Hazard Communication Compliance

This course is no longer offered for Continuing Education credit.

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Disclaimer: Participants must always be aware of the hazards of using limited knowledge in integrating new techniques or procedures into their practice. Only sound evidence-based dentistry should be used in patient therapy.

Conflict of Interest Disclosure Statement

- Ms. Feiwell and Dr. Occhionero report no conflicts of interest associated with this course. They have no financial relationships to disclose.
- Dr. Huber is a member of the dentalcare.com Advisory Board..

Introduction – Hazard Communication

Participants in this course will be introduced to OSHA's Hazard Communication Standard, 29 CFR 1920.1200, also known as HazCom 2012. The course is advisory in nature and informational in content. Its purpose is to assist oral healthcare facilities to identify relevant parts of the rule. In addition, it provides guidance to develop and implement an effective HazCom program.

Course Contents

Overview

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Learning Objectives

Upon completion of this course, the dental professional should be able to:

- Understand the general requirements of HazCom 2012 and why employers must have a HazCom training program for their employees.
- Understand key terms associated with HazCom 2012.
- Identify the risks of working with hazardous chemicals.
- List the six steps to an effective HazCom program.
- Describe the written Hazard Communication program.
- Discuss required HazCom label elements and how they are used.
- Discuss the major components of a safety data sheet and how they are used.
- Identify employee training requirements.
- Describe a hazard statement.
- Identify the purpose of a pictogram.
- List the four types of precautionary statements.
- Know the difference between "Warning" and "Danger."

Introduction

The use of chemicals is an unavoidable component of almost every aspect of life. These chemicals are produced in workplaces and are used in workplaces downstream, including oral healthcare settings. While these chemicals have utility and benefits in their applications, they also have the potential to cause adverse effects or events. These adverse effects or events include health hazards, physical hazards, and hazards not otherwise classified.

No one knows exactly how many chemicals may be present in workplaces. The total number of chemical substances that have been developed and registered in the Chemical Abstracts Service Registry exceeds 60 million and the last 10 million of those were added in less than two years. In addition, most chemical substances are formulated into mixtures and the exposure of workers to unique chemical mixtures is far greater than the number of individual substances.

In order to protect workers from hazardous chemicals and to reduce related illnesses and injuries, employers need information related to the hazards of the chemicals they use and to recommended protective measures. To assure safe and healthy working conditions, the U.S. Congress enacted the Occupational Safety and Health Act of 1970 to provide platforms for research, information, education, and training in the field of occupational safety and health.[1]

The Act created the Occupational Safety and Health Administration (OSHA), the Occupational Safety and Health Review Commission (OSHRC), and the National Institute of Occupational Safety and Health (NIOSH). The OSHA sets and enforces workplace health and safety standards; the OSHRC reviews enforcement priorities, actions, and cases; and the NIOSH conducts research and makes recommendations to prevent worker injury and illness.

The OSHA developed a Hazard Communication Standard (HCS), 29 CFR 1920.1200, which was first promulgated in 1983. The latest revision

of the HCS, also known as HazCom 2012, was published in the Federal Register on March 26, 2012.[2] This revision was done to align the U.S. with the United Nations' Globally Harmonized System of Classification and Labeling of Chemicals (GHS). The effective date for total compliance with HazCom 2012 was June 1, 2016.

In many states and U.S. territories HazCom 2012 is enforced by the state agency responsible for the OSHA-approved state plan. Some states operate OSHA-approved state programs that only apply to state and local government employees. State plans are identical to or are at least as effective as Federal OSHA standards. The State-by-State Occupational Safety and Health Resource Locator provides program information for specific jurisdictions (Figure 1).[3]

This continuing education course is based on HazCom 2012 and OSHA's Hazard Communication: Small Entity Compliance Guide for Employers That Use Hazardous Chemicals (OSHA 3695-03 2014).[2,4] It is advisory in nature and informational in content, it provides assistance to employers (e.g., dental practices) that use but do not produce chemicals, and identifies parts of the rule that are relevant to developing and implementing an effective HazCom program.

HazCom 2012

OSHA's HazCom 2012 is unique in that it incorporates what is referred to as a downstream flow of information from chemical manufacturers, importers, and distributors to employers and, ultimately, to the employees using the products. Therefore, those who know the most about chemicals (i.e., the companies that produce, import, and/or distribute them) have the responsibility to determine potential hazards and to convey that information downstream.

In the context of HazCom 2012, a ***chemical manufacturer*** is an entity that produces hazardous chemicals. An ***importer*** is an entity that receives hazardous chemicals produced in another country for the purpose of supplying them to distributors or directly to employers within the U.S. A ***distributor*** is an entity other than a chemical manufacturer or importer

