

TDI

Safety @ Work
Division of Workers' Compensation

Museum and Cultural Heritage Industry



**Workplace
Program**



DISCLAIMER

This Museum and Cultural Heritage Industry Workplace Program is a guide to help employers develop a safety plan to comply with the requirements of the Occupational Safety and Health Administration (OSHA). It contains helpful information and the basic elements to build a safety and health program. It is not meant to supersede OSHA requirements. Employers should review the OSHA standard for each specific worksite and customize the program accordingly.

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INTRODUCTION



Acquiring, preparing, and caring for museum collections for display and study can span a large and complex variety of operations. These operations often mirror the activities in industrial facilities and warehouses, exposing museum employees to similar safety and health risks. For example, conservators, curators, collection managers, registrars, preparators, exhibit installers, and others who directly work with collections are regularly exposed to hazardous materials, such as:

- formaldehyde fixatives for fluid specimens;
- radioactive dyes;
- pigments containing toxic metals;
- silica dust while removing fossils from rock matrices;
- mold on specimens or archival collections; and
- paints and epoxy solvents for display fabrication.

Professional museum, collection management, and conservation organizations have long recognized collection-based hazards as safety risks to humans and agents of deterioration and damage to museums' collections. Among the activities that pose the most significant risks are:

- handling collections with legacy residual pesticides (ex. arsenicals);
- accessing cases with accumulated pesticide vapors (ex. naphthalene and mercuric salts);
- excavating and diving operations at field-collection sites;
- constructing and maintaining public exhibits, including support operations, such as wood shops, paint booths, and printing presses;
- storing and warehousing collections, often requiring material handling activities (both manual and

- mechanical) and working at heights; and
- operating and maintaining the building, grounds, equipment, and perhaps, vehicles.

Over the years, the Occupational Safety and Health Administration (OSHA) has developed federal guidelines to reduce hazards and help prevent job-related injuries and illnesses associated with these operations. Unfortunately, many small or medium-sized organizations lack the resources to have full-time safety and health professionals on staff. Therefore, some museum and conservation associations, such as the American Institute for Conservation (AIC), are working with OSHA's On-site Consultation Program to help employers identify workplace hazards, receive guidance on complying with OSHA standards, and better manage the associated health and safety risks of the museum employees' occupational tasks.

This publication results from a collaborative effort with museum and cultural heritage organization members and safety and health professionals, including those with the Texas Occupational Safety and Health Consultation Program (OSHCON). It is designed to help museum and cultural heritage managers understand their obligations under OSHA law and protect their employees from the hazards posed by their work activities.

This publication includes a brief discussion on safety and health management and some of the possible risks that cultural heritage workers may encounter. In addition, the Resources and References Section in the back of the publication provides links to additional resources to assist museum and cultural heritage management and staff in understanding and mitigating these hazards. This combination of references from OSHA and museum and cultural heritage organizations is intended to assist managers in understanding and fulfilling their obligations under the law.



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Safety and Health Management and Communication

Communicating Hazards and Training

Individuals working in cultural heritage institutions may be exposed to various hazards, as outlined in this publication. Some of these hazards may be obvious to employees, while others may not. By providing employees the knowledge and tools needed to help them recognize and control hazards in their work areas, they become better positioned to protect themselves and implement protective measures. Ensuring that employees receive the knowledge and skills needed to do their job safely is the basis for OSHA's training requirements which are integral to OSHA regulations.

Management of Collections-Based Hazards

Museums, art galleries, and cultural-site employers are responsible for the health and safety of their staff and the visiting public. This effort depends upon the safe handling of collection objects and specimens. The first step in this process is to understand the inherent properties and history of these items. For example, human-made objects may have historical records that indicate the materials used to produce, maintain, and preserve these items. Likewise, experiences by other colleagues and institutions, often available through peer industry publications and organizations, may assist in understanding any inherent hazards posed by working with collections. In addition, these collaborative efforts may shed light on how others successfully protected their employees while handling such items.



