

## On-Site Chemicals: Do You Know Your Exposure?

It begins with chemical inventory and ends with chemical intelligence.

By **Connie Carrillo**

**W**ith more than three million facilities employing over 43 million workers exposed to chemicals daily, it's surprising how little most employers know about the chemicals they have on premise. It's important to know how to conduct a chemical audit at your facility not only to maintain Occupational Safety and Health Administration (OSHA) compliance but also to greatly benefit your business.

Way back in 1976, a congressional committee reviewing "Chemical Dangers in the Workplace" reported that the threat posed by toxic substances to the health of workers caused an estimated 390,000 illnesses every year. Today, more than 400

million tons of chemicals are produced yearly—with 650,000 hazardous chemical products used in the United States alone. According to OSHA, illnesses from exposure to chemicals kill nearly 50,000 people every single year.

Although OSHA's Hazard Communication Standard (HCS) states that employees have both a need and a right to know the identities and hazards of the chemicals they are exposed to when working, on average, only 40 percent of chemicals match the material safety data sheet (MSDS) records on-site. Experts have also found that due to long shelf lives and poor inventory management more than 40 percent of chemicals in laboratories are obsolete or expired.

### Additional Regulation

As of 2012 the HCS has been aligned with the United Nations' Globally Harmonized System of Classification and Labelling of Chemicals (GHS)—a worldwide system for standardizing chemical classification and labeling.

By June 1, 2016, all U.S. employers using chemicals must be fully compliant with GHS regulations that require communicating hazard information—as well as protective measures—on GHS-compliant labels and redefined safety data sheets (SDSs).

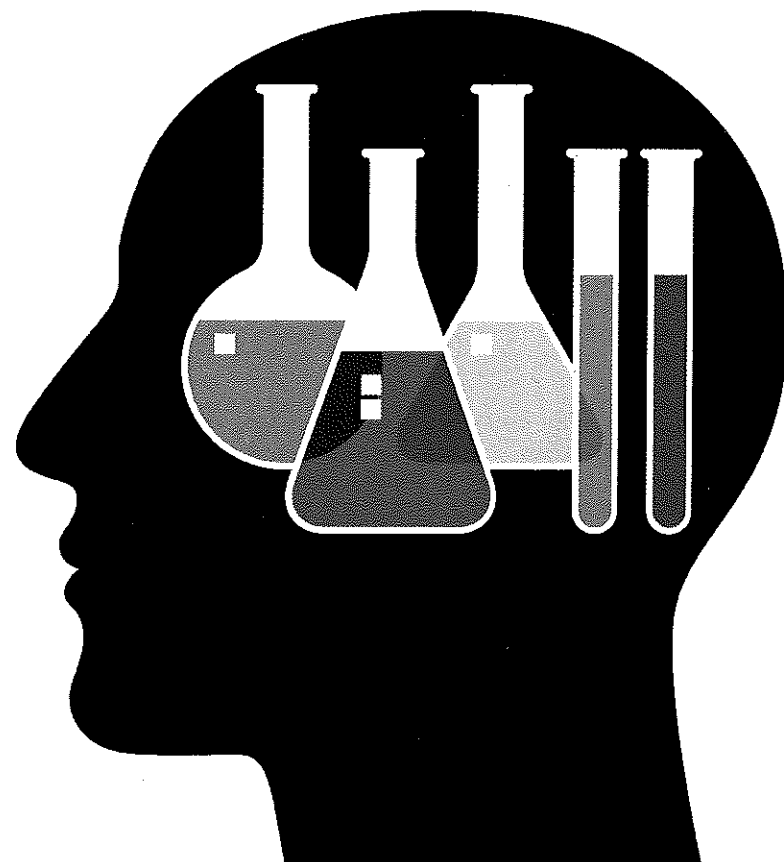
Chemical manufacturers are re-authoring existing MSDSs into the mandated SDS documents and employers will need to have them on-site to be compliant with both GHS and right-to-know regulations.

### Challenge

Workers have the right to know what chemicals they're being exposed to and what their hazards are.

To meet this need, as well as OSHA's GHS compliance regulations, employers are required to replace all MSDSs with updated, standardized SDS documents by June 1, 2016.

To practice corporate social responsibility, companies will need both accurate and up-to-date chemical inventories.



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### Solution

An on-site chemical audit is the first and most important step for any business to get a true understanding of its existing chemicals.

By conducting a comprehensive chemical inventory, you'll discover which chemicals are on-site and accurately determine which need new SDS documentation—and you won't be wasting any effort maintaining documents for chemicals you don't have.

### Benefits

With accurate chemical inventories you can comfortably meet regulatory compliance and begin fully managing your chemical portfolio, sharing data with other business units and feeding information to downstream applications, including right-to-know regulations, new GHS labeling, and new SDSs.

If your inventory is digital and part of a larger chemical management solution, you can conveniently access and share documentation, update quantity and location data, and access accurate data for any required chemical reporting.

### What Can You Do with an Accurate Chemical Inventory?

A current and accurate chemical inventory enables you to be prepared to confidently:

- Curate an accurate library of up-to-date SDS data.
- Ensure GHS-compliant labels are created and adhered to each chemical container.
- Know the exact location and quantity of all your on-site chemicals.
- Implement environmental health and safety (EHS) best practices for chemical management.
- Know on-demand what to do in case of exposure to protect all employees.
- Archive any unnecessary preexisting MSDSs.
- Properly dispose of any unnecessary or expired chemicals.

