

The Cal/OSHA Hazard Communication Regulation —

a Guide for Employers That Use Hazardous Chemicals







Department of Industrial Relations Division of Occupational Safety and Health



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This publication explains the functions of the California Occupational Safety and Health (Cal/OSHA) Program and some common requirements of California law and regulations for workplace safety and health. It is not intended to provide interpretation of the law and regulations. The reader must refer directly to title 8 of the California Code of Regulations and the California Labor Code for detailed information, specifications, and exceptions.

Workplace safety and health information is available online at:

General information: www.dir.ca.gov/dosh Cal/OSHA regulations: www.dir.ca.gov/samples/search/query.htm Cal/OSHA safety and health publications: www.dir.ca.gov/dosh/puborder.asp Cal/OSHA etools: www.dir.ca.gov/dosh/etools/etools.htm

Cal/OSHA Consultation Services offers free telephone, email, and onsite assistance. Find a local office online (www.dir.ca.gov/dosh/consultation.html) or with the contact information listed in the back of this document.

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The Concern

Every day at workplaces throughout California, employees work with hazardous chemicals that can harm their health and/or cause physical hazards. This guide is designed to help users of these chemicals — employers and their employees:

- **Understand** the requirements of the Hazard Communication Regulation commonly also referred to as the "HazCom Regulation" as it pertains to their workplace.
- Implement an effective Hazard Communication Program also commonly referred to as the "HazCom Program."
- Adequately control their exposures to these chemicals.

Importance of Employer and Employee Collaboration

The better the employer/employee collaboration, the greater the chance the program will be effective.

Involvement of Others

Medical personnel, such as physicians, nurses, and other health care professionals, can best treat injured workers when they have complete information about the substances to which an injured worker was exposed.

Emergency responders, such as firefighters and police, benefit because:

- An effective response strategy depends on advance knowledge of the chemical(s) involved in a fire or chemical spill.
- They can better protect themselves, thereby reducing the likelihood of work-related injuries and illnesses.

The primary means of accomplishing all of the above is by communicating the hazards of workplace chemicals via safety data sheets (SDSs), container labeling, and employee training.

This guide is intended to provide employers with a simplified overview of the major program elements that need to be effectively implemented and is not meant to be a substitute for—or a legal interpretation of—the California occupational safety and health regulations. The reader is cautioned to refer directly to the California Code of Regulations, title 8, Health and Safety Code section 25249.5, et seq., and the California Labor Code for detailed information, specifications, and exceptions.

Its primary intent is to assist employers and their employees to implement the title 8, section 5194 requirements. Manufacturers, importers, distributors, and employers must consult section 5194 and its appendices, as well as the federal OSHA website for additional guidance on how to classify hazardous chemicals and develop/provide safety data sheets (SDSs) and container labels.

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Regulatory Requirement Overview

Employer Responsibilities

Under the California Labor Code and the California Occupational Safety and Health Act, all employers in California are legally obligated to provide and maintain a safe and healthful workplace for employees.

The HazCom Regulation addresses one aspect — hazardous chemicals — that needs to be addressed in order to meet this obligation, and can be found in the California Code of Regulations, title 8 (T8 CCR), section 5194. It is an important component of an employer's overall safety and health program.

Proposition 65 — the Safe Drinking Water and Toxic Enforcement Act — Comes into Play

The relevant requirements of Proposition 65 were added to the original Hazcom Regulation as subsection 5194(b)(6) in 1991.

Applies to all businesses except:

- Companies employing fewer than ten employees.
- Any government agency.
- All public water systems.

Proposition 65 requires the governor to publish a list of chemicals known to the State of California to cause cancer, birth defects, or reproductive harm. It also requires that businesses provide a clear and reasonable warning before knowingly and intentionally exposing anyone to a listed chemical. Relevant notes about Proposition 65 appear throughout this guide. For complete details on the Proposition 65 regulation, please refer to Health and Safety Code section 25249.5 et seq., Appendix G of title 8 CCR section 5194, and title 27 CCR section 25000, et seq. The Office of Environmental Health Hazard Assessment (OEHHA) website provides additional details. Compliance with Proposition 65 requirements for notifying employees of hazards can be achieved by complying with the provisions of California's HazCom Regulation.

Who is Responsible for Classifying and Categorizing Chemicals, and Developing the SDS?

Chemical manufacturers, importers, and some distributors are required to classify and categorize the hazards of the chemicals they produce or import, and convey that information via corresponding safety data sheets (SDSs) and container labels. Employers do not have to create an SDS unless they choose not to rely on the SDS provided or they also fall under a "manufacturer/importer/distributor" category. Distributors are required to pass on this information to their buyers (employers and downstream distributors). Employers are required to develop and implement an effective written HazCom Program that conveys the information contained on the SDSs and labels to employees exposed to the chemicals, along with guidance on how to control exposures to these chemicals.

California vs. Federal OSHA Requirements

California's HazCom Regulation is aligned with federal OSHA's 29CFR 1910 section 1200 regulation, which in turn incorporates components of the United Nations' Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. Information on GHS is available on the federal OSHA website.

Summary of California's Hazard Communication Regulation

I. Scope and Application (T8 CCR 5194(b))

Except for the exemptions noted below, this regulation applies to:

- Manufacturers, importers, distributors, and all California employers—regardless of size—whose employees may be exposed to hazardous chemicals found in the workplace under normal conditions of use (routine and non-routine) as well as in reasonably foreseeable emergency conditions (e.g., an accidental spill or release).
- **Laboratories** that primarily provide quality control analysis for manufacturing processes or produce hazardous chemicals for commercial purposes and do not fall under the scope of section 5191.

Prop 65 applies only to the specified list of chemicals known to the State of California to cause cancer, birth defects, or other reproductive harm. These listed chemicals may be naturally occurring or synthetic, used as ingredients in materials and products, and/or generated as byproducts, emissions, and waste.

