



SAFETY SERVICES
COMPANY

WHITEPAPER

OSHA's HazCom Requirements

Chemicals are a part of everyone's life. There are five to seven million different chemicals known in the world. At least 400 million tons of chemicals are produced worldwide each year including agricultural chemicals, food additives, pharmaceuticals, fuels for power production, chemical consumer products, etc.

The frightening reality is for the vast majority of these chemicals, little or nothing is known about their possible immediate or long-term effects on the health of the workers who produce them or use them. According to OSHA, each year illnesses from exposure to these chemicals kill nearly 50,000 people. To help protect workers, OSHA requires employers to establish a comprehensive hazcom safety training program addressing workplace specific chemicals. These policies are proven to reduce the likelihood of injury and save employers billions.

OSHA'S HAZARD COMMUNICATION STANDARD

OSHA's Hazard Communication Standard (HCS) is a simple concept—Employees have both a need and a right to know the hazards and identities of the chemicals they are exposed to when working. They also need to know what protective measures are available to prevent adverse effects from occurring. OSHA designed the Hazard Communication Standard to provide employees with the information they need to know. This is why having a hazcom training kit is so vital in the workplace. Knowledge acquired through OSHA's Hazard Communication Standard helps you provide safer workplaces for your employees. By having information about the chemicals being used, you can take steps to reduce exposures, substitute less hazardous materials, and establish proper work practices. These efforts will help prevent the occurrence of work-related illnesses and injuries caused by chemicals. In turn, these steps will reduce injuries and improve the productivity of your company.

Determining chemical hazard information for workers involves a number of technical concepts, and is a process that requires the professional judgment of experienced experts. That's why the HCS is designed so that employers who simply use chemicals—rather than produce or import them—are not required to evaluate the hazards of those chemicals. Hazard determination is the responsibility of the manufacturers and importers of the chemicals, who then must provide the hazard information to employers that purchase their products. Employers that do not produce or import chemicals need only focus on those parts of OSHA's rule dealing with establishing a workplace program and communicating information to their workers. "Advances in the American standard of living have been achieved at great cost to one group — workers who are exposed to toxic chemicals as they do their jobs."

Hazards of Workplace Chemicals

More than twenty years ago, in 1976, a Congressional committee prepared a report titled "Chemical Dangers in the Workplace." This report stated that "the threat posed to the health of workers by toxic substances ... causes an estimated 100,000 deaths and 390,000 illnesses every year." The report noted that "most of these tragedies result from exposure to toxic substances, especially chemicals, in the workplace." The report concluded that "advances in the American standard of living have been achieved at great cost to one group – workers who are exposed to toxic chemicals as they do their jobs."

Many of these deaths and injuries are not reported in annual figures, because the effects of the chemicals are a slow process and a result of many years of exposure.

Medical and First Aid, 29, CFR 1910.151

Regardless of the amount of safety training, accidents will occur in the workplace. To handle accidents, OSHA requires employers to have in place a first-aid policy. This policy requires the employer to have an adequate first-aid kit, training on first-aid procedures and more. However, it is not only the direct effects of these chemicals that can cause workplace tragedy.

For example, chemicals such as solvents and asphyxiates may slow your reaction time by affecting your nervous system or limiting the amount of oxygen that gets to your lungs. A retarded reaction can be very serious (or even fatal) if you are in a dangerous situation that requires an immediate response. Unfortunately, when accidents occur in the workplace, management often blames the affected worker, claiming he or she was careless.

The sheer number of those injuries is staggering, and the financial impact they place on employers is overwhelming. An annual study conducted by the Liberty Mutual Research Institute for Safety in 2010, revealed that the direct cost to employers from injuries in 2008 was \$53.42 billion. [1] Furthermore, the study concluded that accidents at the workplace were estimated to cost employers an additional \$80 to \$200 billion annually.

A second report by the U.S. Department of Labor cemented the finding of the insurance group's report. This report stated the average workplace injury cost an employer \$43,000. The same study estimated the cost from wage replacement due to injury to be roughly \$50 billion a year.

"An accident at the workplace can often be the difference between operating in the black and falling into the red," said Safety Services Company CEO Devon Dickenson.

Types of Chemicals Found in the Workplace

The physical form of a chemical can affect how it enters your body and to some extent, the damage it causes. The main physical forms of chemicals are solids, dusts, liquids, vapors and gases. Solid forms are the least dangerous. Yet many can still cause severe health issues. For example wood being cut can turn into wood dust. Welding rods can decompose into fumes and gases. Polyurethane foam is safe in its normal solid form but gives off deadly gases if it burns. Chemicals in solid form can also give off toxic vapors that are both explosive and corrosive to the skin. Dusts are tiny particles of solids. Your employees face exposure from dust in the workplace from materials that can float in the air. For example dropping a bag of cement or working with glass fiber causes dust to fly up around you. The main danger from harmful dusts is inhalation. Larger particles are usually trapped by hairs and mucus in the nose and then removed by the body. However, smaller particles get past this defense and get deep inside the lungs with damaging effects.

Many hazardous substances, such as acids and solvents, exist as liquids in their normal state. Many of these liquids give off highly toxic vapors. Liquid chemicals can also come into contact with the skin, causing immediate surface damage. Other liquids can pass through the skin into the bloodstream where they can do greater damage. Some chemical substances are a gas when at a normal temperature. However, some chemicals in liquid or solid form can also become gases when they are heated. Gases typically can be detected by smell, but there are other gases that you cannot smell at all, you can only detect them with special equipment. They produce irritant effects immediately. The health effects of other gases may be noticeable only after your health already has been seriously damaged. Gases may be flammable or explosive. Extreme caution should be used when working around flammable or explosive gases.