**"ON AVERAGE, ONLY 40 PERCENT OF CHEMICALS MATCH THE MATERIAL SAFETY DATA SHEET RECORDS ON-SITE."**

### How to Conduct the Most Effective Chemical Inventory

You can conduct a chemical inventory yourself or hire someone to do it for you. Just be sure to employ a dedicated team and use an inventory system that's made for digital reporting. Gone are the days of manual tracking, spreadsheets, and clipboards!

Conducting and maintaining accurate inventories requires significant time and internal processes. When dedicated resources are not readily available, the result is poor compliance, health hazards, and often inaccurate reporting.

The primary reason that regulatory compliance is lacking in most businesses is that quantitative inventory data are rarely tied to other chemical data, like data sheets, purchase history, and employee exposure.

One department may authorize a purchase, but another obtains the chemical, and yet another department is responsible for employee training, while another is in charge of reporting. Given that employees' right to know is at risk when inventories are not kept up to date, experts advise companies that do not have dedicated inventory personnel available to hire an experienced team to conduct their initial and yearly on-site chemical inventories.

### Recommended Team Requirements

Here are a few things we recommend that you make into requirements for your team:

- Identify hazards and assess their associated risks.
- Know which employees require special safety training for highly dangerous chemicals.
- Manage chemical exposure to reduce exposures and prevent illnesses.

### In Case of Emergency: Imagine the Advantages!

When you have completed your chemical inventory you will have accurate and up-to-date records containing the names, quantities, and locations of all your company's chemicals. After you label all your chemicals you'll have instant access to safety information on every chemical container at your facility, such as hazard information and protective measures. After you acquire corresponding SDS data and have it on hand, all your work will prove to be instantly invaluable to first responders and environmental cleanup personnel.

"During emergency situations and after catastrophic events or chemical spills, it is extremely important to determine quickly the location of the most dangerous chemicals on premise[s]. Accurate data is vital." Betty Hicks, SafeTec director of operations.

It's equally important to maintain an accurate ongoing record because people use, move, buy, receive, transport, and dispose of chemicals daily. Therefore, implementing an approval process for incoming chemicals is crucial to preserving dominion over your data.

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## PRACTICAL TIPS

- Technicians have security clearance and have passed background checks;
- They are experienced—having completed chemical inventories across industries and in multiple facility types;
- They do NOT use spreadsheets; and
- Technicians utilize equipment to automatically correlate chemicals to existing SDS data information on the fly.

### Why Is Digital Data Better? More Effective Chemical Management.

EHS personnel are not the only people within your organization who are going to want access to your chemical inventory data. Having up-to-date digital data about the quantities and locations of the chemicals in your organization makes it easier for you to share information across the organization, with external regulatory agencies, and with emergency personnel.

Having instant access to accurate chemical inventory data is essential and will save valuable time, yet there are additional gains to be had. Cost savings and operational efficiencies multiply when you can easily feed digital inventory data into other systems. These systems include purchase

and procurement, human resource management, emergency medical and waste management systems, and systems applications and products systems that manage business operations and customer relations.

### Experts Recommend

Experts recommend that companies conduct digital chemical inventories and automate the SDS management process via an electronic database. When you link digital chemical inventory data to a comprehensive chemical management service (CMS), your data will in turn power your ability to streamline operations, enhance safety measures, and minimize waste across the company.

A powerful and effective CMS will enable:

- Effective tracking of a chemical from cradle to grave;
- Automated approval processes that empower firm control and visibility over incoming chemicals;
- Quick and accurate chemical reporting;
- Simplified waste management monitoring and tracking;
- Control over expenses by not purchasing more chemicals or larger quantities than needed; and
- The ability to update chemical inventories yearly.

### Selecting an Inventory and CMS

Choose an enterprise-level digital inventory and CMS that can:

- Employ hand-held mobile technology that can upload inventory data on location in near real-time into a highly organized inventory record.
- Utilize features like barcode labeling and tracking.
- Ensure user adoption by being easy to access, use, and learn.
- Seamlessly integrate with other systems, such as purchasing, operations, and accounts payable.
- Generate reports of all on-site hazardous chemicals sorted by name, location, Chemical Abstracts Service number, or formula.
- Include a powerful search engine so chemicals can be documented and located by very specific physical locations, such as individual cabinet, shelf, or bin.
- Enable control over incoming chemicals from point of entry through an automated approval process.
- Provide automatic e-mail notifications to help maintain accurate chemical inventory information by bringing back your core team to update this information annually or biennially.

According to a GreenBiz environmental study, rather than pushing to sell more chemicals, today's savvy chemical suppliers are profiting more by helping customers manage chemicals over their entire lifecycle, improve their inventory management, and reduce chemical use and waste. **SD**

*Connie Carrillo is the organization development manager at SafeTec, where she is responsible for ongoing process improvements. With more than 15 years of experience in providing services to assist with OSHA, DOT, EPA, and REACH regulations, including a 24/7 Emergency Response Global Call Center, she has led organizational changes to prepare for the GHS transition in North America and Canada.*

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