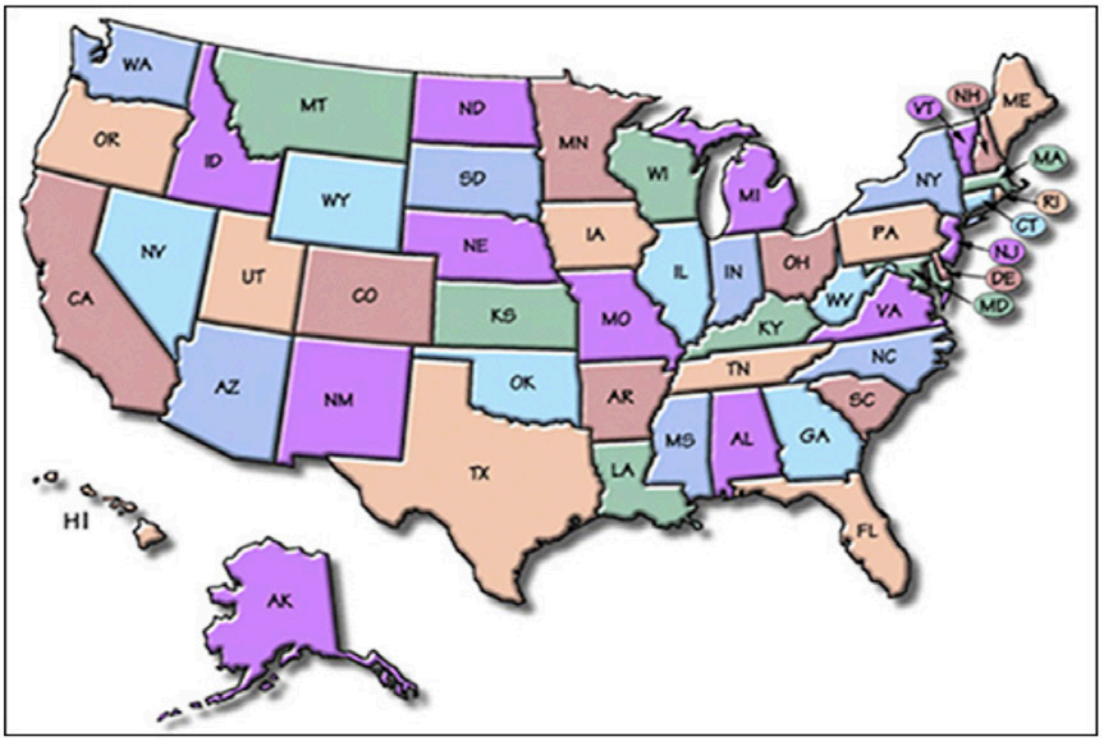

Figure 1. State-by-State Occupational Safety and Health Resource Locator.
Source: *HERC-Healthcare Environmental Resource Center*

that supplies hazardous chemicals to other distributors and/or to employers.

An ***employer*** is an entity engaged in a business where hazardous chemicals are either used (e.g., a dental practice), distributed, or are produced for use or distribution, including contractors or subcontractors. An ***employee*** is a worker (e.g., healthcare personnel) who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies. Workers who encounter hazardous chemicals only in non-routine, isolated instances are not covered.

Exposure or exposed to means that an employee, in the course of employment, is subjected (e.g., by inhalation, ingestion, skin contact, or absorption) to a chemical that is a physical or health hazard. ***Foreseeable emergency*** (i.e., accidental or possible) means any potential exposure such as, but not limited to, equipment failure, rupture of containers, or failure of control equipment which could result in an uncontrolled release of a hazardous chemical into the workplace.

It is the responsibility of manufacturers and importers to classify the hazards of chemicals they produce or import. To ***classify*** means they must (1) identify relevant data regarding the hazards of a chemical, (2) review those data to determine the hazards associated with the chemical, and (3) decide whether the chemical should be classified as hazardous. A ***hazardous chemical*** is any chemical classified as a health hazard, a physical hazard, or a hazard not otherwise classified.

Health hazard means that the chemical may have one or more of the following hazardous characteristics: it may cause acute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization; germ cell mutagenicity; carcinogenicity; reproductive toxicity; specific target organ toxicity (single or repeated exposure); or aspiration. These classes may be further divided into hazard categories.

Physical hazard means that the chemical may have one or more of the following hazardous characteristics: it may be explosive; flammable (gases, aerosols, liquids, or solids); oxidizing (liquid, solid or gas); self-reactive; pyrophoric (liquid, solid, or gas); self-heating; organic peroxide; corrosive to metal; gas under pressure; in contact with water emits flammable gases, or combustible (dust). These classes may be further divided into hazard categories.

Hazard categories are important because they are based on the severity of an effect. For example, there are four categories in the hazard class for flammable liquids (Table 1). These categories are based on flashpoints. The lower the flashpoint, the more severe the effect. Warnings are provided on the labels in

Table 1. Criteria for Categorizing Flammable Liquids.[4]

Category	Criteria
1	Flash point < 23°C (73.4°F) and initial boiling point ≤ 35°C (95°F)
2	Flash point < 23°C (73.4°F) and initial boiling point > 35°C (95°F)
3	Flash point ≥ 23°C (73.4°F) and initial boiling point ≤ 60°C (140° F)
4	Flash point > 60°C (140°F) and ≤ 93°C (199.4°F)

the form of precautionary statements and the category itself is available in safety data sheets for the employer's reference.

Hazard not otherwise classified means that the chemical may produce an adverse health effect or physical event based on an evaluation of scientific data during the classification process. However, the evidence does not meet the specified criteria for a health hazard or physical hazard class. The effect either falls below the cut-off or threshold value/concentration limit of the hazard class or it is under a GHS hazard category that has not been adopted by OSHA.

The chemical manufacturer or importer must determine the hazard class, and when appropriate, the hazard category of each class that applies to the chemical being classified. They must also ensure that the containers of hazardous chemicals are labeled. The **labels** must be affixed to, printed on, or attached to the immediate container and to the outside packaging of a hazardous chemical conveying the hazards as well as recommended protective measures (Figure 2).

Chemical manufacturers and importers must also prepare **safety data sheets** (SDSs) for the hazardous chemicals they produce or import and they are responsible for providing SDSs downstream. Chemical manufacturers, importers, and distributors are responsible for ensuring that their customers (e.g., dental practices) are provided a copy of these SDSs at the time of the first shipment, and when an SDS is updated with new and significant information.

Furthermore, employers (e.g., dental practices) must ensure that the containers they received are labeled and that an SDS is provided for each hazardous chemical in the workplace. They must also establish a HazCom program for their employees (e.g., healthcare personnel). Employees must be trained on the hazards of chemicals in their work area before initial assignment and when new hazards are introduced. The responsibilities for HazCom are illustrated in Figure 3.