Exemptions

The following materials are exempt from section 5194, but some are covered by other regulators with their own chemical hazard communication requirements:

- Hazardous wastes regulated by the EPA
- Tobacco products
- Wood products (chemically untreated) that will not be processed (e.g., not cut or sanded) and the only hazard posed to employees is the potential for flammability or combustibility (i.e., it meets the definition of an "article")

"Article": A manufactured item that:

- 1. Is formed to a specific shape or design during manufacture.
- 2. Has end use function(s) dependent in whole or in part upon its shape or design during end use.
- Does not release, or otherwise result in exposure to, a hazardous chemical under normal conditions of use or in a reasonably foreseeable emergency resulting from workplace operations (e.g., a steel beam that will not be welded or subject to grinding).

- Articles (hazardous chemicals used in the manufacture or use of an article are covered unless otherwise excluded)
- Food, drugs, and cosmetics consumed or used by the employees on the job site
- **Retail food** sale and other retail trade establishments, except for processing and repair work areas
- **Pesticide** use regulated by the California Department of Pesticide Regulation
- Consumer products packaged for distribution and sale to the general public, unless quantities used or exposures are greater than ordinary home consumer quantities or exposures
- Chemicals handled only in closed containers (e.g., warehousing, transportation). Such operations are still required to:
 - Ensure that labels on incoming containers are not removed or defaced.
 - Maintain safety data sheets (SDSs) received with shipments of sealed containers, obtain SDSs upon an employee's request, and make them readily accessible to employees in their work area(s) during each work shift.
 - Train employees as required by section 5194(h) and outlined below so they know how to protect themselves in the event of a chemical spill or a leak from a sealed container.

II. Hazard Classification (T8 CCR 5194(d))

Who has to do the Classifications?

Manufacturers and importers (and distributors in some cases) are required to evaluate chemicals produced in their workplaces or imported by them to determine if they are hazardous, and if they are, further determine their corresponding hazard classifications and categories. Facilities that remix chemicals received from manufacturers or importers for the purpose of sale to customers are considered chemical manufacturers. A **"chemical"** is any substance, or mixture of substances, while a "hazardous chemical" is any chemical that is classified as a physical or health hazard, a simple asphyxiant, combustible dust, pyrophoric gas, or a hazard not otherwise classified, or is included in the list of Hazardous Substances prepared by the Director pursuant to Labor Code section 6382. Section 5194(d) and its Appendices A and B provide additional detail and sources of information on which chemicals must be classified as hazardous.

A **"hazard not otherwise classified"** (HNOC) is an adverse physical or health effect identified through evaluation of scientific evidence during the classification process that does not meet the specified criteria for the physical and health hazard classes. For example, polymerization — the combination of simple molecules that form large, chain-like molecules — that may release heat.

What About Employers?

Employers are not required to classify chemicals unless they choose not to rely on the classification performed by the manufacturer/importer/distributor.

Prop 65: California employers must determine whether any of the hazardous chemicals from their chemical inventory are subject to Proposition 65 requirements. To obtain this updated list of chemicals, call OEHHA at (916) 445-6900 or subscribe to Division 2 of title 27, California Code of Regulations, beginning with section 25000, from Barclays Law Publishers.

Once classification is accomplished, **manufacturers** and **importers** (and distributors in some cases) are then required to provide hazard information by means of labels and SDSs. Distributors are expected to pass this information on to their buyers (employers and downstream distributors). **Employers** are required to use this information to determine what needs to be included in their Hazard Communication Program, thereby conveying this information to the employees who may be exposed.

III. Safety Data Sheets (SDSs) (T8 CCR 5194(g))

What is an SDS?

SDSs provide information on each hazardous chemical, such as health hazards, special chemical and physical characteristics, protective measures, and precautions for

safe handling, use, and storage (see Attachment B, SDS Information). Employers can use the information contained in SDSs to educate employees on hazards associated with chemicals found in their workplace.

What to be Aware of

 Manufacturers and importers must obtain or develop an SDS for every hazardous chemical or mixture they produce or import. Anyone that changes an SDS, including distributors and employers, becomes responsible for the SDS.

Where a hazardous chemical is purchased from more than one manufacturer, the SDS must be obtained from each manufacturer and maintained, even if the products are made of the same chemical at the same concentration.

- **SDSs must be in English** (employer may maintain copies in other languages as well) and include at least the information required by Appendix D to section 5194, which is also outlined in Attachment B, SDS Information, of this guide.
- The SDS must be updated within three months of information becoming available on new hazard data and/or ways to protect against the hazards.
- Chemical manufacturers and importers of hazardous chemicals are required to provide an SDS with each initial shipment to purchasers (distributors and employers) and whenever an SDS is updated. Distributors are required to provide SDSs and SDS updates to all purchasers (downstream distributors and employers) of hazardous chemicals. Transmission of SDSs can be electronic if amenable to downstream receivers and done without the need for users to purchase technology to access. Hard copies must still be provided if requested. Downstream chemical users relying on web-based SDS access still need to be notified by the manufacturer, importer, or distributor if the online versions are updated.
- Employers must have an SDS for every hazardous chemical in the workplace where there is or may be employee exposure under normal conditions of use or in foreseeable emergencies. This means they also need to develop and maintain an inventory of all such chemicals used in their workplace. If an SDS or all of its required information is not provided by the manufacturer or importer, the employer must request an SDS from the manufacturer or importer in writing within seven days of noting this missing information.

Employers are also responsible for keeping the hazardous chemical inventory current and making the corresponding, most current SDSs received readily accessible to employees in their work area(s) during each work shift. This means employees do not have to ask for an SDS (e.g., not stored in a locked cabinet or office). Electronic access is acceptable as long as no barriers to immediate employee access are created (e.g., employee does not have to perform an internet search; employee knows how to operate hardware/ software; faxes can be received; there is a backup procedure) and hard copies can still be provided upon request and in emergencies. SDSs can also be kept in any form, including operating procedures, and may be designed to cover groups of hazardous chemicals in a work area where it may be more appropriate to address the hazards of a process. However, the required information must be readily accessible for each hazardous chemical during each work shift to affected employees.

Hazardous chemicals purchased by employers prior to the changes to the hazard communication regulation. It is the responsibility of manufacturers and importers (and distributors if they modify an SDS to the extent they become the author) to convert their older MSDSs to SDSs, which should have been accomplished by now. They are required to submit SDSs to buyers (employers) and distributors with the initial shipment of a product or when the SDS has been updated. There may be instances where, due to conditions beyond their control, the manufacturer, importer, or distributor has not yet created a new SDS. In such cases employers must maintain and rely on the older MSDS for the time being. Regardless, employers should be proactively going through their list of hazardous chemicals, making sure it is current, and requesting SDS replacements for the older MSDSs/SDSs.

