

Short Conference Q&A

HazCom Chemical Management Tips for COVID-19 and Beyond



Question: The GHS uses “SDS” in lieu of “MSDS.” Are you still using the term “MSDS?”

Answer: It is true that the UN’s Globally Harmonized System of Classification and Labeling of Chemicals (GHS) uses the term Safety Data Sheet (SDS) to refer to the 16-section document manufacturers of chemicals must produce and supply to downstream users according to hazard communication regulations, such as HazCom 2012, that are aligned with the GHS. Given that we are in the business of authoring SDSs, we observe that approximately 93% of all documents out there now are SDSs aligned with HazCom 2012/GHS requirements, but that means that there are still material safety data sheets (MSDSs) out there. Since there are, we continue to use the term to refer to documents that were authored prior to alignment with the GHS.

Question: Provide some insight into chemical hazardous and flammable storage best practice and what are the things to look out for in chemical aerosol manufacturing businesses.

Answer: The first piece of advice would be to pay close attention to Section 7 in SDSs for all hazardous chemicals, because it has important information regarding safe storage and usage of chemicals. Avoid seemingly useful but potentially dangerous shortcuts to organizing your chemical storage areas, such as storing chemicals alphabetically, because of the potential of that practice to result in storage of incompatible chemicals next to each other.

Some general guidelines for all hazardous chemicals include:

- Separate solids from liquids (preferably organic from inorganic).
- Separate metals from non-metals. Keep metals away from water and moisture to prevent corrosion or reaction.

- Separate non-hazardous from hazardous chemicals.
- Separate toxic from irritants (non-hazardous). Store toxic chemicals away from sink and sanitary areas.
- Store flammable liquids at suitable temperatures.
- Separate corrosives from remaining hazardous chemicals.
- Separate reactive/oxidizers from remaining hazardous chemicals.
- Store water-reactive chemicals away from sinks or other sources of water.

Store flammable liquids in accordance with OSHA requirements, which are found in 1910.106 for general industry. These guidelines include proper bonding and grounding measures, such as not dispensing Category 1 or 2 flammable liquids, or Category 3 flammable liquids with a flashpoint below 100 °F (37.8 °C), into containers unless the nozzle and container are electrically interconnected.

The aerosol chemical industry has a number of other issues they should track. It’s beyond the scope of this document to provide a comprehensive list of those, but here are a few issues to be aware of:

- Provide employees who mix flammable liquids with flame-retardant clothing.
- Establish written procedures to maintain integrity of the aerosol system.
- Arrange exit routes to avoid workers needing to move toward and through a high-hazard area during evacuation.
- Ensure that all aerosol products are stored in accordance with the provisions of 1910.106 as well as NFPA 30B, *Code for the Manufacture and Storage of Aerosol Products* and the International Fire Code.



- Evaluate whether combustible dusts are present, and if so, develop a program to address the hazard, including a housekeeping schedule to prevent the dusts from accumulating on working surfaces.
- If combustible dusts are present, address the hazard in the written HazCom Plan and in HazCom training, ensuring that workers know how to recognize the hazard and avoid risks.
- Evaluate compliance with OSHA's Process Safety Management (PSM) rule, and ensure that all required PSM elements are in place, including preventative maintenance schedules, process hazard analyses (PHAs) and management of change (MOC) procedures.
- Conduct audits and inspections to ensure that all established safety procedures and controls are being followed and working as planned.

Question: Are drugs exempt from the requirement to have an SDS?

Answer: Section 1910.1200(b)(6)(vii) of the HazCom Standard exempts drugs as defined by the FDA from coverage when they are in solid, final form for direct administration to patient, drugs packaged by the manufacturer for sale to consumers in a retail establishment, or drugs intended for personal consumption by employees in the workplace, such as first aid supplies. However, employers need to be mindful of the different ways the drug products are used and manipulated within the workplace, some of which may nullify the exemption from HazCom. For example, in a [1994 LOI](#), OSHA clarified that tablets, capsules, or pills that are designed to be dissolved or crushed by employees prior to administration to a patient are not in "final form" and are therefore covered by the HazCom Standard. Employers would need to have SDSs for all such drug products subject to the HazCom Standard and make the SDSs available to their workers within their workshifts.