Steps to an Effective HazCom Program

Employees (e.g., healthcare workers) are entitled to information about the identities and

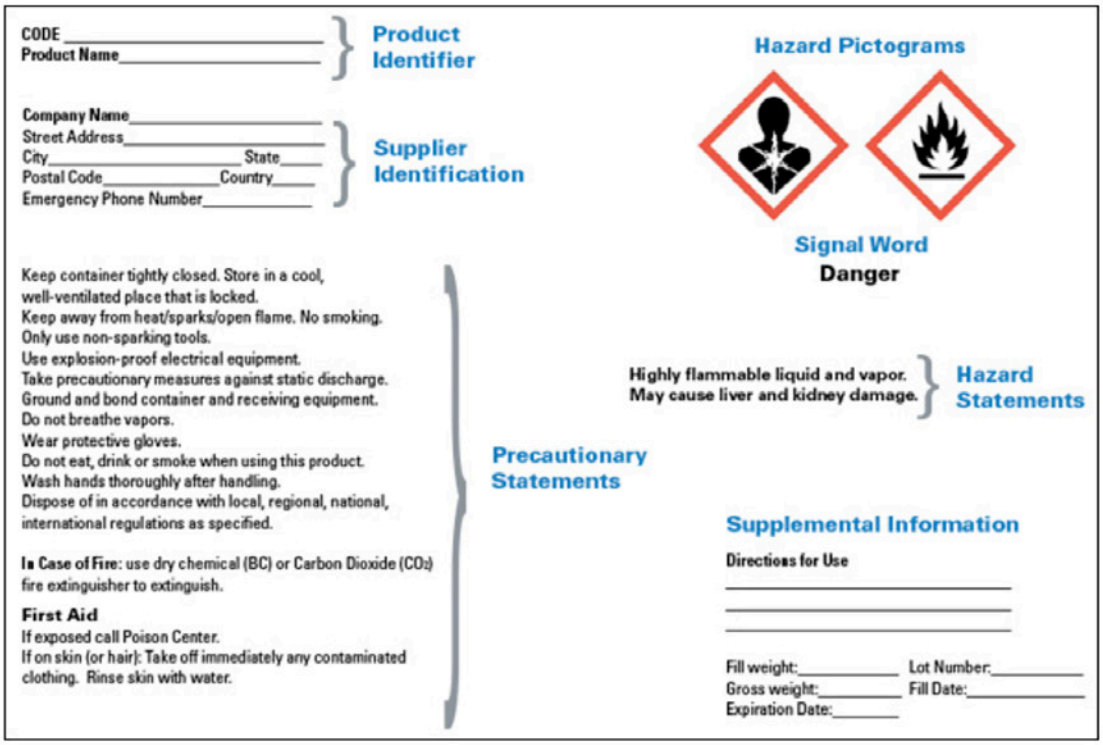

Figure 2. Sample label for hazardous chemicals.[4]

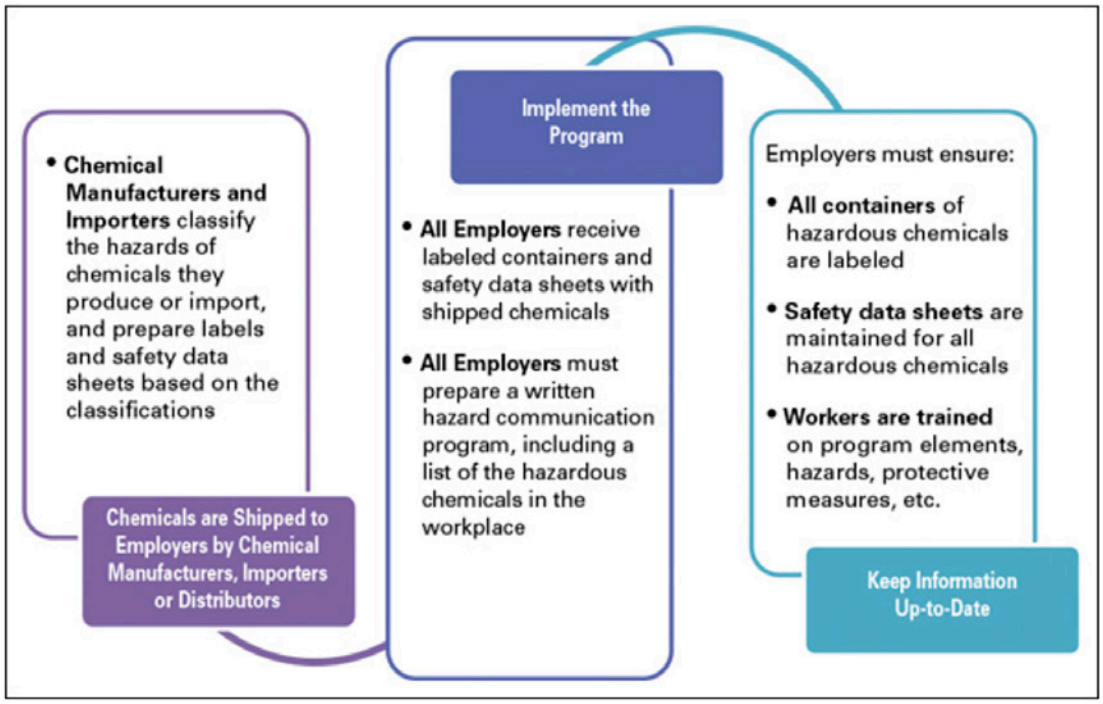

Figure 3. How hazard communication works.[4]

hazards of the chemicals they are potentially exposed to when working. Employers (e.g., oral healthcare facilities) that have hazardous chemicals in their workplaces are required by OSHA's Hazard Communication Standard, 29 CFR 1910.1200, to implement HazCom 2012.[2] An effective HazCom program may be accomplished in six steps (Figure 4).