Hazard Communications Standards Requirements

According to OSHA, each year illnesses from exposure to workplace hazards kill nearly 50,000 people. These deaths are heartbreaking to families and financially crippling to employers. To prevent the potential for these injuries, OSHA requires all workplaces where the potential for exposure to chemicals or industrial cleaners is present to implement a Hazard Communication Safety Plan.

The plan requires employers to prepare and transmit information about hazardous chemicals to all employees. This plan must cover both physical hazards (such as flammability) and health hazards (such as irritation, lung damage, and cancer.) Most chemicals used in the workplace have some hazard potential, and thus will be covered by the rule. One difference between this rule and others adopted by OSHA, it is performance-oriented, meaning if you have the flexibility to adapt the rule to the needs of your workplace. It also means that you have to exercise more judgment to implement an appropriate and effective program.



Training

Each employee who may be “exposed” to hazardous chemicals must be provided information and training prior to working with a hazardous chemical. “Exposure” or “exposed” under the rule means that an employee is subjected to a hazardous chemical in the course of employment through any route of entry (inhalation, ingestion, skin contact, or absorption) and includes potential (e.g., accidental or possible) exposure.

Where there are a large number of chemicals, or the chemicals change frequently, you will probably want to train generally based on the hazard categories (e.g., flammable liquids, corrosive materials, carcinogens). Employees will have access to the substance-specific information on the labels and MSDSs. Employers must ensure, however, that employees are made aware of which hazard category a chemical falls within.

A properly conducted training program will ensure comprehension and understanding. It is not sufficient to just read material to the workers or only hand them material to read. You want to create a climate where workers feel free to ask questions. This will help you to ensure that the information is understood. In addition to training, you need a written safety manual for dealing with chemical hazards.

How Training Works to Reduce Accidents

While the blow of a workplace injury cripples many companies, safety training programs are proven to drastically reduce the risk of injury and increase workplace productivity. Through independent studies, OSHA has confirmed employers who have in place a safety and health training program experience a 52 percent lower rate of “injury with days away” than employers without a program.

Company Benefits

A second study of private industry employers by OSHA found even more benefits to a hazard communication safety training program. Here are a few highlights of those programs:

- Average sales rose 7.5 percent
- Manufacturing defects and waste dropped from \$2.7 million in 2001 to \$435,000 in 2005
- Improved decision-making
- Emergency Modification Rate dropped by 45%

Safety and health also make big reductions in indirect costs, due to: [4]

- Increased productivity
- Higher quality products
- Increased morale
- Better labor/management relations
- Reduced turnover
- Better use of human resources

The value of training is further emphasized by a study of 41 workers hospitalized for hand injuries. Through the survey of these employees conducted by members of National Institute for Occupational Safety and Health (NIOSH) it was discovered more than half had no on the job training for the equipment that caused their injury.

Workplaces that establish safety and health management systems can reduce their injury and illness costs by 20 to 40 percent, according to OSHA. Studies not only show the impact safety training has in increasing productivity and preventing injury. It shows the value training has to prevent casualties. [4] A NIOSH study of 55 confined workplace fatalities found that only three of those losing their lives ever received training on the proper workplace safety procedures.

A study of the California insurance industry also revealed that every dollar invested in safety training resulted in \$3 or more dollars in savings.” Safety training is not a cost, it is an investment.



The One-Stop Solution

By requesting and reading this report, you are no doubt aware of the hazards associated with aerial and the long list of regulations your company must abide by. Meeting these regulations is a tedious process requiring you either to develop a training program yourself or to outsource with expensive safety consultants. There is a better solution.

Here at Safety Services we have developed a "Do-It-Yourself" hazcom training kit & program that is both simple to administer and fulfills all your OSHA requirements. This innovative safety kit features an Interactive Training Program, Student's Handbook, Instructor's Handbook, OSHA Regulations, Student Tests, Training Logs, Fall Protection Checklist, Certificates, Wallet Cards and More.

1. Classroom/online training

The first step of our program is an intuitive electronic training session. Through the program, employees navigate an electronic training program at a computer and then take an automatically graded test.

2. Field training

The second part of training is in the field. During this portion of the session, your appointed trainer shows the trainee the infield applications of the materials they learned in the classroom session.

3. Evaluation

The third and final step to the training session is evaluation. Through this step, the trainer evaluates the trainee and either signs off on certification or retouches on topics that need more work. All certification through the program meets or exceeds OSHA requirements.

In addition to meeting training requirements, the safety manual provides instruction on how to craft your Hazard Communication written policy. If you are not comfortable writing your own policy we can provide the service for an additional fee.

Get In Touch

Want more information? Submit your information or call (877) 788-0668

Citations

[1] <http://www.cpwr.com/hazpdfs/hazaeriallifts.pdf>

[2] <http://www.labor.state.ny.us/workerprotection/safetyhealth/PDFs/WSLP/Cost%20Benefit%20Safety.pdf>

[3] <http://www.osha.gov/Publications/smallbusiness/small-business.pdf>

[4] <http://www.osha.gov/Publications/safety-health-addvalue.html>

[5] <http://www.osha.gov/dcsp/products/topics/businesscase/index.html>

This publication does not itself alter or determine compliance responsibilities, which are set forth in OSHA standards themselves and the Occupational Safety and Health Act. Moreover, because interpretations and enforcement policy may change over time, for additional guidance on OSHA compliance requirements, the reader should consult current and administrative interpretations and decisions by the Occupational Safety and Health Review Commission and the Courts.

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