carcinoma** scaly, red papules- blood vessels are not visible-more serious than basal cell

**Malignant Melanoma** most serious-characterized by dark brown, black, or discolored patches on the skin

**Tumor** abnormal growth of swollen tissue

### **Nail Diseases/Disorders**

**Onychophagy** nail biting

**Onychogryposis** overcurvature of the nail- clawlike

**Pterygium** sticky overgrowth of the cuticle

**Eggshell Nail** extremely thin nail  
**Leuconychia** white spots under the nail plate

**Paronychia** bacterial inflammation of tissue (perionychium) around the nail

**Tinea Corporis** ringworm of the hand

**Tinea Pedis** ringworm of the foot

<b>Agnail</b>	hangnail
<b>Onychia</b>	an inflammation somewhere in the nail
<b>Onychocyanosis</b>	blue nail (usually caused by poor circulation)
<b>Hematoma Nail</b>	bruised nail (usually caused by a hammer or slammed door)
<b>Tinea Unguium</b>	onychomycosis-ringworm of the nail
<b>Onychorrexia</b>	split or brittle nails with a series of lengthwise ridges
<b>Beau's Lines</b>	ridges/corrugations/furrows
<b>Onychatrophia</b>	atrophy or wasting away of the nail
<b>Onychocryptosis</b>	ingrown nail
<b>Onychauxis</b>	overgrowth of the nail plate
<b>Onychosis</b>	any nail disease
<b>Onychophosis</b>	accumulation of horny layers of epidermis under the nail

#### ■ Hair Disease/Disorders

<b>Pityriasis Capitis Simplex</b>	dry dandruff
<b>Pityriasis Capitis Steatoids Seborrhea Oleosa = Oily Dandruff</b>	greasy dandruff
<b>Trichoptilosis</b>	split hair ends
<b>Trichorrehexis Nodosa</b>	knotted
<b>Tinea Favosa</b>	honeycomb ringworm
<b>Tinea Capitis</b>	ringworm of the scalp
<b>Tinea Sycosis</b>	barber's itch
<b>Androgenetic Alopecia</b>	common hereditary hair loss

<b>Alopecia Adnata</b>	loss of hair shortly after birth
<b>Alopecia Areata</b>	hair loss in patches
<b>Alopecia Follicularis</b>	hair loss caused by inflammation of hair follicles
<b>Alopecia Prematura</b>	hair loss early in life
<b>Alopecia Senilis</b>	hair loss from old age
<b>Alopecia Totalis</b>	hair loss from entire scalp
<b>Alopecia Universalis</b>	hair loss from entire body
<b>Traction/Traumatic</b>	patchy hair loss
<b>Alopecia</b> pulling or twisting	sometimes due to repetitive traction on the hair by pulling or twisting
<b>Postpartum Alopecia</b>	temporary hair loss at the conclusion of pregnancy
<b>Telogen Effluven</b> cycle	hair loss during the telogen phase of the hair growth cycle
<b>Canities</b>	gray hair
<b>Pediculosis Capitis</b>	headlice
<b>Monilithrix</b>	beaded hair
<b>Fragilitis Crinium</b>	brittle hair
<b>Hirsuties/Hypertrichosis</b>	superfluous hair, excessive
<b>Scabies</b>	contagious disease caused by the itch mite
<b>Impetigo/Infantigo</b>	highly contagious bacterial infection, usually staphylococcal
<b>Discoïd Lupus</b>	chronic autoimmune
<b>Erythematosus (DLE)</b>	disorder, causes red often scarring plaques, hair loss, & internal effects

**Keloids** forms when excess collagen forms at the site of a healing scar-overhealing

**Asteatosis** excessive dry skin

Websites: Online Dermatology Resources

<http://tray.dermatology.uiowa.edu/DermImag.htm>  
<http://www.medic.mie-u.ac.jp/derma/world/worldd1.html>  
<http://www.skin-information.com/>  
<http://www.skin-disease.com/>  
<http://www.skin-cancers.net/>  
<http://www.age-spot.com/>  
<http://www.i-wrinkle.com/>  
<http://www.i-wrinkle.com/>  
<http://www.asds-net.org> American Society of Dermatologic Surgery  
<http://www.aad.org> American Academy of Dermatology

**Skin Conditions /Descriptions**

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small, yellow to brown spots



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moth patches, liver spots = increased deposits of pigment



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acquired condition of leucoderma-may affect skin or hair



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abnormal, brown, skin patches having a circular & irregular shape