Learn the Standards and Identify Responsible Staff

OSHA provides online access to the full regulatory text of HazCom 2012, as well as guidance, interpretations, and other relevant materials on its hazard communication website.[2,4,5] The provisions of HazCom 2012 that apply to oral healthcare settings are found primarily in paragraphs (e), (f), (g) and (h); other parts, such as paragraph (c), may provide additional guidance on understanding the requirements (Table 2).[2,4]

In order to have a successful HazCom program, workplace personnel should be engaged both in initial and ongoing activities required for compliance. To address all of the necessary components of an effective program, responsibility for overall program management should be assigned to a ***HazCom Coordinator***. The HazCom Coordinator may then identify additional staff to be responsible for specific activities (e.g., on-the-job training).

Prepare and Implement a Written HazCom Program

Paragraph (e) of HazCom 2012 requires employers to prepare and implement a ***written HazCom program***.[2] The main intent is to ensure compliance with paragraphs (f) Labels and Other Forms of Warning; (g) Safety Data Sheets; and (h) Employee Information and Training.[2,4] There are no requirements for the format, but it should contain a policy statement (Box A) followed by a hierarchical, customized plan applicable to a specific workplace (Boxes B to G).[4]

Develop and Maintain a List of Hazardous Chemicals

Paragraph (e)(1)(i) of HazCom 2012 mandates that employers develop and maintain a ***list of hazardous chemicals*** known to be present in the workplace.[2,4] Manufacturers and importers of hazardous chemicals are required to provide labels on all containers shipped. It is also mandated that each label include a ***product***

Figure 4. Six Steps to an Effective HazCom Program.[4]

identifier (i.e., the common, chemical, or brand name of the product). A practical approach to develop and maintain the list is by using the product identifier.

HazCom covers all forms of chemicals (i.e., liquids, solids, gases, vapors, fumes, and mists), whether "contained" or not. If there is no potential for exposure (e.g., the chemical is inextricably bound and cannot be released), the chemical is not covered by the standard, but remember to include chemicals that are generated during work operations. For example, the fume or vapor from a chemical sterilizer is a source of hazardous chemicals (e.g., formaldehyde).

Ensure Containers are Labeled

Paragraph (f) of HazCom 2012 mandates that employers keep labels on shipped containers and to label secondary containers if used.[2,4] Labels provide the primary information about hazards and protective information. In addition to the product identifier, ***label elements*** must include pictogram(s), a signal word, hazard statement(s), precautionary statement(s), and the name, address and phone number of the source of the hazardous chemical (Figure 5).

Table 2. Organization of HazCom 2012 Regulatory Requirements.[4]

Paragraphs of the Standard	Appendices to the Standard
(a) Purpose	**Appendix A,** Health Hazard Criteria (Mandatory)
(b) Scope and Application	**Appendix B,** Physical Hazard Criteria (Mandatory)
(c) Definitions	**Appendix C,** Allocation of Label Elements (Mandatory)
(d) Hazard Classification	**Appendix D,** Safety Data Sheets (Mandatory)
(e) Written Hazard Communication Program	**Appendix E,** Definition of "Trade Secret" (Mandatory)
(f) Labels and Other Forms of Warning	**Appendix F,** Guidance for Hazard Classifications re: Carcinogenicity (Non-mandatory)
(g) Safety Data Sheets	
(h) Employee Information and Training	
(i) Trade Secrets	
(j) Effective Dates	

Box A. Policy Statement.[4]

Prototype

Written HazCom 2012 Program

Section A: Policy Statement

To ensure that information about the dangers of all hazardous chemicals used by ***(Name of the Employer)*** is known by all affected workers, the following HazCom program has been implemented. Under this program, workers will be informed of the requirements of HazCom 2012, the activities where exposure to hazardous chemicals may occur, and how workers can access this program, as well as labels and SDSs.

This program applies to any hazardous chemical which is known to be present in the workplace in such a manner that workers may be exposed to under normal conditions of use or in a foreseeable emergency. All work areas that involve potential exposure to hazardous chemicals are part of the HazCom program.

(Name of responsible person and/or position) is the HazCom program coordinator, with overall responsibility for the program, including reviewing and updating this plan as necessary.

Copies of the HazCom program are available upon request in ***(identify location)*** for review by any interested parties such as workers, their designated representatives, and OSHA.

Box B. List of Hazardous Chemicals.[4]

Section B: List of Hazardous Chemicals

A list of all known hazardous chemicals in the workplace is attached to this document. This list includes the name of each hazardous chemical and the work area(s) in which they are used.

Additional information on each hazardous chemical may be obtained from the labels on the containers and the SDSs, located in ***(identify location)***.

When a new hazardous chemical is received, this list is updated within ***(x)*** days. To ensure that the list is updated in a timely manner, the following procedures shall be followed:

Identify procedures to be followed

The hazardous chemical inventory is compiled and maintained by ***(Name of responsible person and/or position and telephone number)***.

Figure 5. Example of required HazCom 2012 label elements.[4]

The product identifier is any chemical, common, or trade name or designation that the chemical manufacturer or importer chooses to use on the label. The product identifier on the label must be the same as the one included in the SDS. A ***signal word*** (e.g., "danger" or "warning") indicates the relative level of severity of hazard. The signal word "danger" is used for the more severe hazards, while "warning" is used for the less severe hazards.

A ***hazard statement*** describes the nature, and when appropriate, the degree of hazard. For example, "fatal if swallowed" is a hazard statement for acute oral toxicity. The hazard statement conveys that the chemical is severely toxic, and ingestion of the chemical results in death. For less toxic chemicals, the hazard statement may be "toxic if swallowed" or "harmful if swallowed," which convey a less severe hazard.