• Where employees must travel between workplaces during a work shift (i.e., their work is carried out at more than one geographical location) the safety data sheets may be kept at a central location at the primary workplace facility. In this situation, the employer shall ensure that employees can immediately obtain the required information in an emergency. • If the **employer** is unable to obtain the SDS within 25 working days of the request, they must contact the local Cal/OSHA compliance office or write to:

Division of Occupational Safety and Health Deputy Chief of Health and Engineering Services 1515 Clay Street, Room 1901 Oakland, CA 94612

 The Cal/OSHA Consultation Service at 1-800-963-9424 or the Hazard Evaluation System & Information Service (HESIS) of the California Department of Public Health 510- 622-4317 (English) can be called if there is a specific question or additional information is needed on an SDS.

SDSs – as well as the older MSDSs – constitute an "employee exposure and medical record" and must be kept according to section 3204 requirements.

IV. Labels and Other Forms of Warning (T8 CCR 5194(f))

What is the Employer's Responsibility?

Employers are required to ensure containers of hazardous chemicals used by employees in the workplace are properly labeled, tagged, or marked, or depending on the circumstance, use other forms of warning to clearly and quickly communicate the identity and hazard(s) of chemicals in the workplace. The workplace labels or other forms of warning need to be in English and prominently displayed on the container or, depending on the circumstance, readily available in the work area throughout each work shift. Employers having employees who speak other languages may add the information in their language to the material presented, as long as the information is present in English as well.

What to be Aware of

- The manufacturer, importer, or distributor shall ensure that each container of hazardous chemicals is labeled, tagged, or marked with the following:
 - Product identifier
 - Signal word
 - Hazard statement(s) including Prop 65 warnings for manufacturers and distributors in California
 - Pictogram(s)
 - Precautionary statement(s)
 - Name, address, and telephone number of the manufacturer, importer, or other responsible party

Prop 65: Hazardous chemical containers from out-ofstate chemical manufacturers or distributors (who are not subject to Proposition 65) may not have Proposition 65 hazard warnings. California's suppliers/employers must meet the requirement in various ways, including affixing additional Proposition 65 warning labels on containers or posting signs in the workplace.

- The product identifier must allow for cross-referencing with the SDS and the inventory of hazardous chemicals in the workplace. Reference Attachment C — Labels and Pictograms — for additional guidance.
- For **solid materials** (e.g., steel beam or metal casing that does not meet the definition of an "article"):
 - The required label may be transmitted to the customer at the time of initial shipment, and need not be included with subsequent shipments to the same employer unless label information changes.
 - The label may be transmitted with the initial shipment or with the SDS that is provided at the time of the initial shipment.
 - The exception does not apply to solid materials that may have hazardous chemicals that may be in conjunction with the solid material (e.g., cutting fluids, lubricants).
- The employer shall ensure that each container of hazardous chemicals in the workplace is labeled, tagged, or marked with either:
 - The information on labels as provided by the manufacturer/distributor/importer on the original shipped container (minus the name and address of the manufacturer), or
 - Product identifier and words, pictures, symbols, or combination thereof, that provide at least general information on the hazards of the chemicals, and all other required information, including Prop 65 warnings for employers in California. In addition to the product identifier, section 2 of the SDS can be

used as the label. This will most likely be needed when the original container label is defaced or contents are transferred to a secondary container.

Prop 65: Establish an ongoing system to obtain the updated Proposition 65 list of chemicals. For chemicals that are newly added, warning requirements apply 12 months from the effective date of the listing.

 Employers can use signs, placards, batch tickets, operating procedures, and other options in lieu of labels on individual stationary process containers —such as plating tanks — as long as the required information listed above is included and available to employees throughout the work shift.

Reference: (1) Section 5194(f)(7) for details on the circumstances that allow for alternative forms of warning other than container labeling, tagging, or marking.

(2) Section 5194(b)(4) for certain chemicals that do not need to be labeled according to section 5194 requirements because they are subject to labeling requirements mandated by other regulatory entities.

- **Employers** must relabel containers whenever labels are damaged or defaced.
- Additional labeling requirements apply to specific chemicals listed under the substance-specific health regulations as referenced in article 109 Hazardous Substances and Processes (sections 5197 and 5198) and article 110, Regulated Carcinogens (all sections under this article).
- Above-ground pipes transporting hazardous substances (gases, vapors, liquids, semi-liquids, or plastics) shall be identified in accordance with section 3321, Identification of Piping.

Prop 65 warnings do not apply to:

- An exposure for which federal law preempts state authority.
- An exposure that takes place less than twelve months from the time the chemical was officially listed in T27 CCR, section 25000, Chemicals Known to the State to Cause Cancer or Reproductive Toxicity.
- An exposure for which the employer can show that:
 - The exposure of a given chemical from the list of carcinogens poses no significant cancer risk (as defined by Prop 65), assuming lifetime exposure at the level in question.
 - The exposure of a given chemical from the list of reproductive toxicants will have no observable effect, assuming exposure at 1,000 times the level in question.

- Manufacturers, importers, distributors, and employers who become newly aware of any significant information regarding the hazards of a chemical shall revise the labels within six months of becoming aware of the new information.
- Portable containers for immediate use during a single shift by a single employee who performs the transfer themselves are exempt from the labeling requirement under California's Hazard Communication Regulation. The same is true for quality control samples taken in a plant – they must be labeled, tagged, or marked unless the person taking the sample will also perform the analysis.

V. Written Hazard Communication (HazCom) Program (T8 CCR 5194(e))

What is Needed

Employers whose employees may be exposed to hazardous chemicals are required to have a written HazCom Program that is tailored to meet the specific needs of their workplace — including the issue of dual and multi-employer scenarios, where applicable — and that addresses all the requirements of the regulation, including:

• Development and maintenance of a **list of the hazardous chemicals** in the workplace using the product identifiers found on the SDSs and labels. This list may be compiled for the workplace as a whole or for individual work areas and can serve as a checklist to ensure that all hazardous chemicals in the workplace have appropriate SDSs and labels.