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blackheads, a worm-like mass of keratinized cells & hardened sebum



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Oleosa = Oily Dandruff**

overactive sebaceous glands-often the basis of acne

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ranges in size from a pea to an orange



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dry, scaly skin characterized by absolute or partial deficiency of sebum

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boil-a subcutaneous abscess that fills with pus



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sac-like, elevated (usually round) area, contains liquid or semi-liquid substance-when a follicle ruptures deep within the dermis & irritating oil & dead cells seep into the surrounding tissuesoften cause acne pits



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**Herpes Zoster = Shingles** on a red swollen base



Herpes Simplex



Herpes Zoster

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itchy, swollen lesion that lasts only a few hours-ex: mosquito bite



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### Contagious Disorders

Tinea

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Tinea Sycosis - Barber's Itch

Tinea Favosa - Honeycomb Ringworm

Tinea Unguium - Ringworm of Nails

Athlete's Foot - Ringworm of Feet

ringworm, due to fungi  
(plant or vegetable  
parasites) -small reddened  
patch of little blisters that  
spread outward and heal in  
the middle with scaling



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abnormal growth of swollen tissue

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nail biting



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sticky overgrowth of the cuticle

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extremely thin nail

**Leuconychia**

white spots under the nail plate



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**Tinea Corporis**

ringworm of the hand



**Tinea Pedis**

ringworm of the foot



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hangnail



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**Onychocyanosis**

blue nail (usually caused by poor circulation)

**Hematoma Nail**

bruised nail (usually caused by a hammer or slammed door)



**Tinea Unguium**

onychomycosis-ringworm of the nail



**Onychorrexia**

split or brittle nails with a series of lengthwise ridges



**Beau's Lines**

ridges/corrugations/furrows



**Onychatrophia**

atrophy or wasting away of the nail



**Onychocryptosis**

ingrown nail



**Onychauxis** overgrowth of the nail plate

**Onychosis** any nail disease

**Onychophosis** accumulation of horny layers of epidermis under the nail



#### **Hair Disease/Disorders**

**Pityriasis Capitis Simplex** dry dandruff

**Pityriasis Capitis Steatoids Seborrhea Oleosa = Oily Dandruff** greasy dandruff

**Trichoptilosis** split hair ends

**Trichorrehexis Nodosa** knotted  
**Tinea Favosa** honeycomb ringworm

**Tinea Capitis** ringworm of the scalp



**Tinea Sycosis** barber's itch

**Androgenetic Alopecia** common hereditary hair loss

**Alopecia Adnata**

loss of hair shortly after birth

**Alopecia Areata**

hair loss in patches



**Alopecia Follicularis**

hair loss caused by inflammation of hair follicles



**Alopecia Prematura**

hair loss early in life

**Alopecia Senilis**

hair loss from old age

**Alopecia Totalis**

hair loss from entire scalp

**Alopecia Universalis  
Traction/Traumatic  
Alopecia**

hair loss from entire body  
patchy hair loss sometimes due to repetitive  
traction on the hair by pulling or twisting

**Postpartum  
Alopecia**

temporary hair loss at the conclusion  
of pregnancy

**Telogen Effluven**

hair loss during the telogen phase of the hair  
growth cycle



**Canities** gray hair

**Pediculosis Capitis** headlice

**Monilithrix** beaded hair

**Fragilitis Crinium** brittle hair

**Hirsuties/Hypertrichosis** superfluous hair, excessive

**Scabies** contagious disease caused by the itch mite



**Impetigo/Infantigo** highly contagious bacterial infection, usually staphylococcal



**Discoid Lupus Erythematosus (DLE)** chronic autoimmune disorder, causes red often scarring plaques, hair loss, & internal effects



<b>Keloids</b>	forms when excess collagen forms at the site of a healing scar-overhealing
<b>Asteatosis</b>	excessive dry skin

## Appendix A

### **Georgia State Board of Cosmetology Glossary of Legal Definitions**

#### **Nail Technician:**

A person who, for compensation, trims, files, shapes, decorates, applies sculptured or otherwise artificial nails, or in any way cares for the nail of another person.

#### **Esthetician or Esthetics Operator:**

A person who, for compensation, engages in any one or a combination of the following practices, esthetics, or cosmetic skin care:

- Massaging the face or neck of a person
- Trimming eyebrows
- Dyeing eyelashes or eyebrows
- Waxing, stimulating, cleansing, or beautifying the face, neck, arms, or legs of a person by any method with the aid of the hands or any mechanical or electrical apparatus or by the use of a cosmetic preparation.