A ***pictogram*** may be a symbol plus other graphic elements, such as a border, background pattern, or color that is intended to convey specific information about the hazard. Some pictograms are symbols that resemble the hazardous effect, others are merely meant to attract attention. The eight pictograms designated under HazCom 2012 are black symbols on a white background with red diamond borders (Table 3).
When the shipping container is also the container used in the workplace, workers must be made aware of the U.S. Department of Transportation (DOT) pictograms (Table 4), as they may appear on the label in addition to or instead of HazCom 2012 pictograms. The symbols have been harmonized as much as possible for hazards covered both by OSHA and DOT. The DOT pictograms are also diamond-shaped, but their backgrounds are of various colors.

Precautionary statements describe recommended measures to minimize or prevent adverse effects or events resulting from exposure to a hazardous chemical or improper storage or handling (e.g., do not eat, drink, or smoke when using this product). There are four types of statements: *prevention, response, storage*, and *disposal*. Supplemental information is permitted as long as it does not conflict with the required information.

Table 3. HazCom 2012 pictograms.[4]

Health Hazard  • Carcinogen • Mutagenicity • Reproductive Toxicity • Respiratory Sensitizer • Target Organ Toxicity • Aspiration Toxicity	**Flame**  • Flammables • Pyrophorics • Self-Heating • Emits Flammable Gas • Self-Reactives • Organic Peroxides	**Exclamation Mark**  • Irritant (skin and eye) • Skin Sensitizer • Acute Toxicity (harmful) • Narcotic Effects • Respiratory Tract Irritant • Hazardous to Ozone Layer (Non-Mandatory)
Gas Cylinder  • Gases Under Pressure	**Corrosion**  • Skin Corrosion/ Burns • Eye Damage • Corrosive to Metals	**Exploding Bomb**  • Explosives • Self-Reactives • Organic Peroxides
Flame Over Circle  • Oxidizers	**Environment** **(Non-Mandatory)**  • Aquatic Toxicity	**Skull and Crossbones**  • Acute Toxicity (fatal or toxic)

Table 4. Examples of DOT pictograms.[4]

 • Flammable Gas • Flammable Aerosol	 • Flammable solids • Self-Reactive substances and mixtures	 • Pyrophoric solids • Phyrophoric liquids • Self-heating Substances and mixtures
 • Substances and mixtures, which in contact with water, emit flammable gases	 • Oxidizing gases • Oxidizing liquids • Oxidizing solids	 • Self reactive substances and mixtures (type B) • Organic peroxides
 • Explosives (Division 1.4)	 • Explosives (Division 1.5)	 • Explosives (Division 1.6)
 • Gases under pressure	 • Acute toxicity: Oral • Acute toxicity: Skin • Acute toxicity: Inhalation	 • Corrosive to metals • Skin corrosion/irritation
 • Aquatic toxicity (Acute) • Aquatic toxicity (Chronic)	 • Organic Peroxides	

Employers are required to ensure that containers of hazardous chemicals in the workplace are labeled. If the containers received from the supplier are used in the workplace, simply maintain the label received from the supplier. The HazCom 2012 label system is the best and easiest option, but, for secondary containers, other systems (e.g., National Fire Protection Association (NFPA) or Hazardous Materials Identification System (HMIS) are acceptable.

The employer must also make sure that the labels are legible and prominently displayed. While the label information must be in English, employers are free to add warnings in other languages if workers would find that helpful. OSHA has prepared QuickCards™ to describe the label elements (OSHA 3492)[5], as well as to illustrate the pictograms (OSHA 3491)[6]. These are available on the OSHA website, or can be obtained from your local OSHA area office.

Maintain Safety Data Sheets (SDSs)

Paragraph (g) of HazCom 2012 states that employers must have an SDS in the workplace for each hazardous chemical they use.2,4 An important aspect of the HazCom program is to ensure that someone (e.g., the HazCom Coordinator or a designee) is responsible for obtaining and maintaining the SDSs for every hazardous chemical in the workplace. If an SDS is missing, one must be requested from the distributor. To shows good faith effort to obtain an SDS, it is prudent to document the request (e.g., keep copy of the letter or e-mail; make a note regarding telephone contact). If the request for an SDS does not produce the information needed, the local OSHA area office should be contacted for assistance. A hazardous chemical for which there is no SDS on file should not be used until the SDS is obtained.

The SDSs have 16 internationally agreed upon components or sections that contain information for many different audiences (e.g., employers, workers, safety and health professionals, emergency responders, government agencies, and consumers). Consequently, the sections have been organized so that the information of most use to exposed workers, emergency responders, and others who do not need extensive technical detail is in the beginning of the SDS (Table 5).

For example, a description of a chemical's health effects appears in Section 2 (Hazard identification), but the toxicological data upon which the determination of these effects is based appears in Section 11 (Toxicological information). All of the sections are available to any reader, but there is a difference between what is necessary for a broader audience and what might be needed by others designing protective measures or providing medical services.

Box C. Labels.[4]

Section C: Labels

(Name of responsible person and/or position) will verify that all containers received from a distributor for use are clearly labeled in accord with the requirements of HazCom 2012, including a product identifier, pictogram(s), hazard statement(s), signal word, and precautionary statements, as well as the distributor's contact information ***(include name and name and address of supplier)***.

(Name of responsible person and/or position) in each work area will ensure that all secondary containers are labeled with the original distributor's label or with an alternative workplace label. For help with labeling, see ***(name of responsible person and/or position)***.

We are using an in-house labeling system ***(describe any in-house system which conveys required workplace label information)***. ***(Name of responsible person and/or position)*** will review our labeling procedures every ***(provide a time period)*** and will update labels as required.