NFPA or HMIS rating systems do not directly correlate with the section 5194 classifications (e.g., the NFPA rating of 1 ["low"] does not correlate with section 5194 classification of 1 ["high"]. However, the HMIS or NFPA system may be used as part of an employer's workplace labeling system if used in accordance with the NFPA and HMIS guidelines and as long as it does not cast doubt or contradict the validity of the label information. Employers must ensure that their training program instructs employees on how to use and understand the alternative labeling systems so that employees are aware of the effects of the hazardous chemicals to which they are potentially exposed.

Workplace labels must include the product identifier and general information regarding all of the hazards of the chemical(s) even when using the NFPA or HMIS system. In some cases, all hazards are not addressed by a particular rating system (e.g., chronic health hazards), and therefore, hazards not addressed must be communicated by words, pictures, symbols, or a combination thereof in addition to the NFPA or HMIS rating system. Reference Attachment D – Comparison of NFPA and Hazcom Label Systems.

Prop 65: The Right to Know warning requirement mandates that a clear and reasonable warning be given to all individuals prior to exposure to any listed chemical that can cause cancer, birth defects, or other reproductive harm. If businesses have one or more of the listed chemicals as an ingredient in a material they use, a product they manufacture, or an emission into the environment, they must provide a clear and reasonable warning unless they can prove that the exposure causes no significant risk.

The language in the warning must clearly state that the chemical in question is known to cause cancer, birth defects, or other reproductive harm. The warning must be given so that it effectively reaches the person before they are exposed.

Under Proposition 65, warnings are required for:

- Consumer product exposures.
- Occupational exposures.
- Environmental exposures.

Warnings for exposure in the workplace can be communicated by one or a combination of the following:

- A warning on a product label.
- A warning or sign posted conspicuously in the workplace.
- A warning that complies with the federal OSHA Hazard Communication regulation (29 CFR, section 1910.1200), the California Hazard Communication regulation (section 5194), the Pesticides Worker Safety requirements (T3 CCR, Ch. 6, Sub-chapter 3, Group 3, section 6700).

- An explanation of how the employer will meet the requirements for:
 - Labeling of containers (primary and secondary) of hazardous chemicals and other forms of warning, as well as:
 - Designation of the person(s) responsible for labeling of shipped containers and workplace labeling.
 - Description of the labeling system used, as well as any alternative labeling used.
 - Procedures for reviewing and updating label information when necessary.
 - **SDSs** and making sure they are readily accessible to employees and emergency responders, including:
 - Designation of the person(s) responsible for obtaining and maintaining SDSs.
 - How the SDSs are to be maintained and made readily available to anyone in need, including backup systems for non-hard copy access.
 - Procedures to be followed if an SDS is not received at the time of first shipment, or if it is suspected that an SDS is not correct or current.
 - Employee training on hazardous chemicals they are or may be exposed to in their particular jobs during routine and non-routine (e.g., cleaning a vessel once a year) work, emergency situations, as well as hazards of chemicals in labeled/unlabeled pipes, including:
 - Designation of the person responsible for conducting the training.
 - How the training will be conducted.
 - The elements required to be covered.
 - Procedure for training new employees at the time of their initial assignment, when a new hazard is introduced, and when employees are exposed to chemicals used by other employers.
 - Trade secrets, should they be evident in certain SDSs. Employers should plan ahead and determine how they will pursue confidential information when needed, particularly in an emergency scenario.

The written HazCom Program should be evaluated periodically for effectiveness and, along with the SDSs, must be available upon request to employees, their representatives, Cal/OSHA representatives, and others in accordance with section 3204(e), Access to Employee Exposure and Medical Records.

- A plan of how multi-employer and/or dual-employer workplace issues will be addressed, if applicable:
 - How an employer will inform a contractor or temporary employee service provider whose employees work in the employer's workplace of the hazardous chemicals to which the contractor's employees or temporary service employees may be exposed while performing their work, and how the employer's employees will be informed of and protected from hazardous chemicals brought into the workplace by the contractor's employees. In dual-employer situations, it is up to the temporary employee provider and the host employer to ensure employees are adequately covered by all of the requirements of a HazCom Program.
 - How the employer will inform other employers of precautionary measures needed to protect employees during normal work as well as emergency conditions.
 - How the employer will inform other employers and their employees of the labeling system in the workplace and the location and means of access to the relevant SDSs.

The Cal/OSHA Policy and Procedure numbers C-1C and C-1D address enforcement actions in multi- and dualemployer workplace situations.

VI. Employee Information and Training (T8 CCR 5194(h))

When do Employees Have to be Trained?

Employees must be trained on the hazardous chemicals they may encounter at the time of initial assignment, whenever a new hazard is introduced into the workplace, and when employees may be exposed to other employers' workplace chemical hazards. Employee training on new or revised SDS information must be provided within 30 days of the employer receiving that information. **Prop 65:** If the hazardous chemicals include Proposition 65 chemicals, clear and reasonable warnings must be provided to all employees, from either the employer or the contractor, prior to exposure.

What Should it Cover?

Training may be related to general classes of hazardous chemicals but chemical-specific information must always be available via labels and SDSs.

All training materials used must be appropriate in both content and vocabulary for the educational level, literacy level, and language comprehension level of the employees. Employees must be given an opportunity to ask questions of the person(s) conducting the training. Periodic refresher training in addition to the initial training is beneficial and encouraged.

Information and training must include:

- Requirements of the Hazard Communication Regulation, including employee rights (e.g., employees receiving and sharing with their physician information on hazardous chemicals to which they may be exposed).
- The location and availability of the employer's written HazCom Program, inventory of hazardous chemicals, and the SDSs.
- An explanation of the labels received on shipped containers, the workplace labeling system, safety data sheets, and how employees can obtain and use the hazard information.
- Identification of any operation in the employee work area where hazardous chemicals are present.
- How to detect the presence or release of hazardous chemicals (e.g., appearance, odor, exposure monitoring).
- All hazards (including physical and health, simple asphyxiation, combustible dust, and pyrophoric gases, as well as hazards not otherwise classified) of the chemicals in the work area, and the measures employees can take to protect themselves from these hazards.

