

Hazard Communication Training Program

(Have employees read this training information, discuss the information with them and make sure they understand it. Sign the training forms, discuss the effectiveness of the training, and retain all training records. This information was compiled from several sources, including OSHA, NIOSH, the CDC, and the ADA.)

Introduction:

The hazard communication program in this office is designed to inform employees of hazards that may be present in their workplace, and how to avoid them.

One of the most common hazards encountered by dental office employees are hazardous chemicals. Employees should know that they are present, that they can be harmful, and how to handle them safely to avoid harm. This training is designed to help employees understand these hazards and how to deal with them safely and effectively.

The best way to keep yourself safe from hazards in a dental office is to be careful when you handle chemicals, and wear the correct personal protective equipment, especially eye protection. When you're processing instruments, it's easy to splash ultrasonic solution or cold sterile in your eyes, and when you're working chairside, it's easy to splash chemicals, like etchant, in your eye.

The Hazard Communication Program:

According to OSHA, there are five different components in an effective dental office hazard communication program: Labeling, SDS (material safety data sheet), Chemical inventory and SDS system maintenance, Employee Training, and Documentation.

Labeling:

All products that contain hazardous chemicals must be properly labeled. The goal of this program is to ensure that every chemical in any container can be immediately identified.

No additional labeling is required for those chemicals in their original containers, but if a chemical is placed into a secondary container for use, that container must be labeled. In dentistry, examples would be ultrasonic solution placed in ultrasonic tanks, cold sterile solution, disinfectants that are mixed and placed in each operatory, and fixer and developer that is not automatically replenished. The labels do not have to be placed directly on the containers; they may be placed on the wall or shelf beside the container. Just make sure the labels are easily accessible and employees know where they are located.

If a chemical is placed into a secondary container for immediate use, additional labeling on the secondary container is not necessary. For example, if a large amount of disinfectant is mixed in a jug and then the entire amount is dispensed into individual spray bottles for use in different operatories, the large jug doesn't have to be labeled, but the individual spray bottles must be labeled.

Products and drugs that are to be dispensed to patients don't need additional labeling; nor do cleaning products that are used in your office as you use them in your house (bathroom cleaner, etc.)

Labels can be photocopied from the original container for use on the secondary container, or a new label can be designed. Labels must have the name of the product, the name of any hazardous chemical(s), hazards, and the manufacturer name/address. If symbols or numbers are used on labels, employees must know the meaning of the symbols and/or numbers and where the key/explanations of the meaning of the numbers and symbols are kept. The key/explanation should be posted in areas where chemicals are commonly used, such as the lab and sterilization areas, etc.

Safety Data Sheets (SDS):

SDSs are forms that give current information on chemicals. SDSs contain information about the physical and chemical properties of the product, the name(s) of hazardous chemicals, hazard information (fire hazard, reactivity information, health hazards, etc), precautions for safe handling and use, first aid information, storage information, manufacturer name and address, and information about spills and leaks.

SDSs should be maintained for all chemicals in the office. Manufacturers are required to supply SDS forms for any product that contains a hazardous chemical, and employers are required to obtain an SDS for all hazardous chemicals in the office. Often, SDS can be obtained online; if not, send a written request to the supplier and/or manufacturer.

Keep a copy of all requests for SDS forms on file until the SDS is obtained.

Employees have the right to access these materials; make sure that everyone in the office knows where the OSHA materials, including the SDSs are kept.

Chemical Inventory and SDS System Development and Maintenance

This office maintains a current list of all chemicals used in this office. There is also a corresponding SDS for each product on the chemical inventory. The system can be physically maintained in a notebook, or the system may be maintained electronically. If the employer chooses to use an electronic system, make sure that the information is always readily accessible and all employees know how to access the information. Also, ensure that the system is properly backed up and that the information can still be accessed in the event of an emergency.

The chemical inventory and corresponding SDS forms should be kept current. Unless changes are made to an SDS form, it is not necessary to file a new one every time you reorder a chemical.

Training:

Employees must receive training at the time of initial employment and whenever a new hazard is introduced into the workplace. It is not necessary to provide training every time a new chemical is added to the workplace, just if a new hazard is added. So, for example, if a new flammable chemical is introduced into the workplace and the employees have already been trained about flammability, it is not necessary to provide additional training.

Training should also be provided any time a procedure for handling a hazard or a situation is modified. So, for example, if you change the way you'd handle a chemical spill, employees must be trained on the new procedures.

Training must include the types of hazards encountered by handling chemicals, procedures involving the use and handling of hazardous chemicals, the location and use of the existing hazard communication program and materials, the chemical inventory for the office, methods of reducing exposure risks and a general overview of OSHA's Hazard Communication Standard.