Table 5. Major components of a safety data sheet.[4]

The Hazard Communication Standard (HCS) requires chemical manufacturers, distributors, or importers to provide Safety Data Sheets (SDSs) (formerly known as Material Safety Data Sheets or MSDSs) to communicate the hazards of hazardous chemical products. As of June 1, 2015, the HCS will require new SDSs to be in a uniform format, and include the section numbers, the headings, and associated information under the headings below: **Section 1, Identification** includes product identifier; manufacturer or distributor name, address, phone number; emergency phone number; recommended use; restrictions on use. **Section 2, Hazard(s) identification** includes all hazards regarding the chemical; required label elements. **Section 3, Composition/information on ingredients** includes information on chemical ingredients; trade secret claims. **Section 4, First-aid measures** includes important symptoms/effects, acute, delayed; required treatment. **Section 5, Fire-fighting measures** lists suitable extinguishing techniques, equipment; chemical hazards from fire. **Section 6, Accidental release measures** lists emergency procedures; protective equipment; proper methods of containment and cleanup. **Section 7, Handling and storage** lists precautions for safe handling and storage, including incompatibilities.	**Section 8, Exposure controls/personal protection** lists OSHA's Permissible Exposure Limits (PELs); ACGIH Threshold Limit Values (TLVs); and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the SDS where available as well as appropriate engineering controls; personal protective equipment (PPE). **Section 9, Physical and chemical properties** lists the chemical's characteristics. **Section 10, Stability and reactivity** lists chemical stability and possibility of hazardous reactions. **Section 11, Toxicological information** includes routes of exposure; related symptoms, acute and chronic effects; numerical measures of toxicity. Section 12, Ecological information* Section 13, Disposal considerations* Section 14, Transport information* Section 15, Regulatory information* **Section 16, Other information**, includes the date of preparation or last revision. *Note: Since other Agencies regulate this information, OSHA will not be enforcing Sections 12 through 15 (29 CFR 1910.1200(g)(2)). **Employers must ensure that SDSs are readily accessible to employees.** See Appendix D of 29 CFR 1910.1200 for a detailed description of SDS contents.

these sections are not considered mandatory by OSHA, the sections are still required. They provide useful information related to ecological, disposal, and transportation-specific issues under the regulatory control of other agencies.

Employers must not only maintain copies of SDSs, they must also ensure that the SDSs are readily accessible to workers during their work shifts. Some employers keep the SDSs in a binder in a central location, others provide access electronically. However, if access to SDSs is provided electronically, there must be an adequate back-up system in place in the event of a power outage, equipment failure, or other emergency involving the primary electronic system.

Familiarity with the information in each section of an SDS will enable both employers and employees to quickly access this information in case of an emergency. A section-by-section description of the information required for each part of the SDS is available in Appendix D of HazCom 2012.2 OSHA also developed a QuickCard™ on SDSs (OSHA 3493) available on the OSHA Hazard Communication website.[7] The SDSs must be in English, although the employer may maintain copies in other languages.

Informing Other Employers About Hazardous Chemicals in the Workplace

Where there is more than one employer operating on a site (e.g., several dental practices within the same physical setting), employees may be exposed to the chemicals used by each employer. For example, in a physical space with five dentists only one may use nitrous oxide, but because of the facility's open design, all employees may be exposed to nitrous oxide that escapes containment during use.

In these cases, paragraph (e)(2) requires that the written HazCom program be coordinated.[2,4]

Box D. Safety Data Sheets.[4]

Section D: Safety Data Sheets

(Name of responsible person and/or position) is responsible for establishing and monitoring the company's SDS program. The procedure below will be followed when an SDS is not received at the time of initial shipment:

Describe procedure to be followed here

Copies of SDSs for all hazardous chemicals to which workers are exposed or are potentially exposed will be kept in ***(identify location)***. Workers can access SDSs by ***(insert procedure for access)***.

Note: If alternatives to paper copies of SDSs are used, describe the format used and how workers can access the SDSs.

SDSs will be readily available to all workers in each work area during each work shift. If an SDS is not available, contact ***(name of responsible person and/or position)***.

When a revised SDS is received, the following procedure will be followed to replace old SDS:

Describe procedure here

(Name of responsible person and/or position) is responsible for reviewing the SDSs received for safety and health implications, and initiating any needed changes in workplace practices.

Box E. Informing Other Employers About Hazardous Chemicals.[4]

Section E: Informing other employers about hazardous chemicals

It is the responsibility of ***(name of responsible person and/or position)*** to provide other employers with information about hazardous chemicals that their workers may be exposed to in our shared setting.

It is the responsibility of ***(name of responsible person and/or position)*** to obtain information about hazardous chemicals used by other employers to which our workers may be exposed to.

Other employers will be provided with SDSs for hazardous chemicals used by this practice in the following manner:

Describe company policy here

In addition to providing a copy of an SDS to other employers, other employers will be informed of necessary precautionary measures to protect workers exposed to chemicals used in our workplace.

Also, other employers will be informed of the hazard labels used. If alternative workplace labeling systems are used, the other employers will be provided with information to understand the labels used for hazardous chemicals to which their workers may have exposure.

Each employer must address (1) how on-site access to SDSs will be provided to the other employer(s), (2) how such employers will be informed of needed precautionary measures, and (3) how such employers will be informed of the on-site labeling system if it is different from the labels specified for shipped containers under the standard.

Inform and Train Employees

Paragraph (h) of the HCS requires that employers train employees on the hazardous chemicals in the workplace before their initial assignment and when new hazards are introduced.[2,4] The training must be conducted in a manner and language that the employees understand. The standard requires employees to be informed of (1) the general requirements of HazCom 2012, (2) where hazardous chemicals are located, and (3) the various elements of the HazCom program.

Workers must have a general understanding of what information is provided on labels and SDSs, and how to access them. If there are only a few chemicals in the workplace, each one may be discussed individually. Where there are large numbers of chemicals, training may be designed to cover categories of hazards. Workers must be made aware of the protective measures available, how to use or implement these measures, and who they should contact if an issue arises.