It should also be noted that the pharmacology standard USP <800> also covers drugs listed on NIOSH's list of hazardous drugs (HDs) in healthcare settings, such as clinics, hospitals, pharmacies, veterinary practices, and nursing facilities. Employers in the health care industry should be aware of requirements under [USP <800>](#), which include maintaining a list of HDs, performing assessments of risk (AOR) when applicable, following designated containment requirements and engineering controls, and providing appropriate training to workers.

Question: Are calibration gases in small bottles classified as hazardous chemicals and covered by the HazCom standard? Would the HazCom standard apply to small cylinders (58 Liters) of inert gases ?

Answer: Yes. Such gases would be classified as hazardous by virtue of being compressed gases ("gases under pressure") and would therefore be subject to the HazCom Standard. Employers would need to include these chemicals in their chemical inventory list, have SDSs for them in their SDS library, provide access to these SDSs for their workers during their workshift, and provide workers exposed to them with appropriate HazCom training.

Question: Does rubbing alcohol (Isopropyl alcohol) react with frequently cleaned surfaces that we need to be aware of?

Answer: Keep in mind that the problem is not often going to be with the surface itself, but with residues on the surface from use of a previous cleaning agent, which may be incompatible with a cleaning product we are planning to use.

Isopropyl alcohol/isopropanol, often commercially sold as "rubbing alcohol" is incompatible with the following chemicals:

- Oxidizing agents (e.g., peroxides, permanganates)
- Strong acids (e.g., hydrochloric, sulfuric)
- Bleach (reaction with isopropyl alcohol creates toxic chloroform)
- Acid anhydrides
- Alkali metals (e.g., lithium, sodium, potassium)
- Alkaline earth metals (e.g., beryllium, magnesium, calcium)
- Ethylene oxide
- Phosgene
- Crotonaldehyde
- Isocyanates

Many common cleaning disinfecting products contain either hydrogen peroxide or an acid as the active ingredient, both of which are incompatible with isopropyl alcohol and can cause dangerous reactions upon contact. Given the unprecedented demand for cleaning products right now, there is a greater chance of running out of a first cleaning product and needing to finish a job with a second, so it's more important than ever to understand the hazards of these products and take measures to avoid mixing incompatible chemicals.



That said, there are surfaces it's best not to use isopropyl alcohol on, such as finished, lacquered, or painted surfaces, since isopropyl alcohol can dissolve finishes or coatings on these surfaces.

Question: If a facility chooses to use a diluted bleach solution instead of an EPA List N product to disinfect, is there responsibility to author an SDS?

Answer: First of all, we should note that many commercially sold bleach products are covered by the "consumer products" exemption within the HazCom Standard, which exempts products from coverage under the Standard when "the employer can show that it is used in the workplace for the purpose intended by the chemical manufacturer or importer of the product, and the use results in a duration and frequency of exposure which is not greater than the range of exposures that could reasonably be experienced by consumers." However, given the frequency of cleaning due to COVID-19 and amounts of chemicals used, the duration and frequency of exposure due to this increased usage would in many cases nullify the exemption. Employers using these chemical products would then need to meet their requirements under the HazCom Standard, namely having a written HazCom Plan, having a chemical inventory list, maintaining SDSs for all chemicals and providing access, having a labeling system for chemical containers, and providing HazCom training to workers.

Assuming the facility in question is diluting a bleach product provided by a supplier rather than manufacturing the bleach product themselves, and assuming that the diluted bleach is being used within the facility rather than shipped to downstream users, they would not need to author an SDS as a result of diluting the product. They would need to ensure they have an SDS from the supplier, provide employees with unobstructed access to it during their workshifts, and provide HazCom training to all workers using it. Those workers who perform certain tasks with greater exposures, such as performing dilutions, should receive more specialized training.

It should be noted that when chemical products are diluted, they are often stored and used in secondary containers, or workplace containers. The employer will need to ensure these containers are properly labeled, and that the labeling system conveys the information required in 1910.1200(f)(6) of the HazCom Standard. Since the product is diluted, it's possible that hazard information for the diluted product will differ from that for the product as supplied. However, because many cleaning products are actually made to be diluted, they may in many cases have SDSs that provide specific hazard details for the diluted product as well as the undiluted product.