OSHA Written Programs

Depending on the hazards present and the activities performed, OSHA may require your organization to have a written safety program. These programs outline what you and your employees will do to reduce the risk posed by a particular hazard. These written safety programs are designed to serve as a road map for employees to follow to help them safely perform their duties. They are typically performance-based and require employers to address critical elements contained within each of the regulations. Below are typical examples of such programs and a discussion on addressing some of those key elements:

Emergency Action Plans (EAP):

An EAP is a written program describing the actions employees are to take to ensure their safety and the safety of others in the event of an emergency. Museum and cultural heritage employees have an obligation to protect themselves as well as the volunteers and the public occupying the building. Your local fire department and your insurance company are excellent resources to assist you in developing

an emergency fire action plan. Remember to include remote facilities and locations for off-site activities such as shops, offices, laboratories, and other areas not occupied by the public. In addition, ensure that the EAP includes procedures for different types of emergencies such as inclement weather and workplace violence.

Respirator Programs:

Respirators protect employees against harmful dust, gases, vapors, and other contaminants that may cause illness or injury. Before employees can wear a respirator, the employer must ensure an employee is knowledgeable and capable of physically wearing the device safely. In addition, depending on the type of respirator and the conditions present, written provisions must be in place to ensure employee safety. These written provisions constitute the key elements of an employer's respiratory program and must include:

- medical evaluations to ensure employees are physically capable of wearing the devices;
- fit testing procedures to confirm the respirator selected correctly fits the employee;
- proper respirator selection based on the toxic agent, physical conditions, and activities performed;
- maintenance, care, and storage of respirators; and
- employee training on respirator use.

Hazard Communication:

The purpose of a Hazard Communication Program is to inform employees of the chemical hazards in their workplace and ensure the safe use, handling, and disposal of those hazardous chemicals. In addition, the written plan should extend to the care of collections and the maintenance of the facilities that house the substances. Safety Data Sheets and container labels are the tools

that help communicate such hazards and assist individuals in taking the appropriate actions to protect themselves. Therefore, employers must develop procedures and mechanisms to ensure these tools are readily available to employees who handle hazardous chemicals.

Personal Protective Equipment (PPE):

OSHA requires employers to assess the workplace to determine if hazards are present or are likely to be present that require the use of PPE. In addition, the employer is responsible for selecting and having affected employees use the types of PPE that will protect them from the hazards identified in the hazard assessment.

Injury and Illness Tracking and Reporting

When an accident occurs at your workplace, it is crucial to ensure the injured person receives proper medical care and the cause of the accident is determined. In addition, it is essential to document and track the incident's circumstances and the preventive measures taken to ensure similar accidents do not reoccur. This information can be used to determine whether such measures remain effective in mitigating the hazard over time.



For this purpose, OSHA requires certain employers to track and record employee injuries and illnesses that occur within the workplace. To ensure these records are comparable throughout all Industries across the country, OSHA developed and implemented a standardized method of recording and tracking workplace injuries and illnesses. This recording system is separate from other injury tracking systems like workers' compensation or loss control systems. It is different and specific to OSHA and the Department of Labor. (See the Safety and Health Management, Hazard Communication section under Resources and References in the back of this publication for links to the forms, instructions for completing the forms, and guidelines to determine whether your facility is exempt from formal recordkeeping obligations.)

In addition to recording employee workplace injuries, OSHA requires employers to report specific severe workplace injuries to OSHA. These include fatalities, hospitalizations, amputations, and loss of an eye. OSHA wants to ensure that the hazards associated with an injury of this magnitude are effectively controlled and that exposed employees are now protected.

Workplace Inspections, Surveillance, & Hazard Reporting

Workplace hazards can be identified and controlled by regular inspection and surveillance activities. Workplace inspections are a detailed systematic review of the workplace conducted by knowledgeable and experienced workers trained to identify workplace hazards. Checklists are often incorporated to guide the inspector and document the results. Everyone should conduct hazard surveillance activities, including employees, supervisors, maintenance, and management, while conducting their everyday duties. Once a hazard is identified, a mechanism for the employee to report hazards for appropriate action should be in place. The key to an effective workplace inspection and surveillance program is your employee hazard recognition training. As discussed earlier in this section, hazard recognition training is vital for your safety and health program.



