

CHEMICAL MANAGEMENT

Does It Have to Be So Difficult?


J. J. Keller
& Associates, Inc.[®]
Since 1953



Market Insights and Regulatory Information from
J. J. Keller & Associates, Inc.



ABOUT THE RESEARCH

To better understand the challenges surrounding chemical management, the J. J. Keller[®] Center for Market Insights conducted a series of qualitative interviews and online surveys of safety professionals.

The feedback we received is included throughout the upcoming pages to shed light on the struggles and responsibilities safety professionals deal with on the job.

The J. J. Keller[®] Center for Market Insights is the collaborative research arm of J. J. Keller & Associates, Inc. Through historical data, proprietary studies, and partnerships with reputable, research-focused third-party organizations, the center publishes ongoing reports to spur discussion and advancements in safe, respectful workplaces, jobsites and highways.

To contact the J. J. Keller[®] Center for Market Insights, email Susan Baranczyk at sbaranczyk@jjkeller.com.



TABLE OF CONTENTS

The State of Chemical Management	3
Top Chemical Management Challenges.....	4
HazCom Standard 101	5
Does HazCom Apply to My Company?.....	6
2 Types of Chemical Hazards.....	7
HazCom is a Verb.....	8
The Desire to Improve.....	9
Can I Get That in Writing?.....	10
There's Safety in Data Sheets	11
What's Tier II Reporting?	12
Top Environmental Responsibilities	13
To File or Not to File	14
Top Reporting Responsibilities.....	15
6 Steps to Tier II Reporting.....	16
Common Chemical Management Solutions ..	17
What's the Solution?.....	18



THE STATE OF CHEMICAL MANAGEMENT



More than 900,000 chemical products are used in U.S. workplaces every day, and millions of tons more are transported across the country each year. Many of these chemicals — from cleaning fluids to flammable gasses, aerosols, paints and more — are considered to be hazardous.

To address the safety risks those chemicals pose, regulations were put in place to protect workers, emergency responders and the general public. These include OSHA's Hazard Communication (HazCom) Standard and EPA's Tier II reporting among others.

However, **these requirements can be a challenge for the safety professionals who have to interpret and comply with them all, often without the proper understanding or assistance.** And that often leads to a rough day at the office.

TOP CHEMICAL MANAGEMENT CHALLENGES



The safety professionals we surveyed cited a broad number of challenges they face when managing chemicals, with most revolving around **maintaining an accurate chemical and safety data sheet (SDS) database, understanding the regulations they must comply with, and having the time to do it all.** Given the potential severity of chemical hazards, these challenges can lead to significant risks.



HAZCOM STANDARD 101



This standard, 29 CFR 1910.1200, is designed to protect employees from hazardous chemicals by **requiring that information about the identities and hazards of all non-exempted chemicals used or stored in the workplace be made available and understandable to workers.** It's based on the concept that employees have a [right to know](#) the chemical hazards they may be exposed to and how they can protect themselves.

Hazard Communication The "Right To Know" Requirements

OSHA's Hazard Communication (HazCom) Standard is based on the concept that employees have both a need and a right to know the chemical hazards they may be exposed to in their work areas, and how they can protect themselves from these chemical hazards.

What are chemical hazards?

There are two general types of chemical hazards:

Physical hazard means a chemical that is classified as posing one of the following hazardous effects:

- explosive
- flammable (gases, aerosols, liquids or solids)
- oxidizer (liquids, solids or gases)
- acid corrosive
- alkali corrosive



29 CFR
1910.1200

Download our FREE
Compliance Brief



"I STRUGGLE ...
to train employees on the
importance of chemical
management."

J. J. Keller Survey Respondent



DOES HAZCOM APPLY TO MY COMPANY?



Basically, **any employer with at least one employee and one covered hazardous chemical** must comply with the HazCom Standard. There are only two types of work operations where coverage of the rule is limited (but not totally eliminated) – laboratories and operations where chemicals are handled only in sealed containers (e.g., a warehouse). However, these operations still need to ensure that labels are on the containers as they're received, maintain the SDSs that are received with the containers, give employees access to the SDSs, and provide related safety information and training to employees.