Documentation:

Document all training sessions and have each attendee sign an attendance form. Keep all of the documentation with the rest of the materials. A current hazard communication plan is posted in the OSHA notebook.

Chemicals in Dentistry

There are several groups of chemicals that we commonly use in dentistry. The good news is that we generally use small amounts of the products we use, so our exposure to the hazards are also small. As a result, it is easier to control the risks.

A list of the chemicals used in this office (chemical inventory) is available, as well as corresponding SDS forms. This is basic training on the different types of chemicals in the average dental office and their hazards.

Types of physical hazards

If you need specific information on a specific chemical, always refer to the individual SDS form or contact the manufacturer with questions; however here is information on certain groups of chemicals we commonly encounter in dentistry.

Disinfectants:

There are many different types of disinfectants, including phenols, alcohols, acids, and other organic chemicals. These disinfectants can cause irritation, and burns, to the eyes and skin and can cause, or irritate existing, respiratory issues. Some chemicals, such as glutaraldehyde and formaldehyde, can cause cancer if not used properly and if proper precautions aren't taken. For example, glutaraldehyde should never be used as a surface disinfectant or as ultrasonic solution; it is used as cold sterile and should always be used with a lid to minimize breathing in vapors

Always wear eye protection, wear masks if needed, always wear gloves, and make sure you use gloves that are sufficient to protect your hands and prevent the absorption of chemicals through the skin. Some of our thin exam gloves are not sufficient to prevent chemical absorption. Also, many of these chemicals are flammable, so be careful using and storing them near a heat source or flame.

Avoid inhaling aerosol as much as possible. Many individuals find that using wipes, instead of sprays, reduces the amount of chemical exposure because there is less in the air, and therefore, less being inhaled.

Acids:

Acids are often used to etch enamel while placing composite fillings, sealants, or orthodontic brackets.

Always wear eye protection and avoid skin contact with any acids; they can damage tissue on contact. If there is eye or skin contact, rinse with lots of running water to flush the chemical off the skin/out of the eyes.

Metals:

Certain metals, such as mercury, nickel, chromium, and other heavy metals are used in dentistry when placing or removing amalgam fillings, or when grinding on metal crowns, partials, and other appliances.

Always wear eye protection, gloves, and masks when in contact with these materials, taking care not to breathe in the dust particles or allow direct contact with the skin. Use proper suction systems and ventilation systems to reduce the amount of particles in the air.

Silica and Calcium Sulfate:

Silica and Calcium Sulfate is found in plaster and other compounds used for molds and models. Whenever you are pouring models, or trimming models, or doing any grinding on a product that contains silica, be careful handling the powder and while trimming/grinding, use water and exhaust systems to reduce the amount of dust generated. Most

importantly, ALWAYS wear a proper mask to make sure that you don't breathe in any particles. Plaster also contains calcium sulfate, which can cause respiratory and eye irritation. Silica is the one that can cause serious issues; In the past, many dental people died from respiratory failure related to silicosis after breathing in that dust for years.

Solvents:

We use many chemicals such as alcohol and acetone in the dental office. These chemicals can cause eye and skin irritation with contact, dermatitis, and problems with the central nervous system with significant exposures.

Wear gloves and eye protection when handling, and minimize breathing in vapors as much as possible and make sure there's proper ventilation.

These chemicals tend to be very flammable, so be careful using and storing them near a heat source or open flame.

Fixer and Developer:

These chemicals can cause skin irritation and contact dermatitis and eye and respiratory irritation. Always use a mask, gloves, and eye protection when handling and avoid direct skin contact. Make sure the area is well ventilated when using.

Gases:

We use gases such as Oxygen and Nitrous oxide in dental offices. High exposure of nitrous can cause neurological problems and has been possibly linked to a higher rate of spontaneous miscarriage. HOWEVER, please note that these links were found only before scavenger systems were available; there have been no issues seen since the use of scavenger systems became common in dentistry.

Whenever using these gases, make sure a scavenger system is in use, make sure the patient keeps her mouth closed, make sure the office is properly ventilated, and regularly check the hoses and masks for leakage.

These gases are highly flammable so be careful using and storing them near a heat source or open flame. Also, make sure tanks are secured with a chain or other mechanism to make sure they can't fall on people.

Labels and SDS forms










The Hazard Communication Standard changed in 2012, and we are now under the Globally Harmonized System of Classification and Labeling of Chemicals. What that means is that SDS forms and labels now have a standard format and now use pictograms to indicate dangers and warnings.