At the back of this guide, there are links to several workplace inspection checklists for employers to utilize. These checklists are a starting point and can give you some indication of where to begin. However, they are not all-inclusive, and not all the checklists will apply to your business. You might want to start by selecting specific checklists or elements of a checklist that best apply to your facility. Then customize the steps by adding or deleting items from the checklist to cover your work processes more accurately.

Job Hazard Analysis

Hazards that arise from day-to-day activities at a facility are usually the easiest ones to identify and control. However, restoration projects, the introduction of new collections or items, off-site work, and other less frequently performed activities are



generally more complex. As a result, they may generate hazards typically not seen during day-to-day operations.

A job hazard analysis is a tool organizations can use to identify and reduce hazards before they occur. It is a way to systematically break down jobs and activities into separate elements to identify any hazards or risks associated with a particular task or activity. In addition, it identifies the tools, equipment, and resources needed to protect employees.

First, it is vital to understand whether any inherent dangers are present in the handled objects or conducted activities. Hazards may include any fire, toxicity, or chemical reactivity the item or components may possess. Is the item capable of releasing stored energy (electrical, mechanical, hydraulic, or gravitational)? Are there physical hazards such as sharp objects, fall hazards, or engulfment hazards? Next, outline the steps or tasks

needed to complete the project. For each step or job, determine its impact on those performing the activities. You may find it valuable to ask:

- Will a specific step pose or generate a hazard to those performing the activity?
- What if anything can be done to prevent, control, or minimize the risk posed by the hazard?
- What protective measures can be taken to protect those performing the task and those in the vicinity?
- Are any special tools, equipment, or resources needed to accomplish this step safely?

To help identify possible hazards in collection-based activities, review the [Smithsonian Institution Collection-Based Hazards](#) guidelines in the Resources and References section at the back of this publication.

Field Work and Collection-Based Hazards



Digging, Trenching, and Excavating

Archaeological excavations can pose numerous hazards (physical, chemical, and biological) to those who conduct activities at such sites. These include:

- engulfment hazards from cave-ins;
- dermal and inhalation hazards from contact with toxic or biological materials;
- lethal atmospheres from the gases created or contained within the soil; and
- hazards posed by insects, animals, or other humans.

Depending on the configuration and the depth, OSHA requires employers to implement measures to protect employees working in excavations. OSHA regulations also require that a “competent person” periodically monitor the excavation to ensure that changing conditions do not introduce new hazards to those within the excavation. OSHA defines a “competent

person” as someone who can identify existing or likely hazards in the work area and make sure working conditions are sanitary and safe.

Formaldehyde

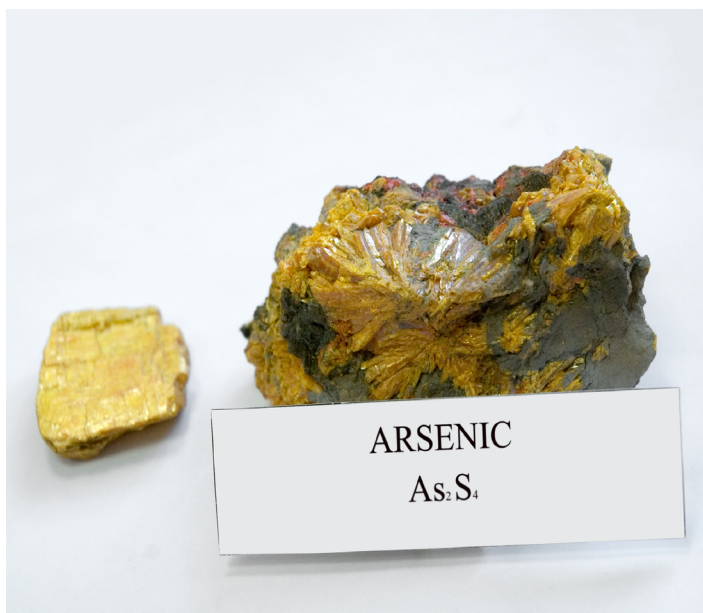
Since the 1800s, museums have stored biological specimens in liquid preservatives. Until recently, various formaldehyde solutions, including formalin, were widely used as a preservative for long-term specimen storage. Formalin is a pungent liquid capable of generating airborne formaldehyde atmospheres, which irritate the eyes, nose, and throat. In addition, formalin solutions are corrosive to human tissue and damage mucus membranes such as the eyes. OSHA classifies formaldehyde as a human carcinogen. It is regulated individually under the expanded health standard. The standard is a performance-orientated set of regulations. For the most part, employer obligations and employee protections are based on employee exposure levels, with additional responsibilities for all employees exposed to formaldehyde. The standard outlines the methods used to protect employees from the hazards of formaldehyde, including:

- the use of engineering control methods and workplace practices to

- control employee exposures;
- selection, use, care, and disposal of respirators and other personal protective equipment employees may wear;
- chemical hygiene practices covering eating, drinking, and availability of wash facilities;
- housekeeping practices to prevent migration and contamination of other areas and surfaces;
- employee training requirements for those with possible exposures; and
- when medical surveillance may be needed.

Arsenic

Arsenic salts and soaps were widely used as a pesticide and preservative over the last 100 years, coating the inside of specimen skin mounts or applied prophylactically to collection surfaces and storage drawers. No longer legal to use, this residual legacy toxin is a serious hazard to collection handlers, exhibit installers, and loan recipients. Methods used to control employee exposures include isolation, containment, ventilation, work practices, chemical hygiene, and employee PPE.



Like formaldehyde, OSHA also classifies arsenic as a human carcinogen and regulates it under its own set of regulations called an expanded health standard. It is a performance-orientated standard. For the most part, employer obligations and employee protections are based on employee exposure levels with additional education obligations for all employees exposed to arsenic. The standard covers requirements for:

- engineering and workplace practices;
- respiratory and other PPE;
- chemical hygiene practices:
- housekeeping;
- training; and
- when medical surveillance may be needed.

Radiation

Collections may contain naturally occurring or human-made radioactive materials. These include rocks and minerals from certain geological formations containing uranium and other naturally occurring materials. In addition, they may include decorative items or dinnerware using colorants or finishings with ingredients containing radioactive minerals or radium-coated dials and instruments often used in navigation equipment in ships, planes, and compasses. Radiation exposures can also occur from x-rays and other scientific instrumentations used by employees. Therefore, only trained personnel using proper precautions should operate x-ray or other scientific instruments.

Control measures such as containment, shielding, distance, and protective coverings are used for protection against gamma, beta, and alpha radiation. Coatings containing these radioactive materials may chip, flake, or otherwise create dust and powders. When disturbed, they can become airborne, posing inhalation and ingestion hazards.

Silica

Silica is a common naturally occurring mineral found in soil, clay, brick, stone, concrete, and other similar materials. The crystalline form, commonly called quartz, has the potential to cause many diseases, including cancer. Silica poses a risk when broken down into particles small enough to be respired into the body. These particles can travel systematically through the body after entering the lungs. Any activity (grinding, chipping, hammering, or cutting) that impacts silica-containing material can create these respirable silica particles. Dust control and suppression measures should be used where possible when working with silica. Water is one of the most effective and economical suppression measures. However, it may not be suitable or appropriate in all cases.

Respirable crystalline silica (RCS), like formaldehyde, arsenic, and asbestos, is also classified as a human carcinogen by OSHA and is regulated under its expanded health standard. The standard is performance-orientated. In most cases, the employer obligations and employee protections are based on exposure levels. The standard covers requirements for:

- engineering and workplace practices;
- respiratory and other PPE;
- chemical hygiene practices;
- housekeeping;
- training; and
- when medical surveillance may be needed.



Mercury/ Mercuric Chloride

Mercuric chloride remains in use as a pesticide and repellent for botanical specimens. Over time, disassociated elemental mercury, a toxin, accumulates inside closed cases, posing inhalation risks when accessing the display. In addition, mercury-tin amalgam historic mirrors can leak mercury droplets over time. Mercury may also be present in old instrumentation, electrical equipment, and medical devices. Unlike most heavy metals, which can only become airborne as dust or under extreme heat, mercury can release vapors at room temperature and pose an inhalation hazard to those around it.