Reference section 5194(h) for details on what employees need to be trained on. Additional guidance is provided in Attachments B and D of this guide. Section 3203(b)(1), Injury and Illness Prevention Program, requires that employee training be documented and records retained for at least one year.

VII. Trade Secret Protection (T8 CCR 5194(i))

Under the trade secret provision, manufacturers, importers, or employers who wish to withhold the specific identity of a hazardous chemical or the exact percentage (concentration) of the chemical in the mixture from the SDS must meet all the requirements of section 5194(i), including:

- The SDS must state that the specific chemical identity and/or percentage of composition is being withheld as a trade secret. All other SDS categories must be addressed.
- Trade secret information must be released in certain circumstances. Information on the specific chemical identity and/or percentage of composition of a trade secret chemical may be requested in medical emergencies as well as in non-emergency situations.

In the case of a medical emergency, the chemical identity and/or percentage of composition must be immediately disclosed to medical personnel. In non-emergency situations, disclosure shall be made to health or safety professionals and to employees and their designated representatives upon a written request that:

- Explains why the disclosure of the specific chemical identity and/or percentage of composition is essential.
- Describes the procedures by which the disclosed information will be kept confidential.

A trade secret cannot include chemical identity information and/or percentage of composition that is already discoverable through laboratory qualitative analysis. Refer to section 5194(i), for complete information on conditions for releasing a trade secret and for holding the information confidential.

Attachment A Hazard Communication Program: Step by Step

Step	Action to be Taken		
1	Read this guide for an overview of the regulation.		
2	Read the Chemical Hazard Communication Regulation, California Code of Regulations, title 8, section 5194.		
3	Designate staff responsible for developing, implementing, and monitoring the HazCom Program. Reference the Cal/OSHA Sample Chemical Hazard Communication Program.		
4	Develop and maintain a current inventory of all hazardous chemicals to which employees may be exposed.		
5	Collect current safety data sheets (SDSs) for all hazardous chemicals listed on the workplace inventory prepared in Step 4.		
6	Check original and secondary containers to ensure they are properly labeled. Include Proposition 65 warning requirements if applicable.		
7	Develop a plan for your written HazCom Program. Put into writing how you are implementing the program.		
8	Train employees on the Chemical Hazard Communication Regulation and on the hazardous chemicals that may be found on your work site.		
9	 Keep your written HazCom Program current by ensuring that: New employees are trained. Employees are retrained whenever new hazardous chemicals are introduced into the workplace. New chemicals are received with proper labels and SDSs, and secondary containers are also properly labeled. Dual and multi-employer issues are addressed. Your employees could be exposed to new chemicals brought onto the site by a contractor's employees, or a contractor's employees could be unfamiliar with the chemicals already on your site. 		

Attachment B Safety Data Sheet Information

The following is derived from the federal OSHA Brief for Safety Data Sheets and outlines the information that must be present in every SDS, and the order in which it is to be presented. It has been modified to reference Cal/OSHA T8 section 5194.

The Chemical Hazard Communication Regulation (Cal/OSHA, section 5194; Federal OSHA 29 CFR 1910.1200) requires that the chemical manufacturer, distributor, or importer provide safety data sheets (SDSs) (formerly MSDSs or material safety data sheets) for each hazardous chemical to downstream users to communicate information on these hazards. The information contained in the SDS is largely the same as the MSDS, except now the SDSs are required to be presented in a consistent user-friendly, 16-section format. This brief provides guidance to help workers who handle hazardous chemicals to become familiar with the format and understand the contents of the SDSs.

The SDS includes information such as the properties of each chemical; the physical, health, and environmental health hazards; protective measures; and safety precautions for handling, storing, and transporting the chemical. The information contained in the SDS must be in English, although it may be in other languages as well. In addition, Cal/OSHA requires that SDS preparers provide specific minimum information as detailed in Appendix D of section 5194 (federal OSHA Appendix D of 29 CFR 1910.1200). The SDS preparers may also include additional information in various sections.

Sections 1 through 8 contain general information about the chemical, identification, hazards, composition, safe handling practices, and emergency control measures (e.g., firefighting). This information should be helpful to those who need to get the information quickly. Sections 9 through 11 and 16 contain other technical and scientific information, such as physical and chemical properties, stability and reactivity information, toxicological information, exposure control information, and other Information, including the date of preparation or last revision. If the preparer does not find relevant information for any required element, the SDS must also state that no applicable information was found.

The SDS must also contain sections 12 through 15, to be consistent with the UN Globally Harmonized System of Classification and Labeling of Chemicals (GHS), but Cal/OSHA does not enforce the content of these sections because they concern matters handled by other agencies.

Section 1: Identification

This section identifies the chemical on the SDS¹ as well as the recommended uses. It also provides the essential contact information of the supplier. The required information consists of:

- Product identifier used on the label and any other common names or synonyms by which the substance is known.
- Name, address, and phone number of the manufacturer, importer, or other responsible party, and emergency phone number.
- Recommended use of the chemical (e.g., a brief description of what it actually does, such as flame retardant) and any restrictions on use (including recommendations given by the supplier).

Section 2: Hazard(s) Identification

This section identifies the hazards of the chemicals listed on the SDS and the appropriate warning information associated with those hazards. The required information consists of:

- The hazard classification of the chemical (e.g., flammable liquid, category 1).
- Signal word.
- Hazard statement(s).
- Pictograms (the pictograms or hazard symbols may be presented as graphical reproductions of the symbols in black and white or be a description of the name of the symbol [e.g., skull and crossbones, flame]).
- Precautionary statement(s).
- Description of any hazards not otherwise classified.
- For a mixture that contains an ingredient(s) with unknown toxicity, a statement describing how much (percentage) of the mixture consists of ingredient(s) with unknown acute toxicity. Please note that this is a total percentage of the mixture and not tied to the individual ingredient(s).

Section 3: Composition/Information on Ingredients

This section identifies the ingredient(s) contained in the product, including impurities and stabilizing additives. This section includes information on substances, mixtures, and all chemicals where a trade secret is claimed. The required information consists of:

Substances

- Chemical name.
- Common name and synonyms.
- Chemical Abstracts Service (CAS) number and other unique identifiers.
- Impurities and stabilizing additives, which are themselves classified and which contribute to the classification of the chemical.