Such practices of esthetics shall not include the diagnosis, treatment, or therapy of any dermatological condition.

#### **Cosmetologist**

Any person who performs any one or more of the following services for compensation:

- Cuts or dresses the hair
- Gives facial or scalp massage or facial and scalp treatment with oils or creams and other preparations made for this purpose, either by hand or mechanical appliance
- Singes and shampoos the hair, dyes the hair, or does permanent waving of the hair
- Braids the hair by hair weaving, interlocking, twisting, plaiting, wrapping by hand, chemical or mechanical devices, or using any natural or synthetic fiber for extensions to the hair
- Performs nail care, pedicure, or manicuring services as defined in Nail Technician

- Performs the services of an esthetician as defined in Esthetician or Esthetics Operator

Such person shall be considered as practicing the occupation of a cosmetologist within the meaning of this code

**Master Cosmetologist:**

A cosmetologist who is possessed of the requisite skill and knowledge to perform properly all the services mentioned under Cosmetologist above.

**Appendix B**

**Georgia State Board of Cosmetology  
Sanitary Regulations For Salons And Schools**

1. All establishments wherein cosmetology, nail care, or esthetics is practiced or taught within the State of Georgia must provide suitable quarters equipped to give adequate services subject to inspection by constituted representatives of the Georgia State Board of Cosmetology.
2. Separate space must be provided for a cosmetology, esthetic, or nail care establishment. The use of any such space for sleeping, dining or any other domestic purpose is prohibited.
3. Space used for a cosmetology, esthetic, or nail care establishment must be separated by tight, ceiling high partitions from residence rooms.
4. Each establishment must have proper toilet and plumbing facilities and adequate supply of hot and cold running water in accordance with the recognized health standards.
5. Walls, ceilings, floors, furniture and equipment must be free from dust and debris.
6. Shampoo bowls and sinks, and service sinks must be thoroughly cleansed and sanitized.
7. Towels, after being used once, must be placed in a covered container until properly laundered.
8. The use of any article that is not properly cleansed and sanitized is prohibited.
9. All waste material must be removed daily. Garbage shall be stored in a covered washable container and shall not be left in the establishment overnight.

**10.** Professional implements and tools shall be cleansed thoroughly with soap and water and sanitized by using recommended disinfectants approved by the Georgia Department of Human Resources, Environmental Health Section.

**11.** Creams, lotions and other cosmetics for use on patrons must be kept in sanitary, closed containers.

**12.** It shall be unlawful to allow pets in a cosmetology, esthetic, or nail care establishment. 130-5-.08 Recommended Disinfection Approved by the Georgia Department of Human Resources, Environmental Health Section.

**(1) Wet Disinfection Standards.**

(a) All tools and implements, except those which come in contact with blood or body fluids, must be disinfected by complete immersion in any EPA registered, hospital grade, bactericidal, virucidal, and fungicidal disinfectant that is prepared and used according to the manufacturer's directions.

(b) All tools and implements which come in contact with blood or body fluids must be disinfected by complete immersion in any EPA registered, hospital grade, and tuberculocidal disinfectant that is prepared and used according to the manufacturer's directions.

**(2) Dry Disinfection Standards**

(a) After thoroughly washing in detergent and warm water, items may be disinfected, using ultra violet ray exposures according to the ultra violet equipment supplier's recommendations, provided that lamps are replaced and dates of replacement recorded as indicated by test results.

**(3) Storage Standards.**

(a) Disinfected implements must be stored in a disinfected, dry and covered container (Any EPA Approved dry disinfectant may be used)

## **Appendix C**

### **Georgia State Board of Cosmetology Sanitation and Health Code**

#### **Shampoo Equipment. Amended**

#### **130-5-.01**

130-5-.01 Shampoo Equipment. Amended. Shampoo bowls must be thoroughly cleansed and kept clean. Authority O.C.G.A Sec. 43-10-6. History. Original Rule

entitled "Pets" was filed and effective on June 30, 1965. Amended: Rule repealed and a new Rule entitled "Shampoo Equipment" adopted. Filed February 25, 1986; effective March 17, 1986.

### **Linens**

#### **130-5-.02**

130-5-.02 Linens. Towels, after being used once, must be placed in a container until properly laundered. Clean towels must be kept in a closed cabinet. Authority O.C.G.A Sec. 43-10-6. History. Original Rule entitled "Linens" was filed on February 25, 1986; effective March 17, 1986.