Although there are no special federal regulations on mercury, as there are for arsenic and formaldehyde, OSHA recognizes its toxicity. Therefore, OSHA sets employee-airborne exposures limits for mercury and mercuric chloride. Methods used for controlling employee exposures include isolation, containment, ventilation, work practices, chemical hygiene, and employee PPE.

Exhibit Production, Facility Operations, & Maintenance

Working at Heights

Constructing and maintaining exhibit displays, including lighting fixtures, often require employees to work at elevated heights. The safe use of guardrails, guarding systems, fall protection devices, and ladders are all measures to protect employees while working from heights.

OSHA's fall protection regulations specify when such measures are required, the types that may be used, and how they are used. OSHA also regulates the design specifications for guardrails, guarding systems, fall protection devices, scaffolding, lifts, mobile work platforms, ladders, and other elevated work surfaces. These regulations also outline the proper use, care, maintenance, and inspection of these work surfaces.

Woodshops

The construction of collection displays and wooden storage and shipping crates often require power tools and other woodworking equipment. These devices can pose safety and amputation hazards. In addition, dust from woodworking can create health and fire hazards. Portable woodworking tools, used for their convenience, are more prone to damage. Employees working with these devices must keep them regularly maintained and in safe working condition. Always take damaged or altered tools out of service immediately and seek repairs. Especially dangerous are nail and staple guns.

Paints, Epoxies, and Solvents

Paints, epoxies, and solvents are commonly used chemicals that can generate hazardous atmospheres or injure skin and other tissue. Prolonged exposure to these chemicals can damage the nervous system, liver, and kidneys and increase cancer risks. Fortunately, appropriate application and ventilation practices can reduce airborne concentrations of vapors. Also, proper gloves, eye protection, and other PPE can prevent skin damage and systematic poisonings from dermal contact with these agents. Another hazard is that many of these substances are highly flammable. Therefore, always exercise caution when working near or placing paints, epoxies, and solvents in storage. Strict OSHA, Fire Marshall, and Life Safety codes apply to all flammable liquid storage practices in offices and other public settings.



Printing and Printing Pressing

Various printing processes, including 3D, involve toxic, flammable, and hazardous chemical agents. These agents often include lead, lead alloys, antimony, aluminum, zinc, chromium, mineral acids, salts (for etching), carbon black and other pigments (for inks), organic and petroleum solvents, polymers, gelatin, and cellulosic esters (for photographic films), and other materials, such as glues, varnishes, resins, and paints. In addition, press operations may create amputation hazards and noise levels that can cause hearing loss.

Slips, Trips, and Falls

Slips, trips, and falls are common injuries for employees and guests at facilities like yours, which are open to the public. Therefore, it is essential to keep stairways, floors, walkways, restrooms, and parking lots maintained and in good condition. Ensure that spills are cleaned promptly, and that doorway mats are provided to reduce slip hazards caused by snow and rainwater from footwear.

Remember the areas occupied only by your employees, as well. Ensure storage areas, maintenance rooms, wood shops, print shops, utility rooms, and shared spaces, such as walkways, are maintained, organized, and free of obstacles and trip hazards. Inspect ladders and stools regularly to ensure they are damage-free and in good working condition. Repair any unlevel or damaged carpets in offices, conference rooms, or hallways. Check for any stairwell or handrail damage. OSHA's "Walking and Working Surfaces Standard" (29 CFR 1910 Subpart D) provide guidelines to ensure these surfaces are correctly designed and maintained.



Material Handling Operations

Collection displays and items are often stored, moved, or shipped to other facilities. These objects may be moved manually or with mechanical devices. Injuries to hands, fingers, feet, and toes can occur if loads are not secure. Also, soft tissue injuries from improper manual lifting techniques can occur if the load is too heavy for one person to lift. Forklifts and motorized pallet jacks, while extremely helpful in efficiently moving materials, are attributed with causing severe injuries and even fatalities in the workplace. For these reasons, OSHA only allows trained and authorized personnel to operate powered industrial vehicles, such as forklifts and powered pallet jacks. OSHA also provides guidelines to ensure the safe operation and maintenance of these devices to reduce injuries and property damage from mechanical failures.