A. Training on label elements
   a. Employees should be advised of the type of information that they can expect to see on the labels
      i. Product identifier
         1. How the hazardous chemical is identified. This can be (but is not limited to) the chemical name, code number or batch number.
         2. How to cross-reference the product identifier with the SDS of the product, i.e., the same product identifier must be both on the label and in Section 1 (Identification) of the SDS.
      ii. Signal word
         1. Explain that signal words are used to indicate the relative level of severity of hazard and to alert the employee to a potential hazard on the label.
         2. Explain that there are only two signal words, "Danger" and "Warning." Within a specific hazard class, "Danger" is used for the more severe hazards and "Warning" is used for the less severe hazards.
         3. Explain that only one signal word will appear on the label no matter how many hazards a chemical may have. If one of the hazards warrants the signal word "Danger" and another warrant the signal word "Warning," only "Danger" will appear on the label.
      iii. Pictogram(s)
         1. Explain that OSHA-required pictograms must be in the shape of a square set at a point and include a black hazard symbol on a white background with a red frame wide enough to be clearly visible.
         2. Explain that OSHA has designated eight pictograms under this standard for application to a hazard category.
         3. Explain that when a chemical has multiple hazards, the label will contain a pictogram for each hazard category.
      iv. Hazard statement(s)
         1. Discuss the nature and degree of the hazard(s). For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin."
         2. Explain that all applicable hazard statements appear on the label and employees should always see the same statement for the same hazards, no matter what the chemical is or who produces it.
      v. Precautionary statement(s)
         1. Explain that precautionary statements describe recommended measures to minimize or prevent adverse effects resulting from exposure to a hazardous chemical.
      vi. Name, address and phone number of the chemical manufacturer, importer, or distributor
   b. How an employee might use the labels in the workplace
      i. Explain how the information on the label might be used to quickly locate

information on first aid when needed by employees or emergency personnel.
ii. Explain how information on the label can be used to ensure proper storage and disposal of hazardous chemicals.

c. How the various elements work together on a label
i. Explain that labels display pictograms appropriate for each hazard class, i.e., when a chemical has multiple hazards, different pictograms identify the various hazards.
ii. Explain that when there are similar precautionary statements, the one providing the most protective information will be included on the label.

B. Training on the format of the SDS
a. Explain the standardized 16-section format, including the type of information found in the various sections
i. For example, the employee should be instructed that with the SDS format, Section 8 (Exposure Controls/ Personal Protection) will always contain information about exposure limits, engineering controls and ways to ensure protection, including personal protective equipment.

b. Explain how the information on the label is related to the SDS
i. Explain that the same product identifier appear both on the label and in Section 1 of the SDS (Identification).
ii. Explain that the precautionary statements are the same on the label and on the SDS.

Employee Information and Training for Hazards of Non-routine Tasks

While workers' initial training addresses the types of exposures likely to be encountered in their usual work routines, there may be other tasks to be performed on occasion that will expose these workers to different hazards that may require novel control measures. Paragraph (e)(1)(ii) mandates that employees be informed of the hazards of non-routine tasks.[2,4]

Box F. Employee Information and Training.[4]

Section F: Employee information and training

(Name of responsible person and/or position) is responsible for employee information and training.

Every worker who will be potentially exposed to hazardous chemicals will receive initial training on the HazCom 2012. The training program for new workers is as follows:

Describe how the training will be presented, and what it will include. Describe training format, such as audiovisuals, interactive computer programs, classroom instruction, etc.

Prior to introducing a new chemical hazard into any work area, each worker in that work area will be given information and training as outlined above for the new chemical hazard.

Box G. Hazards of Non-routine Tasks.[4]

Section G: Hazards of non-routine tasks

Prior to performing non-routine tasks that are hazardous, each affected worker will be given information by ***(name of responsible person and/or position)*** about the hazardous chemicals he or she may encounter during such activity. This information will include specific chemical hazards, protective and safety measures the worker should use, and steps that will be taking to reduce the hazards, including ventilation, respirators, the presence of another worker ***(buddy systems)***, and emergency procedures.

The written program must to address how the employer will handle such situations to ensure that the workers have the necessary information to stay protected.

Evaluate and Reassess the Program

Although HazCom 2012 does not have specific requirements for periodically updating the written HazCom program, it must remain current and relevant.[4] As new chemicals are introduced or old chemicals are eliminated from the workplace, the list of hazardous chemicals must be updated. The new inventory is then used to ensure that relevant SDSs are on file. In addition, designation of people to handle different parts of the program must also be current and accurate.

HazCom program coordinators should routinely walk around the workplace to check that containers are labeled as required and that workers are following established work practices to protect themselves from chemical exposure. Proactive monitoring of the workplace is critical to ensure compliance with HazCom 2012. The HazCom program should be revised to address changed conditions in the workplace (e.g., new chemicals, new hazards, etc.).

Summary

Oral healthcare personnel are entitled to working conditions that do not pose a risk of serious harm. HazCom 2012 provides the framework for building a chemical safety and health management program in oral healthcare settings. By understanding the hazards and using available information to identify proper control measures, employers can minimize or prevent health and physical hazards.

Course Test Preview

To receive Continuing Education credit for this course, you must complete the online test. Please go to: *www.dentalcare.com/en-us/professional-education/ce-courses/ce502/start-test*

1. Which federal agency sets and enforces workplace health and safety standards?

A. NIOSH
B. OSHRC
C. OSHA
D. U.S. Congress

2. HazCom 2012 applies to any dental office that uses hazardous chemicals and any individual who enters the facility.

A. The first part of the statement is true, but the second part of the statement is false.
B. The first part of the statement is false, but the second part of the statement is true.
C. Both parts of the statement are true.
D. Both parts of the statement are false.

3. In the context of HazCom 2012, an employee is a worker (e.g., healthcare personnel) who may be exposed to hazardous chemicals under normal operating conditions or in foreseeable emergencies?