Mixtures

- Same information required for substances.
- The chemical name and concentration (i.e., exact percentage) of all ingredients that are classified as health hazards and are:
 - Present above their cut-off/concentration limits, or
 - Present a health risk below the cut-off/concentration limits.
- The concentration of each ingredient must be specified except concentration ranges may be used in the following situations:
 - A trade secret claim is made.
 - There is batch-to-batch variation.
 - The SDS is used for a group of substantially similar mixtures.

Chemicals where a trade secret is claimed

• A statement that the specific chemical identity and/or concentration has been withheld as a trade secret.

Section 4: First-Aid Measures

This section describes the initial care that should be given by untrained responders to an individual who has been exposed to the chemical. The required information consists of:

- Necessary first aid instructions by relevant routes of exposure (inhalation, skin and eye contact, and ingestion).
- Description of the most important symptoms or effects, and any symptoms that are acute or delayed.
- Recommendations for immediate medical care and special treatment needed, when necessary.

Section 5: Firefighting Measures

This section provides recommendations for fighting a fire caused by the chemical. The required information consists of:

- Recommendations of suitable extinguishing equipment, and information about extinguishing equipment that is not appropriate for a particular situation.
- Advice on specific hazards that develop from the chemical during the fire, such as any hazardous combustion products created when the chemical burns.
- Recommendations on special protective equipment or precautions for firefighters.

Section 6: Accidental Release Measures

This section provides recommendations on the appropriate response to spills, leaks, or releases, including containment and cleanup practices to prevent or minimize exposure to people, property, or the environment. It may also include recommendations distinguishing between responses for large and small spills where the spill volume greatly affects the hazard. The required information may consist of recommendations for:

- Use of personal precautions (such as removal of ignition sources or providing sufficient ventilation) and protective equipment to prevent the contamination of skin, eyes, and clothing.
- Emergency procedures, including instructions for evacuations, consulting experts when needed, and appropriate protective clothing.
- Methods and materials used for containment (e.g., covering the drains and capping procedures).
- Cleanup procedures (e.g., appropriate techniques for neutralization, decontamination, cleaning, or vacuuming; adsorbent materials; equipment required for containment/clean up).

Section 7: Handling and Storage

This section provides guidance on the safe handling practices and conditions for safe storage of chemicals. The required information consists of:

- Precautions for safe handling, including recommendations for handling incompatible chemicals, minimizing the release of the chemical into the environment, and using general hygiene practices (e.g., eating, drinking, and smoking in work areas is prohibited).
- Recommendations on the conditions for safe storage, including any incompatibilities, and advice on specific storage requirements (e.g., ventilation requirements).

Section 8: Exposure Controls/Personal Protection

This section indicates the exposure limits, engineering controls, and personal protective measures that can be used to minimize worker exposure. The required information consists of:

- OSHA Permissible Exposure Limits (PELs), American Conference of Governmental Industrial Hygienists (ACGIH) Threshold Limit Values (TLVs), and any other exposure limit used or recommended by the chemical manufacturer, importer, or employer preparing the safety data sheet, where available.
- Appropriate engineering controls (e.g., use local exhaust ventilation, use only in an enclosed system).
- Recommendations for personal protective measures to prevent illness or injury from exposure to chemicals, such as personal protective equipment (PPE) (e.g., appropriate types of eye, face, skin, or respiratory protection needed based on hazards and potential exposure).
- Any special requirements for PPE, protective clothing, or respirators (e.g., type of glove material, such as PVC or nitrile gloves; breakthrough time of the glove material).

Section 9: Physical and Chemical Properties

This section identifies physical and chemical properties associated with the substance or mixture. The minimum required information consists of:

- Appearance (physical state, color, etc.)
- Upper/lower flammability or explosive limits
- Odor
- Odor threshold
- pH
- Melting point/freezing point
- Initial boiling point and boiling range
- Flash point
- Evaporation rate

- Vapor density

Vapor pressure

- Relative density
- Solubility
- Partition coefficient: n-octanol/water
- Auto-ignition temperature
- Decomposition temperature
- Viscosity

Flammability

The SDS may not contain every item on the above list because information may not be relevant or is not available. When this occurs, a notation to that effect must be made for that chemical property. Manufacturers may also add other relevant properties, such as the dust deflagration index (Kst) for combustible dust, used to evaluate a dust's explosive potential.

Section 10: Stability and Reactivity

This section describes the reactivity hazards of the chemical and the chemical stability information. This section is broken into three parts: reactivity, chemical stability, and other. The required information consists of: *Reactivity*

• Description of the specific test data for the chemical(s). This data can be for a class or family of the chemical if such data adequately represent the anticipated hazard of the chemical(s), where available.

Chemical stability

- Indication of whether the chemical is stable or unstable under normal ambient temperature and conditions while in storage and being handled.
- Description of any stabilizers that may be needed to maintain chemical stability.
- Indication of any safety issues that may arise should the product change in physical appearance.

Other

Indication of the possibility of hazardous reactions, including a statement whether the chemical will react or
polymerize, which could release excess pressure or heat, or create other hazardous conditions. Also, a description of
the conditions under which hazardous reactions may occur.

- List of all conditions that should be avoided (e.g., static discharge, shock, vibrations, environmental conditions that may lead to hazardous conditions).
- List of all classes of incompatible materials (e.g., classes of chemicals or specific substances) with which the chemical could react to produce a hazardous situation.
- List of any known or anticipated hazardous decomposition products that could be produced because of use, storage, or heating. (Hazardous combustion products should also be included in section 5 [Fire-Fighting Measures] of the SDS.)

Section 11: Toxicological Information

This section identifies toxicological and health effects information or indicates that such data are not available. The required information consists of:

- Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact). The SDS should indicate if the information is unknown.
- Description of the delayed, immediate, or chronic effects from short- and long-term exposure.
- The numerical measures of toxicity (e.g., acute toxicity estimates such as the LD50 [median lethal dose] the estimated amount of a substance expected to kill 50% of test animals in a single dose).
- Description of the symptoms. This description includes the symptoms associated with exposure to the chemical, including symptoms from the lowest to the most severe exposure.
- Indication of whether the chemical is listed in the National Toxicology Program (NTP) Report on Carcinogens (latest edition) or has been found to be a potential carcinogen in the International Agency for Research on Cancer (IARC) Monographs (latest editions) or found to be a potential carcinogen by Cal/OSHA.