Resources and References

Safety and Health Management and Communications



Hazard Communication: (29 CFR 1910.1200)

- **[OSHA Fact Sheet: Steps to an Effective Hazard Communication Program for Employers That Use Hazardous Chemicals](https://www.osha.gov/sites/default/files/publications/OSHA3696.pdf)**
(<https://www.osha.gov/sites/default/files/publications/OSHA3696.pdf>)
- **[AIC Chemical Safety: Safety Data Sheets](https://www.conservation-wiki.com/wiki/Chemical_Safety#Safety_Data_Sheets)**
(https://www.conservation-wiki.com/wiki/Chemical_Safety#Safety_Data_Sheets)
- **[DWC Safety Data Sheets Safety Training Program](https://www.tdi.texas.gov/pubs/videoresource/stpsds.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/stpsds.pdf>)
- **[OSHCON Hazard Communication Sample Written Program](https://www.tdi.texas.gov/pubs/videoresource/ohazcom.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/ohazcom.pdf>)
- **[DWC Hazard Communication Fact Sheet](https://www.tdi.texas.gov/pubs/videoresource/fshazcom.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/fshazcom.pdf>)
- **[OSHA Safety and Health Topics: Hazard Communication](https://www.osha.gov/hazcom)**
(<https://www.osha.gov/hazcom>)



Injury and Illness Prevention Program and Safety Policy:

- **[DWC Injury and Illness Prevention Plan Guide](https://www.tdi.texas.gov/pubs/videoresource/injillprevgd.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/injillprevgd.pdf>)



Injury and Illness Tracking and Reporting: (29 CFR 1904)

- **[OSHA Injury and Illness Recordkeeping and Reporting Requirements](https://www.osha.gov/recordkeeping)**
(<https://www.osha.gov/recordkeeping>)
- **[OSHA Forms for Recording Work-Related Injuries and Illnesses](https://www.osha.gov/sites/default/files/OSHA-RK-Forms-Package.pdf)**
(<https://www.osha.gov/sites/default/files/OSHA-RK-Forms-Package.pdf>)
- **[OSHA Standard 29 CFR 1904.0, Recording and Reporting Occupational Injuries and Illness](https://www.osha.gov/laws-regs/regulations/standardnumber/1904)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1904>)



Job Hazard Analysis:

- **[AIC Job Hazard Analysis](https://www.conservation-wiki.com/wiki/Job_Hazard_Analysis)**
(https://www.conservation-wiki.com/wiki/Job_Hazard_Analysis)
- **[Smithsonian Institution Collection-Based Hazards](https://www.sifacilities.si.edu/safety_health/docs/safety_manual/pdf%20PRISMout/ch_24_collections_based_hazards.pdf)**
(https://www.sifacilities.si.edu/safety_health/docs/safety_manual/pdf%20PRISMout/ch_24_collections_based_hazards.pdf)
- **[DWC Job Safety Analysis](https://www.tdi.texas.gov/pubs/videoresource/stpjobsafetana.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/stpjobsafetana.pdf>)

- **USF Sample Job Safety Analysis Information**
(<https://www.usf.edu/administrative-services/environmental-health-safety/documents/jsa-example-data.pdf>)
- **Berkley Office of Environment, Health, & Safety: Job Safety Analysis**
(<https://ehs.berkeley.edu/workplace-safety/job-safety-analysis>)



Management of Collections-Based Hazards:

- **Smithsonian Institution Collection-Based Hazards**
(https://www.sifacilities.si.edu/safety_health/docs/safety_manual/pdf%20PRISMout/ch_24_collections_based_hazards.pdf)



On-Site Consultation Program: (OSHA Written Programs and Other Resources)

- **OSHCON: Occupational Safety and Health Consultation Program**
(<https://www.tdi.texas.gov/oshcon/index.html>)



Workplace Inspections, Surveillance, and Hazard Reporting

- **Small Business Safety and Health Handbook**
(<https://www.osha.gov/sites/default/files/publications/small-business.pdf>)
- **Fire Safety Self-Inspection Form for Cultural Institutions**
(<https://www.archives.gov/files/preservation/emergency-prep/fire-check-list.pdf>)