A. True
B. False

4. It is the responsibility of the _____ to classify the hazards of a chemical.

A. distributor
B. employer who uses but does not manufacture the chemical
C. employee who uses the chemical
D. manufacturers and importers

5. To classify a chemical means that the chemical manufacturer or importer must accomplish all of the following except for one. Which one is the exception?_____.

A. identify relevant data regarding the hazards of a chemical
B. review those data to determine the hazards associated with the chemical
C. decide whether the chemical should be classified as hazardous
D. perform human exposure studies to determine risk

6. Health hazard means that the chemical may have one or more of the following hazardous characteristics, except for one. Which one is the exception?

A. aacute toxicity (any route of exposure); skin corrosion or irritation; serious eye damage or eye irritation; respiratory or skin sensitization
B. unpleasant smell
C. germ cell mutagenicity; carcinogenicity; reproductive toxicity
D. specific target organ toxicity (single or repeated exposure); or aspiration

7. Physical hazard means that the chemical may have one or more of the following hazardous characteristics, except for one. Which one is the exception?

A. explosive; flammable (gases, aerosols, liquids, or solids); oxidizing (liquid, solid or gas)
B. self-reactive; pyrophoric (liquid, solid, or gas); self-heating; organic peroxide; corrosive to metal
C. gas under pressure; in contact with water emits flammable gases, or combustible (dust)
D. Stable or inert while in storage.

8. It is the responsibility of _____ to ensure that labels are affixed to, printed on, or attached to the immediate (primary) container and to the outside packaging of a hazardous chemical conveying the hazards as well as recommended protective measures.

A. the chemical manufacturer or importer
B. the distributor
C. the employee (e.g., healthcare personnel)
D. the employer (e.g., the dental practice)

9. _____ must prepare safety data sheets (SDSs) for the hazardous chemicals and are responsible for providing SDSs downstream.

A. Distributors
B. Employers (e.g., Dental practice)
C. Chemical manufacturers and importers
D. Employees (e.g., healthcare personnel)

10. Employers (e.g., dental practices) are responsible for all of the following, except for one. Which one is the exception?

A. ensuring the containers they received are labeled and that an SDS is provided for each hazardous chemical in the workplace
B. establishing a HazCom program for their employees (e.g., healthcare personnel)
C. classifying the hazardous chemicals that they receive
D. ensuring that employees are trained on the hazards of chemicals in their work area before initial assignment and when new hazards are introduced

11. Paragraph (e) of HazCom 2012 requires employers to prepare and implement a written HazCom program to ensure compliance with all of the following paragraphs, except for one. Which one is the exception?

A. (b) Scope and application.
B. (f) Labels and Other Forms of Warning
C. (g) Safety Data Sheets
D. (h) Employee Information and Training

12. Labels, to the product identifier, must include all of the following, except for one. Which one is the exception?

A. pictogram(s) and a signal word
B. expiration date
C. hazard statement(s) and precautionary statement(s)
D. the name, address and phone number of the source of the hazardous chemical.

13. A _____ indicates the relative level of severity of a hazard.

A. hazard statement
B. signal word
C. pictogram
D. precautionary statement

14. All of the following statements related to SDSs are correct, except for one. Which one is the exception?

A. Paragraph (g) of HazCom 2012 states that employers must have an SDS in the workplace for each hazardous chemical they use.
B. If an SDS is missing, one must be requested from the distributor. To shows good faith effort to obtain an SDS, it is prudent to document the request (e.g., keep copy of the letter or e-mail; make a note regarding telephone contact).
C. A hazardous chemical, for which there is no SDS on file, should not be used until the SDS is obtained.
D. It is permissible to use a hazardous chemical while awaiting receipt of the SDS from the distributor.

15. The SDSs have 16 internationally agreed upon components or sections that contain information for many different audiences organized so that the information of most use to exposed workers, emergency responders, and others who do NOT need extensive technical detail is in the beginning of the SDS.

A. True
B. False

16. All of the following statements are correct with respect to Paragraph (h) of HazCom 2012, except for one. Which one is the exception?

A. EAll employees must undergo written testing on an annual basis.
B. Employers must train employees on the hazardous chemicals in the workplace before their initial assignment and when new hazards are introduced.
C. The training must be conducted in a manner and language that the employees understand.
D. AEmployees must be informed of (1) the general requirements of HazCom 2012, (2) where hazardous chemicals are located, and (3) the various elements of the HazCom program.

17. To cross-reference the product identifier with the SDS of the product, employees must know that the product identifier found on the label must be the same as the one in Section 1 (Identification) of the SDS.

A. True
B. False

18. All of the following statements are correct with respect to signal words, except for one. Which one is the exception?

A. Signal words are used on the label to indicate the relative level of severity of hazard and to alert the employee to a potential hazard.
B. Within a specific hazard class, there are only two signal words, “Danger” and “Warning.”
C. If one of the hazards warrants the signal word “Danger” and another warrant the signal word “Warning,” both will appear on the label.
D. “Danger” is used for the more severe hazards and “Warning” is used for the less severe hazards.

19. All of the following statements related to pictograms are correct, except for one. Which one is the exception?

A. OSHA-required pictograms must be in the shape of a square set at a point.
B. OSHA-required pictograms include a black hazard symbol on a white background with a red frame wide enough to be clearly visible.
C. OSHA has designated eight pictograms under this standard for application to a hazard category.
D. When a chemical has multiple hazards, only the pictogram identifying the more severe hazards is used.

20. All of the following statements related to the education and training program are correct, except for one. Which one is the exception?

A. HazCom 2012 does not require employers to maintain employee training records, albeit it may be prudent to do so.
B. HazCom 2012 does not require retraining employees on a regular schedule; it simply requires additional training when a new hazardous chemical is introduced into the work area.
C. The HazCom program should be revised to address changed conditions in the workplace (e.g., new chemicals, new hazards, etc.)
D. Outside assessment of the office HazCom program efficacy must be accomplished annually

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Additional Resources

- No Additional Resources Available

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