Section 12: Ecological Information (non-mandatory)

This section provides information to evaluate the environmental impact of the chemical(s) if it were released to the environment. The information may include:

- Data from toxicity tests performed on aquatic and/or terrestrial organisms, where available (e.g., acute or chronic aquatic toxicity data for fish, algae, crustaceans, and other plants; toxicity data on birds, bees, plants).
- Whether there is a potential for the chemical to persist and degrade in the environment either through biodegradation or other processes, such as oxidation or hydrolysis.
- Results of tests of bioaccumulation potential, making reference to the octanol-water partition coefficient (Kow) and the bioconcentration factor (BCF), where available.
- The potential for a substance to move from the soil to the groundwater (indicate results from adsorption or leaching studies).
- Other adverse effects (e.g., environmental fate, ozone layer depletion potential, photochemical ozone creation potential, endocrine disrupting potential, and/or global warming potential).

Section 13: Disposal Considerations (non-mandatory)

This section provides guidance on proper disposal practices, recycling or reclamation of the chemical(s) or its container, and safe handling practices. To minimize exposure, this section should also refer the reader to Section 8 (Exposure Controls/Personal Protection) of the SDS. The information may include:

- Description of appropriate disposal containers to use.
- Recommendations of appropriate disposal methods to employ.
- Description of the physical and chemical properties that may affect disposal activities.
- Language discouraging sewage disposal.
- Any special precautions for landfills or incineration activities.

Section 14: Transport Information (non-mandatory)

This section provides guidance on classification information for shipping and transporting of hazardous chemical(s) by road, air, rail, or sea. The information may include:

- UN number (i.e., four-figure identification number of the substance)².
- UN proper shipping name².
- Transport hazard class(es)².
- Packing group number, if applicable, based on the degree of hazard².
- Environmental hazards (e.g., identify if it is a marine pollutant according to the International Maritime Dangerous Goods Code (IMDG Code)).
- Guidance on transport in bulk (according to Annex II of MARPOL 73/783 and the International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (International Bulk Chemical Code³.

• Any special precautions which an employee should be aware of or needs to comply with, in connection with transport or conveyance either within or outside their premises (indicate when information is not available).

Section 15: Regulatory Information (non-mandatory)

This section identifies the safety, health, and environmental regulations specific for the product that is not indicated anywhere else on the SDS. The information may include:

• Any national and/or regional regulatory information of the chemical or mixtures (including any OSHA, Department of Transportation, Environmental Protection Agency, or Consumer Product Safety Commission regulations).

Section 16: Other Information

This section indicates when the SDS was prepared or when the last known revision was made. The SDS may also state where the changes have been made to the previous version. You may wish to contact the supplier for an explanation of the changes. Other useful information also may be included here.

¹ Chemical, as defined in the HazCom Regulation, is any substance, or mixture of substances.

² Found in the most recent edition of the United Nations Recommendations on the Transport of Dangerous Goods. ³ MARPOL 73/78 means the International Convention for the Prevention of Pollution from Ships, 1973, as modified by the Protocol of 1978 relating thereto, as amended.

Employer Responsibilities

Employers must ensure that the SDSs are readily accessible to employees for all hazardous chemicals in their workplace. This may be done in many ways. For example, employers may keep the SDSs in a binder or on computers as long as the employees have immediate access to the information without leaving their work area when needed and a back-up is available for rapid access to the SDS in the case of a power outage or other emergency. Furthermore, employers may want to designate a person responsible for obtaining and maintaining the SDSs. If the employer does not have an SDS, the employer or designated person should contact the manufacturer to obtain one.

References

Cal/OSHA section 5194 and Appendix D

OSHA, 29 CFR 1910.1200(g) and Appendix D.

United Nations Globally Harmonized System of Classification and Labeling of Chemicals (GHS), third revised edition, United Nations, 2009.

Disclaimer: This brief provides a general overview of the safety data sheet requirements in the Hazard Communication Regulation (see section 5194 and Appendix D). It does not alter or determine compliance responsibilities in the regulation.

Attachment C Labels and Pictograms

The following is derived from the federal OSHA Brief Labels and Pictograms and QuickCard Standard Pictogram and outlines what information must be present in every label.

Label Elements

The following elements are required on labels of hazardous chemicals:

- Name, Address, and Telephone Number of the chemical manufacturer, importer, or other responsible party.
- **Product Identifier** is how the hazardous chemical is identified. For example, this could be the chemical name, code number, or batch number. The same product identifier must be both on the label and in section 1 of the SDS.
- **Signal Words** are used to indicate the relative level of severity of the hazard and alert the reader to a potential hazard on the label. There are only two words used as 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.
- Hazard Statements describe the nature of the hazard(s) of a chemical, including, where appropriate, the degree of hazard. For example: "Causes damage to kidneys through prolonged or repeated exposure when absorbed through the skin."
- Precautionary Statements describe recommended measures that should be taken to minimize or prevent adverse
 effects resulting from exposure to the hazardous chemical or improper storage or handling. There are four types of
 precautionary statements:
 - Prevention (to minimize exposure)
 - Response (emergency response and first-aid in case of accidental spillage or exposure)
 - Storage
 - Disposal
- Pictogram(s)





Supplementary Information

The label producer may provide additional instructions or information that it deems helpful. It may also list any hazards not otherwise classified under this portion of the label. This section must also identify the percentage of ingredient(s) of unknown acute toxicity when it is present in a concentration of 1% or more (and the classification is not based on testing the mixture as a whole).

An example of an item that may be considered supplementary is the personal protective equipment (PPE) pictogram indicating what workers handling the chemical may need to wear to protect themselves. For example, the Hazardous Materials Identification System (HMIS) pictogram of a person wearing goggles may appear here. Other supplementary information may include directions of use, expiration date, or fill date, all of which may provide additional information specific to the process in which the chemical is used.

Pictograms are graphic symbols used to communicate specific information about the hazards of a chemical. On hazardous chemicals being shipped or transported from a manufacturer, importer, or distributor, the required pictograms consist of a red square frame set at a point with a black hazard symbol on a white background, sufficiently wide to be clearly visible.