7 COMMON HAZCOM VIOLATIONS

1. Missing or inadequate written hazard communication program
2. Missing or inadequate measures to provide hazard information or training to employees
3. Failure to make SDSs readily accessible to employees
4. Failure to maintain SDSs for each hazardous chemical
5. Failure to include the product identifier or general hazard information on in-house labels
6. Failure to provide complete information on labels of shipped containers
7. Failure to maintain legible workplace labels or other forms of warning

2 TYPES OF CHEMICAL HAZARDS



CHEMICAL HAZARDS ARE CATEGORIZED BY THESE TWO GENERAL TYPES:

Physical hazard means a chemical that is classified as posing one of the following hazardous effects:

- explosive
- flammable (gasses, aerosols, liquids or solids)
- oxidizer (liquid, solid or gas)
- self-reactive
- pyrophoric (liquid or solid)
- self-heating
- organic peroxide
- corrosive to metal
- gas under pressure
- emits flammable gas in contact with water

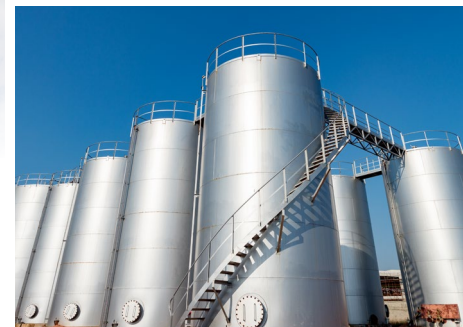
Health hazard means a chemical that is classified as posing one of the following hazardous effects:

- acute toxicity (any route of exposure)
- skin corrosion or irritation
- serious eye damage or eye irritation
- respiratory or skin sensitization
- germ cell mutagenicity
- carcinogenicity
- reproductive toxicity
- specific target organ toxicity (single or repeated exposure)
- aspiration hazard

Note: The HazCom Standard also covers simple asphyxiants, combustible dust, pyrophoric gas, and hazards not otherwise classified.

Let's Clear the Air

Under EPA regulation 40 CFR 68, facilities with more than a threshold quantity of a regulated substance must develop and submit a **Risk Management Plan** to prevent its accidental release into the air.



HAZCOM IS A VERB



Maybe HazCom is not literally a verb, but the HazCom Standard requires employers to take a number of actions, including:

- **Implementing a written HazCom program**, with provisions for proper container labeling, SDSs and employee training
- **Identifying and listing hazardous chemicals** in the workplace (e.g., creating and maintaining a chemical inventory)
- **Ensuring receipt of SDSs and labels** for each covered hazardous chemical provided by the manufacturer, importer or distributor
- **Communicating hazard information** to employees through proper labels, SDSs and formal training programs



"I STRUGGLE ...

to label all chemicals
and have the necessary
information."

J. J. Keller Survey Respondent



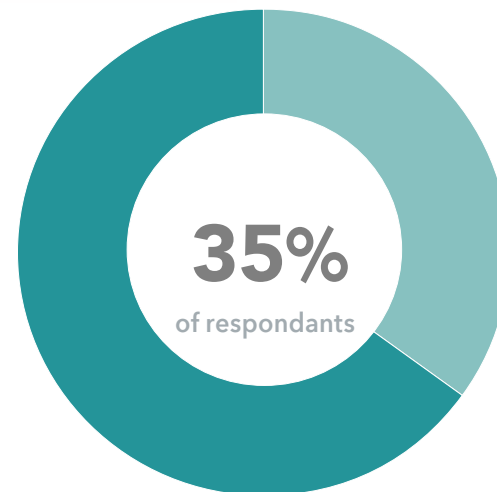
THE DESIRE TO IMPROVE



Of the safety professionals we surveyed, over one-third said improving chemical management is one of their top three priorities. This isn't surprising given **the complexity of managing chemical hazards, the ongoing changes to chemical inventories and the serious consequences of an accident.**



% Stating that Improving Chemical Management is a Top 3 Priority



CAN I GET THAT IN WRITING?



A written HazCom program is a key requirement of the HazCom Standard because it establishes measures to ensure employees understand the chemical hazards in their work areas.

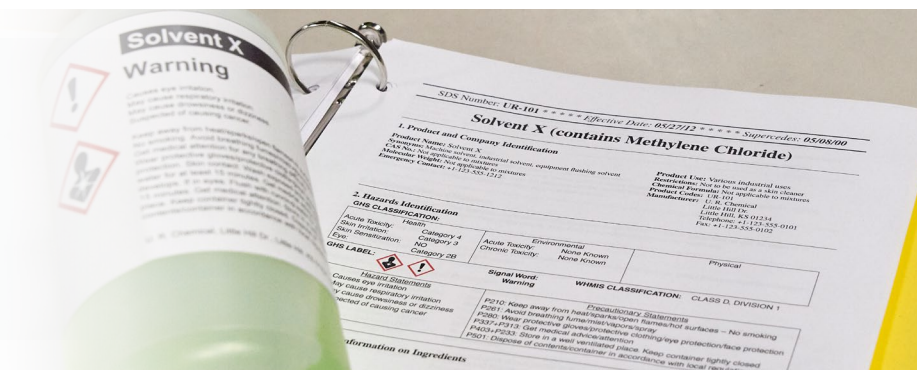
It must include information on container labeling, availability of SDSs, the employee training program, and methods for communicating precautionary measures (including in multi-employer workplaces).

