Know What Chemical Hazards You Face

INCIDENT

Global Manufacturing reports that Apple is eliminating use of two particularly toxic chemicals, benzene and n-hexane, from its manufacturing assembly process. The move follows on the heels of a joint publicity campaign by Green America and China Labor Watch (CLW), as reported by Manufacturing Weekly, to pressure Apple into removing the toxins from the manufacturing process.

In making the move, Apple stated there was no evidence of workers being at risk in any of the 22 factories where assembly takes place by over 500,000 employees. Still, the company ordered the testing of substances at the ingredient level to ensure the two toxins are rooted out from the facilities.

Saferchemicals.org reports that Green America and CLW used petitions, with 23,000 signatures, to call attention to the issue. These petitions, along with stories by a variety of news outlets about an Apple boycott called for by Green America and CLW put the spotlight squarely on Apple.

Apple for its part, along with the announcement of banning the two toxins, released the Apple Regulated Substances Specification, a guide to the chemicals the company has on its watch list.

It would be easy to look at Apple's predicament and believe the pressure it feels is something only bigger companies have to worry about; nonetheless, the introduction to Apple's specifications document provides an important lesson to every company in the hazardous chemical supply chain, especially venders selling to larger consumer facing companies. It reads in part:

"We require our suppliers to adhere to this Regulated Substances Specification, which describes Apple's global restrictions on the use of certain chemical substances or materials in our products, accessories, manufacturing processes, and packaging used for

shipping products to Apple's customers. We derive these restrictions from international laws or directives, agency or eco-label requirements, and Apple policies—but in many cases, they go beyond the minimum required by law. And we hold our suppliers accountable by conducting factory audits, testing components with independent laboratories, and verifying the results in a lab we built at our headquarters in Cupertino, California.

"Taking precautions against or screening out chemicals of concern listed in this specification should merely be a first step. We expect our suppliers to take their own actions to understand the human health and environmental impacts of all chemicals that are used in the manufacturing process and present in materials supplied to Apple."

Essentially, Apple is saying that it's not just their responsibility to improve the chemical footprint of its products, but that it calls on and expects its vendors to be proactive in reducing the hazards posed by chemicals in the products supplied to them.

And it's not just Apple, across all industries, larger companies in the crosshairs of industry regulators and consumer groups are starting to pressure smaller companies up the supply chain to be just as attentive to chemical concerns.

In the end, it's a business decision. Not only is it bad for business to have headlines about employees exposed to, or injured by, toxic workplace chemicals, it is unproductive, less efficient, and in the end more costly to use highly hazardous chemicals when safer alternatives are available.

Furthermore, those companies that are taking an aggressive approach to sustainability and greener products are being rewarded by consumers in the marketplace.

NEED TO KNOW

You work with chemicals that are hazardous and harmful to your overall – health. But you must be protected from injury or illness along with your co-workers.

The chemical manufacturer or importer prepares Material Safety Data Sheets (MsDs) to enable you to know how to handle chemicals, what protective equipment you need to use and, finally, what to do if something goes wrong.

WHAT'S THE DANGER?

Exposure to chemicals in your work can have the following effects:

- Cause illness / injuries
- Toxic effects on a long-term impact basis.
- Negatively limit your ability to work.

There can be even environmental problems with chemicals like solvents. Solvents can cause fires and explosions if not handled properly.

BUSINESS / REGULATION

In many work environments, dangerous chemicals are constantly present to allow the completion of different types of tasks. To help ensure that the chemicals are able to be used safely for the facility, employees, and surrounding environment, **a set of hazardous communication standards were established.**

The **Hazard Communication Standards (HCS), or HAZCOM** for short were made to make it faster and easier for people to get the information they need about specific chemicals. This is critical because when there is a leak or other issue, being able to take the right action, and being able to take it quickly, is critical for everyone's safety.

All companies that use dangerous chemicals need to make sure that the HAZCOM standards are followed by employees, contractors, and anyone else working in the area.

Global Recognition

The HAZCOM requirements have been developed over the course of many years to help improve workplace safety. Today, the standards that are in place have been adopted by many countries around the

world. In the United States, OSHA has aligned their communication standards with the **Globally Harmonized System of Classification and Labeling of Chemicals (GHS).**

In Canada, the Workplace Hazardous Materials Information System is used, and in **Europe, the European Agency for Safety and Health at Work** focuses on ensuring clear communications are used at all facilities. Having as many facilities around the world following the same type of communications is essential for keeping everyone safe at work.

OSHA's HAZCOM Requirements

OSHA has made the HAZCOM standards mandatory for just about all types of businesses that exist in the United States. There are a number of different requirements that need to be followed in order to avoid citations.

Scope

OSHA identifies exactly which companies must incorporate these standards, and to what extent. Due to the nature of the standards, and the differences in types of facilities, only certain aspects will be applicable in each situation.

Chemical manufacturers and importers need to classify the specific hazards of all the chemicals that they produce or import. All of the employees who work with or around these chemicals also need to be informed about the risks associated with exposure.

In situations where employees are only responsible for transporting or storing chemicals, the requirements are less strict. This is because the containers holding the chemicals are never opened, which greatly reduces the overall risk associated with working with them. Employees still must be trained sufficiently on how to respond to an accidental spill.

Following OSHA Standards

For businesses operating in the United States, it is important to comply with **OSHA's standards related to HAZCOM**. **OSHA** works hard to

make sure all companies have everything they need to remain in compliance, as this will help to improve workplace safety.