Attachment D Comparison of NFPA 704 and HazCom Labels

The following is derived from the federal OSHA Quick Card for comparing the NFPA and Chemical Hazard Communication labeling systems and modified to reflect Cal/OSHA references.

Information	NFPA 704	Chemical Hazard Communication 2012
Purpose	Provides basic information for emergency personnel responding to a fire or spill and those planning for emergency response.	Informs workers about the hazards of chemicals in workplace under normal conditions of use and foreseeable emergencies.
Number system: NFPA rating and Cal/OSHA's classification	0-4 0-least hazardous 4-most hazardous	 1-4 1-most severe hazard 4-least severe hazard The Hazard category numbers are NOT required to be on labels but are required on SDSs in Section 2 Numbers are used to CLASSIFY hazards to determine what label information is required.
Information provided on label	 Health-Blue Flammability-Red Instability-Yellow Special Hazards-White OX-Oxidizers; W-Water Reactives; SA-Simple Asphyxiants 	 Product Identifier Signal Word Hazard Statement(s) Pictogram(s) Precautionary statement(s); and Name address and phone number of responsible party
Health Hazards on label	Acute (short term) health hazards ONLY. Acute hazards are more typical for emergency response applications. Chronic health effects are not covered by NFPA 704.	Acute (short term) and chronic (long term) health hazards. Both acute and chronic health effects are relevant for employees working with chemicals day after day. Health hazards include acute hazards, such as eye irritants, simple asphyxiants, and skin corrosives, as well as chronic hazards, such as carcinogens.
Flammability/Physical Hazards on label	NFPA divides flammability and instability haz- ards into two separate numbers on the label. Flammability in red section Instability in yellow section	A broad range of physical hazard classes are listed on the label, including explosives, flammables, oxidizers, reactives, pyrophorics, combustible dusts, and corrosives.
Where to get information to place on label	Rating system found in NFPA Fire Protection Guide to Hazardous Materials OR NFPA 704 Standard System for Identification of the Hazards of Materials for Emergency Response 2012 Edition. Tables 5.2, 6.2, 7.2 and Chapter 8 of NFPA 704	Cal/OSHA Hazard Communication Regulation, title 8 CCR Section 5194 1) Classify using Appendix A (Health Hazards) and Appendix B (Physical Hazards) 2) Label using Appendix C
Other	The hazard category numbers found in section 2 of the HC2012 compliant SDSs are NOT to be used to fill in the NFPA 704 diamond.	Supplemental information may also appear on the label, such as any hazards not otherwise classified, and directions for use, as well as Prop 65 information where applicable.

Attachment E Additional Resources

Cal/OSHA Regulations:

- Section 339, The Hazardous Substances List
- Section 3203, Injury and Illness Prevention Program
- Section 3204, Access to Employee Exposure and Medical Records
- Section 3321, Identification of Piping
- Section 3381, Head Protection
- Section 3382, Eye and Face Protection
- Section 3383, Body Protection
- Section 3384, Hand Protection
- Section 3385, Foot Protection
- Article 109, Hazardous Substances and Processes
- Article 110, Regulated Carcinogens
- Section 5144, Respiratory Protection
- Section 5155, Airborne Contaminants
- Section 5191, Occupational Exposure to Hazardous Chemicals in Laboratories
- Section 5194, Chemical Hazard Communication

Cal/OSHA Policy and Procedure Manual

- Chemical Hazard Communication, C-43
- Multi-Employer Worksite Inspections, C-1C
- Dual-Employer Inspections, C-1D

Cal/OSHA Publications

- Guide to Developing Your Workplace Injury and Illness Prevention Program PDF
- The Cal/OSHA Hazard Communication Regulation a Guide for Employers That Use Hazardous Chemicals PDF
- Sample Hazard Communication Program
- Respiratory Protection in the Workplace PDF
- Cal/OSHA Pocket Guide for the Construction Industry PDF
- Workplace Injury and Illness Prevention Model Program
 - For high-hazard employers PDF and Word
 - For non-high hazard employers PDF and Word
 - For employers with intermittent workers PDF and Word
 - For employers with intermittent workers in agriculture PDF and Word

Cal/EPA Office of Environmental Health Hazard Assessment (OEHHA)

• **Proposition 65** in Plain Language

National Fire Protection Association (NFPA)

• NFPA 704 Standard System for the Identification of the Hazards of Materials for Emergency Response

Occupational Safety and Health Administration

Hazard Communication

- Small Entity Compliance Guide for Employers That Use Hazardous Chemicals, OSHA 3695, 2014
- Hazard Classification Guidance for Manufacturers, Importers, and Employers, OSHA 3844, 2016
- Comparison of NFPA 704 & HCS 2012 Labels QuickCard
- OSHA Brief: Labels and Pictograms
- QuickCard: Standard Pictogram
- OSHA Brief: Safety Data Sheets

- Hazard Communication, 29 CFR 1910 Subpart Z 1910.1200
- The Globally Harmonized System for Hazard Communication

California Chamber of Commerce

- California Environmental Compliance Manual, 1997-98
- Hazard Communication Handbook, 1997-98
- Proposition 65 Handbook, 2nd ed., 1989
- Nossaman, Guthner, Knox, and Elliot, Surviving Proposition 65, 1987



Cal/OSHA Consultation Programs

Toll-free Number: 1-800-963-9424

Internet: www.dir.ca.gov

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Northern California 1750 Howe Avenue, Suite 490 Sacramento, CA 95825 (916) 263-0704 **Central Valley** 2550 Mariposa Mall, Room 2005 Fresno, CA 93721 (559) 445-6800 San Francisco Bay Area 1515 Clay Street, Suite 1130 Oakland, CA 94612 San Bernardino (510) 622-2891 464 West 4th Street, Suite 339 San Bernardino, CA 92401 (909) 383-4567 San Fernando Valley 6150 Van Nuys Blvd., Suite 307 Van Nuys, CA 91401 (818) 901-5754 LA Metro Area/Orange County 1 Centerpointe Drive, Suite 150

1 Centerpointe Drive, Suite 150 La Palma, CA 90623 (714) 562-5525

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Voluntary Protection Program Oakland, CA 94612 (510) 622-1081