Other Applicable OSHA Regulations

- **OSHA Standard 29 CFR 1910 General Industry**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910>)
- **OSHA Standard 29 CFR 1926 Construction Industry**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1926>)



Other AIC Health and Safety Resources

- **AIC 2020 Health and Safety Resources Related to the Conservation Profession**
(https://www.conservation-wiki.com/w/images/1/1d/H%26S_BeginnerGuide.pdf)

Field Work and Collection-Based Hazards



Arsenic (29 CFR 1910.1018)

- **[OSHA Safety and Health Topics: Arsenic](https://www.osha.gov/arsenic)**
(<https://www.osha.gov/arsenic>)
- **[OSHA Standard 29 CFR 1910.1018, Toxic and Hazardous Substances](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1018)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1018>)



Digging, Trenching, and Excavation (29 CFR 1926, Subpart P)

- **[OSHA Trenching and Excavation](https://www.osha.gov/trenching-excavation)**
(<https://www.osha.gov/trenching-excavation>)
- **[National Park Service Archeology Program](https://www.nps.gov/archeology/cg/fd_vol8_num2/hurt.htm)**
(https://www.nps.gov/archeology/cg/fd_vol8_num2/hurt.htm)
- **[USGS Safety and Health for Field Operations](https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations)**
(<https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations>)
- **[Archaeology Fieldwork](https://archaeologyfieldwork.com/AFW/health.htm/)**
(<https://archaeologyfieldwork.com/AFW/health.htm/>)
- **[Archaeological Safety Considerations On Construction Sites](https://www.semanticscholar.org/paper/Archaeological-safety-considerations-on-sites-Patterson/6197ed3439b08323771dcd3dc5ddf1671feb6bee?p2df)**
(<https://www.semanticscholar.org/paper/Archaeological-safety-considerations-on-sites-Patterson/6197ed3439b08323771dcd3dc5ddf1671feb6bee?p2df>)



Formaldehyde (29 CFR 1910.1048)

- **[OSHA Fact Sheet: Formaldehyde](https://www.osha.gov/sites/default/files/publications/formaldehyde-factsheet.pdf)**
(<https://www.osha.gov/sites/default/files/publications/formaldehyde-factsheet.pdf>)
- **[AIC Hazardous Collections](https://www.conservation-wiki.com/wiki/Hazardous_Collections)**
(https://www.conservation-wiki.com/wiki/Hazardous_Collections)
- **[American Museum of Natural History Fluid Preserved Specimens](https://www.amnh.org/research/natural-science-collections-conservation/general-conservation/health-safety/fluid-preserved-specimens)**
(<https://www.amnh.org/research/natural-science-collections-conservation/general-conservation/health-safety/fluid-preserved-specimens>)
- **[OSHA Standard 29 CFR 1910.1048, Toxic and Hazardous Substances](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1048)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1048>)



Mercury/Mercuric Chloride (29 CFR 1910.1000)

- **[OSHA Safety and Health Topics: Mercury](https://www.osha.gov/mercury)**
(<https://www.osha.gov/mercury>)
- **[AIC News: Tin-Mercury Amalgam Mirrors, pg. 12](https://www.culturalheritage.org/docs/default-source/periodicals/2013_jan_aicnews.pdf?sfvrsn=1)**
(https://www.culturalheritage.org/docs/default-source/periodicals/2013_jan_aicnews.pdf?sfvrsn=1)
- **[OSHA Standard 29 CFR 1910.1000](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1000TABLEZ2)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1000TABLEZ2>)



Radiation (29 CFR 1910.1096)

- **[AIC Hazardous Collections - Radioactive Materials](https://www.conservation-wiki.com/wiki/Hazardous_Collections#Radioactive_Materials)**
(https://www.conservation-wiki.com/wiki/Hazardous_Collections#Radioactive_Materials)
- **[Straus Center for Conservation and Technical Studies: ionizing Radiation in Conservation Labs](https://www.conservation-wiki.com/w/images/5/54/Radioactive_Objects.pdf)**
(https://www.conservation-wiki.com/w/images/5/54/Radioactive_Objects.pdf)
- **[U.S. Nuclear Regulatory Commission: Radium Historical Items Catalog](https://www.nrc.gov/docs/ML1008/ML100840118.pdf)**
(<https://www.nrc.gov/docs/ML1008/ML100840118.pdf>)
- **[USGS Safety and Health for Field Operations](https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations)**
(<https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations>)
- **[OSHA Standard 29 CFR 1910.1096, Toxic and Hazardous Substances](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1096)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1096>)