So long as our chemicals remain the original container, no additional labeling is required. There are few chemicals we use out of the original container, and those would have to have a label.

There are a few ways to take care of labels. First, the label doesn't necessarily have to be on the container. Our label for our ultrasonic, for example, is laminated and is on the wall above the ultrasonic so it doesn't get wet. On bottles of disinfectant in each operatory, I took a picture of the new format label on my phone, emailed it to myself, shrunk it to the size I needed, ran it off, laminated it, and stuck it on the bottles.

As of this point, there are no small labels for dentistry that comply with the new requirement. According to OSHA, you can use the old style labels so long as the numbers used in the little colored diamonds reflect the way the new system is organized. In other words, under the old system, the less dangerous the chemical, the lower the number (which is logical!!!). Under the new system, the lower the number the more dangerous. SO, if you use the old labeling system, signage and labels would have to be altered to reflect this, and everyone in the office would have to be trained on that information.

Each manufacturer's label must have the following: product identifier, signal word, hazard statement, pictograms, precautionary statements and the name/address/phone number of the manufacturer. The product identifier identifies the chemical in the container. Signal words alert the user that there is a potential hazard, such as "danger". Hazard statements describes the nature and degree of a hazard, such as "fatal if swallowed". A pictogram is used to show hazards in an easy to understand format, such as a picture of a fire if a chemical is flammable, or a bomb if it is combustible. Precautionary statements gives recommendations to make the use of the chemical safer, such as "do not store near open flame".

HAZCOM STANDARD PICTOGRAMS		
<p>Health Hazard</p>  <ul style="list-style-type: none">• Carcinogen• Mutagenicity• Reproductive Toxicity• Respiratory Sensitizer• Target Organ Toxicity• Aspiration Toxicity	<p>Flame</p>  <ul style="list-style-type: none">• Flammables• Pyrophorics• Self-Heating• Emits Flammable Gas• Self-Reactives• Organic Peroxides	<p>Exclamation Mark</p>  <ul style="list-style-type: none">• Irritant (skin and eye)• Skin Sensitizer• Acute Toxicity (harmful)• Narcotic Effects• Respiratory Tract Irritant• Hazardous to Ozone Layer (Non-Mandatory)
<p>Gas Cylinder</p>  <ul style="list-style-type: none">• Gases Under Pressure	<p>Corrosion</p>  <ul style="list-style-type: none">• Skin Corrosion/ Burns• Eye Damage• Corrosive to Metals	<p>Exploding Bomb</p>  <ul style="list-style-type: none">• Explosives• Self-Reactives• Organic Peroxides
<p>Flame Over Circle</p>  <ul style="list-style-type: none">• Oxidizers	<p>Environment (Non-Mandatory)</p>  <ul style="list-style-type: none">• Aquatic Toxicity	<p>Skull and Crossbones</p>  <ul style="list-style-type: none">• Acute Toxicity (fatal or toxic)

SDS forms are now in a standard, sixteen part format. According to OSHA, the information on an SDS form includes: Identification of the product; hazard identification; ingredient information; first-aid measures; firefighting measures; accidental release measures; handling and storage; exposure control/personal protection; physical and chemical properties; stability and reactivity; toxicological information; ecological information; disposal considerations; transport information; regulatory information; date of SDS preparation or revision.

Training Program

Employees must be trained at the time of initial employment and if a new chemical is introduced into the workplace. The goal is for employees to understand that there are hazards in the workplace, understand what information is included on SDS forms and labels provide, how to read and understand SDS forms and labels, and where the SDS forms and hazard communication plan are kept and how to access them. They should also know where hazards are located in the workplace, how to recognize hazards, how to know if a chemical has been released in the workplace (smell/visible spill or leak, etc.), how to protect themselves from hazards with exposure control measures and personal protective equipment, and who to contact if there is an issue.

Annually reassess your program, make sure you haven't added hazardous chemicals that haven't been added, make sure that labels are on any chemicals that are out of their original container, ensure that employees can ask questions and make suggestions, and make sure that every employee has been adequately trained. Employers are responsible for making sure that employees have received adequate training.

Checklist from OSHA (to make sure you're in compliance with the standard):

- Obtained/accessed a copy of the Hazard Communication Standard: _____
- Read/understand the requirements of the program: _____
- Assigned responsibility for tasks: _____
- Prepared chemical inventory: _____
- Make sure that all chemicals out of their original containers are labeled: _____
- Get an SDS form for each chemical: _____
- Prepare a written program: _____
- Make SDS forms available to employees: _____
- Conducted training for employees: _____
- Established procedures to maintain current program: _____
- Established procedure to evaluate program effectiveness, including maintenance of SDS forms: _____