It must also contain a list of the hazardous chemicals known to be present in the workplace and the methods the employer will use to inform employees of the hazards of non-routine tasks (e.g., the cleaning of reactor vessels) and the hazards associated with chemicals in unlabeled pipes.



In fiscal year (FY) 2021, the written HazCom program provision was the most frequently cited serious violation for 29 CFR 1910.1200.

THERE'S SAFETY IN DATA SHEETS



Safety data sheets (SDSs), that is. **Employers must maintain an SDS for every covered hazardous chemical in the workplace**, and they must be readily accessible to employees during each work shift when they're in their work area. The SDSs can be in a printed binder or provided electronically.



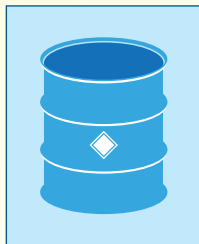
"I STRUGGLE ...
to ensure every chemical
that comes into my facility
has an SDS to go with it."
J. J. Keller Survey Respondent



WHAT'S TIER II REPORTING?



Tier II reporting is required under section 312 of the Emergency Planning and Community Right-to-Know Act (EPCRA) for the purpose of **providing state and local officials and the public with information on specific hazardous chemicals** present in their communities – including at local companies.



J. J. Keller can help assess your facility for applicability, complete Tier II reports on your behalf, and provide inspection support.

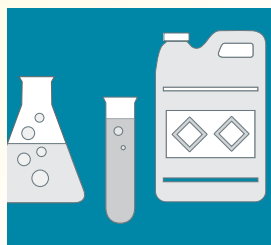
Contact us today to learn more.
JJKellerConsulting.com/tier-ii



TOP ENVIRONMENTAL RESPONSIBILITIES



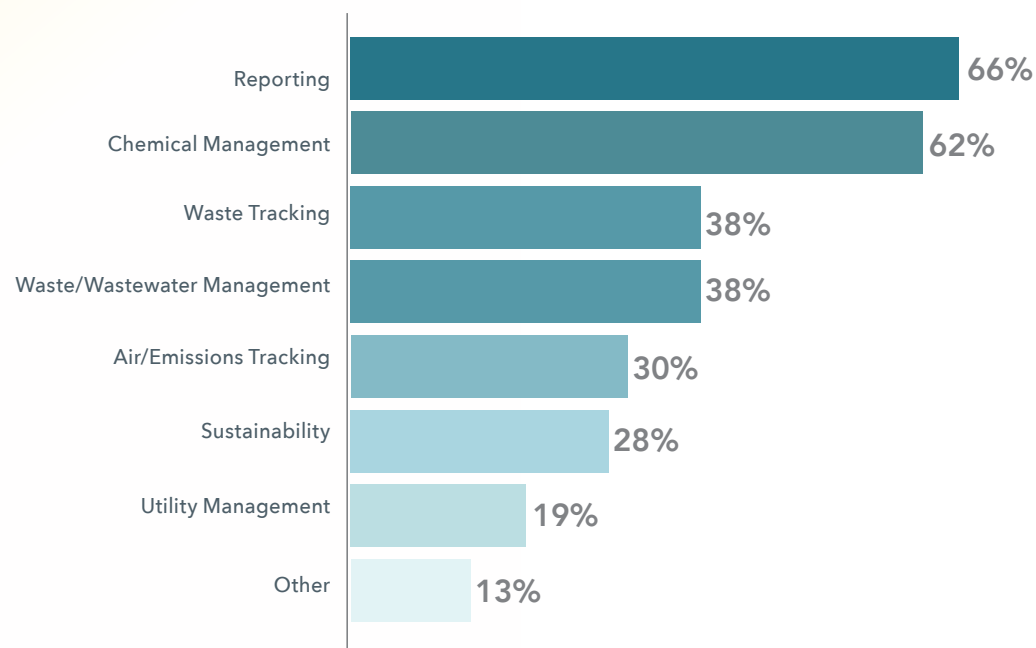
Chemical management and reporting (which includes certain chemical-related reports) are by far the key environmental responsibilities of safety professionals. This also makes them **the most important to the success of their job function.**



"I STRUGGLE ...
to have all the necessary
information when it comes
time for reporting."