Companies that need to become compliant can find resources available from **OSHA**, and depending on the situation, can often get direct help and support from **OSHA**. They offer a variety of **HAZCOM** solutions, most of them free of charge, to help improve safety and ensure compliance with all applicable laws and regulations.

Making the effort necessary to become, or remain, compliant is not only important for avoiding penalties, but also for ensuring everyone in the facility is safe. Programs such as this one from OSHA have helped to dramatically reduce the number of workplace accidents, injuries, and fatalities associated with exposure to chemicals over the years.

Reducing or eliminating these issues helps to ensure that a facility is able to remain up and operational as much as possible, and reduces the expenses associated with an unsafe work environment.

STATISTICS

The new standard covers over 43 million workers who produce or handle hazardous chemicals in more than five million workplaces across the country. The modification is expected to prevent over 500 workplace injuries and illnesses and 43 fatalities annually.

Hazards

The **OSHA Hazard Communication Standard (HCS)** is intended to ensure exposed these workers and their employers are informed of the identities of these hazardous chemicals, associated health and safety hazards, and appropriate protective measures. The HCS covers some 650,000 hazardous chemical products.

Over 30 million American workers are exposed to hazardous chemicals in their workplaces. **The Occupational Safety and Health Administration’s (OSHA) Hazard Communication Standard (HCS)** is intended to ensure that these workers and their employers are informed of the identities of these hazardous chemicals,

associated health and safety hazards, and appropriate protective measures. The HCS covers some 650,000 hazardous chemical products found in over three million establishments.

Since the HCS was adopted 20 years ago, the availability of chemical information in workplaces has increased dramatically, and the provision of labels and MSDSs with products has become a standard business practice. Surveys have shown that employers rely on MSDSs to select less hazardous substitutes, as well as to help them identify appropriate protective measures. In addition to these workplace uses of hazard information, MSDSs have evolved into sources of information on other aspects of chemical use.

PREVENTION

Written Program

Companies that have dangerous chemicals stored and/or used on site also need to create a written hazard communication program. This program needs to be customized to the specific facility and should include information such as:

- **Chemicals**– Identify which chemicals are used in the facility. This would include any chemicals that are present at any time, even if they aren't always being used.
- **Safety Data Sheets**– The program has to have safety data sheets (SDS) on each of the chemicals listed.
- **Warnings**– Warning information about all of the chemicals so that employees can quickly see what risks are associated with exposure.
- **Response Plans**– Instructions on what should be done in the event of exposure or an accident. This would include details on what to do for anything ranging from basic skin exposure to a full chemical spill or any other possible situation.

Labels

Any containers or machines that use chemicals need to be labeled with specific information about the chemicals being used. In America, these labels must be written in English with clear fonts.

Employers may add additional labels in other languages as appropriate for their work environment.

The labels can either be pre-printed and applied to the containers that are delivered to the facility, or printed on an industrial label printer in the facility itself. The labels must be applied to the containers as soon as is reasonably possible.

HAZCOM Training

Having the information available in the facility is not sufficient for OSHA compliance. Facilities must also provide all employees with training that covers the safety hazards, and responses necessary if there is a spill or other accident.

This training should also explain how to read warning labels, safety data sheets, and any other information that is on site and part of the hazardous communication standards. If there are any additions or changes to the type of chemicals used on site, employees should be trained on those specific chemicals prior to their arrival if possible.

Providing annual refresher training will also help to ensure the facility is kept as safe as possible. These annual trainings can be conducted as one large group, or given to individual employees by their direct supervisors. Tracking the training as it is given is important for OSHA compliance as well.

Prevention Reminders / Overview

- Determine which employees are affected. Clerical workers, for example, need to know that a hazard communication program is in place, but since they do not use the chemicals directly, they may not need to know the details of the hazards associated with chemicals in use.
- Review the requirements of OSHA’s Hazard Communication Standard (or applicable Canadian law). Become familiar with the key elements of the standard, so that you can explain why this program is necessary and useful.
- Review the inventory of hazardous chemicals in your

facility. Be able to explain the hazards of chemicals to the employees who use them. If you have several chemicals of the same class, such as solvents or corrosives, explain the hazards of these materials by class.

- Review the labels on the chemical containers in use in your facility. Be sure that they contain the proper information such as the name of the chemical, the generic name of the chemical, the hazards of the chemical and, if required, the target organ affected.
- Make sure that you can tell your employees where they can readily find a copy of your company's written hazard communication program. Also, make sure they know how to find a material safety data sheet. If your material safety data sheets are online, make sure employees know how to access them this way, as well.
- Use this training opportunity to reinforce the use of required personal protective equipment (PPE). Reinforce your company's policies about personal protective equipment, and let employees know about the next training session on the use of PPE.
- Review your company's emergency procedures. Although you are trying to prevent injuries and incidents, you want your employees to be ready just in case the unexpected happens. Make sure they know how to locate emergency contact numbers, as well.

Most Frequently Cited Provisions

- Employers shall maintain any safety data sheets that are received with incoming shipments of hazardous chemicals, and ensure that they are readily accessible during each work shift to laboratory employees when they are in their work areas.
- Chemical manufacturers and importers are required to evaluate the hazards of the chemicals they produce or import, and prepare labels and safety data sheets to convey the hazard information to their downstream customers.
- All employers with hazardous chemicals in their workplaces must have labels and safety data sheets for their exposed

workers, and train them to handle the chemicals appropriately.

- Chemical manufacturers and importers are required to provide a label that includes a harmonized signal word, pictogram, and hazard statement for each hazard class and category. Precautionary statements must also be provided.