### **Sterilization. Amended**

#### **130-5-.03**

130-5-.03 Sterilization. Amended. The use on any patron of any article that is not properly cleansed and sterilized is prohibited. Hands must be properly cleansed and sterilized prior to servicing each client. Authority O.C.G.A Sec. 43-10-6. History. Original Rule entitled "Sterilization" was met on February 25, 1986; effective March 17, 1986. Repealed: New Rule of same title adopted. F. Jul. 20, 1993; eff. Aug. 9, 1993.

### **Waste and Garbage. Amended**

#### **130-5-.04**

130-5-.04 Waste and Garbage. Amended. All waste material must be removed daily. Garbage shall be stored in a covered, washable container and shall not be left in the establishment overnight. Each establishment must be free from stale food and soiled dishes. Authority O.C.G.A Sec. 43-10-6. History. Original Rule entitled "Waste and Garbage" was filed on February 25, 1986; effective March 17, 1986. Repealed: New Rule of same title adopted. F. Jul. 20, 1993; eff. Aug. 9, 1993.

### **Cleaning of Implements. Amended**

#### **130-5-.05**

130-5-.05 Cleaning of Implements. Amended. Cosmetology, nail care and esthetician implements shall be cleansed thoroughly with soap and water and sanitized by using recommended disinfectants approved by the Georgia State Department of Health. Each salon must include wet and dry sanitizers. Authority O.C.G.A. Sec. 48-10-6. History. Original Rule entitled "Cleaning of Implements" was filed on February 25, 1986; effective March 17, 1986. Repealed: New Rule of same title adopted. F. Jul. 20, 1993; eff. Aug. 9, 1993.

## **Storage of Preparations**

### **130-5-.06**

130-5-.06 Storage of Preparations. Creams, lotions and other cosmetics for use on patrons must be kept in sanitary, closed containers. Authority O.C.G.A. Sec. 43-10-6. History. Original Rule entitled "Storage of Preparations" was filed on February 25, 1986; effective March 17, 1986.

## **Recommended Disinfection Approved by the Georgia Department of Human Resources, Environmental Health**

### **130-5-.08**

130-5-.08 Recommended Disinfection Approved by the Georgia Department of Human Resources, Environmental Health Section.

#### (1) Wet Disinfection Standards.

(a) All tools and implements, except those which come in contact with blood or body fluids, must be disinfected by complete immersion in any EPA registered, hospital grade, bactericidal, virucidal, and fungicidal disinfectant that is prepared and used according to the manufacturer's directions.

(b) All tools and implements which come in contact with blood or body fluids must be disinfected by complete immersion in any EPA registered, hospital grade, and tuberculocidal disinfectant that is prepared and used according to the manufacturer's directions.

#### (2) Dry Disinfection Standards.

(a) After thoroughly washing in detergent and warm water, items may be disinfected, using ultra violet ray exposures according to the ultra violet equipment supplier's recommendations, provided that lamps are replaced and dates of replacement recorded as indicated by test results.

#### (3) Storage Standards.

(a) Disinfected implements must be stored in a disinfected, dry and covered container (Any EPA approved dry disinfectant may be used). Authority O.C.G.A. Sec. 43-10-6. History. Original Rule entitled "Recommended Disinfection—Approved by the Georgia State Board of Health" was filed on February 25, 1986; effective March 17, 1986. Amended: Rule retitled "Recommended Disinfection Approved by the Georgia Department of Human Resources, Environmental Health Section". F. Oct. 20, 1995; eff. Nov. 9, 1995.

## **Protective Clothing**

### **130-5-.09**

130-5-.09 Protective Clothing. Cosmetologists in Georgia are required to abide by all federal and state laws for cosmetology. The profession of cosmetology is within the guidelines of the rules promulgated by The Occupational Safety and Health Administration (OSHA). Cosmetologists are also subject to Georgia Annotated Code Section 43-1-19. Practitioners of the cosmetology profession in Georgia shall wear appropriate protective clothing for clinical services to prevent occupational exposure of potential infectious materials. Appropriate clothing shall include, but not limited to clinical jackets, gloves and/or similar outer garments for the protection of infectious or harmful materials. Authority O.C.G.A. Sec. 43-1-9. History. Original Rule entitled "Protective Clothing" adopted. F. May 10, 1993; eff. May 30, 1993.

This concludes Module 2: DTAE Health and Safety and completes the reading material for the Georgia 5 Hour Nail Technician CE Course (5 total hours)

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