J. J. Keller Survey Respondent

Environmental Responsibilities of Safety Professionals



Source: J. J. Keller Survey

TO FILE OR NOT TO FILE



Your company must file a Tier II report if:

1. **It is covered under OSHA's Hazard Communication Standard** and is required to prepare or have available SDSs for one or more hazardous chemicals; and
2. The HazCom-regulated chemical meets either of the following conditions:
 - a. **An extremely hazardous substance (EHS) that is present** at any one time in an amount equal to or greater than 500 pounds (approximately 55 gallons) or the threshold planning quantity (TPQ), whichever is lower. (EHSs and their TPQs can be found at 40 CFR 355 Appendices A and B.)
 - b. **It is a hazardous chemical that is not an EHS but is present** at any one time in an amount equal to or greater than the threshold level for that chemical. The threshold level is 10,000 pounds unless the chemical is gasoline or diesel fuel at a qualifying retail gas station (where higher threshold levels apply).

The threshold level is zero if state responders, local emergency officials, or the local fire department specifically asks you for information on any or all of your hazardous chemicals.

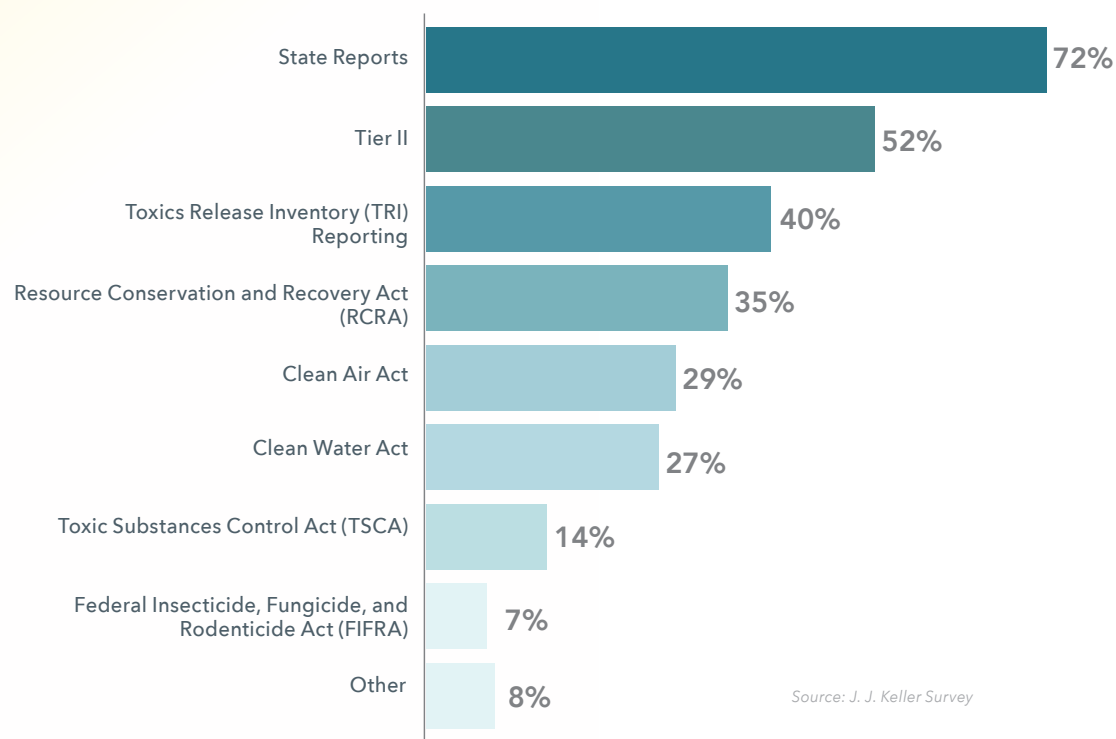


TOP REPORTING RESPONSIBILITIES



Filing reports related to chemical management is a responsibility for the majority of safety professionals we surveyed. Not only are these reports required, they're often **time-consuming and complex reports with the potential to trigger an audit if mistakes are made.** This is why these reporting tasks are often outsourced to a third-party that has specialized experience in these areas.

Environmental Reports Safety Professionals are Responsible For



Source: J. J. Keller Survey

6 STEPS TO TIER II REPORTING



Annually by **March 1**, all companies that meet the criteria for Tier II reporting must follow these six steps:

1. Conduct an inventory of their hazardous chemicals
2. Remove any exempt hazardous chemicals from the inventory list
3. Determine if thresholds are met or exceeded
4. Remove any hazardous chemicals from the inventory list that are under the thresholds
5. Register with the state reporting system, if required
6. File the Tier II report, which must include:
 - a. Facility information
 - b. Individual chemical constituents
 - c. Physical and health hazards
 - d. Chemical description of materials used at the facility
 - e. Maximum and average daily amounts
 - f. Storage types, conditions and locations
 - g. Additional information verifying your reporting status

In California, a facility may be required to file the Hazardous Materials Business Plan (HMBP).



Most facilities that manufacture, process or otherwise use more than a threshold quantity of chemicals specified by EPCRA 313 must also file a [Toxics Release Inventory \(TRI\) report](#) annually by July 1.

COMMON CHEMICAL MANAGEMENT SOLUTIONS

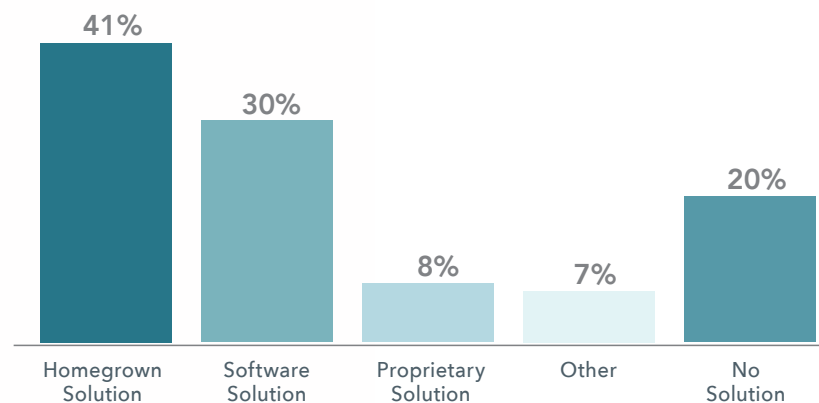


Because chemical management is so complex and time-consuming, most safety professionals often end up creating band-aid solutions, or worse yet, no solution at all. **Without a disciplined approach to HazCom compliance and chemical management, it's little wonder safety professionals continue to struggle in this area.**



"I STRUGGLE ...
to properly manage my chemical management program with the time and resources I have."
J. J. Keller Survey Respondent

Chemical Management Solution Use by Type



Source: J. J. Keller Survey

WHAT'S THE SOLUTION?

Year in and year out, HazCom is one of the most frequently cited general industry standards, with 2,150 violations in FY 2021 alone, resulting in over \$3 million in penalties. That isn't surprising given the complexity of the HazCom Standard and related reporting obligations, compounded by the **lack of time, limited understanding and ever-changing chemical inventories safety professionals face.**

While there's no silver bullet for eliminating chemical hazards or ensuring HazCom compliance, **investing in a better understanding of the regulatory requirements and the tools for complying with them will more effectively protect employees from accidents – and protect companies from violations, fines and legal liability.**





J. J. Keller®

Chemical Safety & Compliance Solutions

From advisor-supported solutions to do-it-yourself technology, we provide the complete range of offerings to help you protect employees from chemical hazards while simplifying your compliance tasks.

CHEMICAL MANAGEMENT SERVICE

We Manage Your Chemical List & SDS Library

By combining the continued support of our **Compliance Advisors** with an **online chemical database**, you get an easier way to manage your chemical list and safety data sheet (SDS) library.

- Chemical list & SDS library creation
- Online searchable database
- Ongoing chemical list and SDS updates
- Expert chemical advisement
- Custom posters for accessing your SDS library
- Recommendations for chemical consolidations where applicable



EHS CONSULTING SERVICES

We Teach You to Manage Chemical Compliance

Let a dedicated J. J. Keller consultant **provide ongoing oversight** of your OSHA and EPA compliance by **identifying gaps** and delivering **continued guidance** to reduce your risk from chemicals and other hazards.

- Audits, assessments and inspections
- Custom safety program development
- Policy and procedure development
- Training customization
- Government reporting
- Accident and incident investigation
- Safety management controls
- Performance tracking
- Process safety management



SAFETY MANAGEMENT SUITE

You Get Tools to Manage Chemical Safety

You'll have access to our robust set of **cloud-based safety management tools** that will help you more effectively manage your company's safety program, including chemicals, HazCom and much more.

- Chemical management
- SDS management
- Incident management
- Safety plans
- Regulatory references
- Training programs
- News and updates
- Expert help
- Discussion boards



TRUST YOUR SAFETY & COMPLIANCE TO THE INDUSTRY LEADER

At J. J. Keller, we help ensure safe, respectful workplaces, job sites and highways. So employees thrive. So they return home each day to the families who love them. We empower businesses to excel by removing risk and giving them confidence that they are meeting complex regulations. We lead by examples in our communities by embracing those most in need and the programs that sustain them.



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