Silica (29 CFR 1910.1053)

- **[OSHA Safety and Health Topics: Silica, Crystalline](https://www.osha.gov/silica-crystalline)**
(<https://www.osha.gov/silica-crystalline>)
- **[OSHA Small Entity Compliance Guide for Respirable Crystalline, Silica Standard for Construction](https://www.osha.gov/sites/default/files/publications/OSHA3902.pdf)**
(<https://www.osha.gov/sites/default/files/publications/OSHA3902.pdf>)
- **[The Synergist: Hidden Hazards, Health and Safety in Museums and Art Galleries](https://synergist.aiha.org/201605-health-and-safety-in-museums)**
(<https://synergist.aiha.org/201605-health-and-safety-in-museums>)
- **[Washington Conservation Guild: Silica Dust Concerns Among Museum and Conservation Managers and Professionals](http://washingtonconservationguild.org/wp-content/uploads/2020/01/GOLDSMITH_Silica-Dust-Concerns-2019.pdf)**
(http://washingtonconservationguild.org/wp-content/uploads/2020/01/GOLDSMITH_Silica-Dust-Concerns-2019.pdf)
- **[OSHA Standard 29 CFR 1910.1053, Toxic and Hazardous Substances](https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1053)**
(<https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1053>)

Exhibit Production, Facility Operations, and Maintenance



Material Handling Operations (29 CFR 1910, Subpart N)

- **[OSHA Materials Handling and Storage](https://www.osha.gov/sites/default/files/publications/osh2236.pdf)**
(<https://www.osha.gov/sites/default/files/publications/osh2236.pdf>)
- **[OSHA Powered Industrial Trucks \(Forklifts\) eTool](https://www.osha.gov/etools/power-industrial-trucks)**
(<https://www.osha.gov/etools/power-industrial-trucks>)
- **[DWC Powered Industrial Trucks](https://www.tdi.texas.gov/pubs/videoresource/wppitforklifts.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/wppitforklifts.pdf>)
- **[Back Injury Prevention](https://www.tdi.texas.gov/pubs/videoresource/stpbkinj.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/stpbkinj.pdf>)



Paints, Epoxies, and Solvents (29 CFR 1910, Subpart H)

- **[OSHA Toluene Safety in the Workplace](https://www.osha.gov/sites/default/files/publications/OSHA3646.pdf)**
(<https://www.osha.gov/sites/default/files/publications/OSHA3646.pdf>)
- **[OSHA Safety and Health Topics: Spray Operations](https://www.osha.gov/spray-operations)**
(<https://www.osha.gov/spray-operations>)
- **[OSHWIKI: Occupational Exposure to Epoxy Resins](https://oshwiki.eu/wiki/Occupational_exposure_to_epoxy_resins)**
(https://oshwiki.eu/wiki/Occupational_exposure_to_epoxy_resins)
- **[Occupational Health Guidelines for Chemical Hazards](https://www.cdc.gov/niosh/docs/81-123/)**
(<https://www.cdc.gov/niosh/docs/81-123/>)
- **[Substitutes in Cleaning Solvents](https://www.epa.gov/snap/substitutes-cleaning-solvents)**
(<https://www.epa.gov/snap/substitutes-cleaning-solvents>)
- **[AIC Wiki Pigment Health & Safety Quick Guide](https://www.conservation-wiki.com/wiki/Health_%26_Safety:_Pigment_Health_%26_Safety_Quick_Guide)**
(https://www.conservation-wiki.com/wiki/Health_%26_Safety:_Pigment_Health_%26_Safety_Quick_Guide)



Printing and Printing Presses

- **[OSHA Safety and Health Topics: Printing Industry](https://www.osha.gov/printing-industry/industry-segments#litho)**
(<https://www.osha.gov/printing-industry/industry-segments#litho>)
- **[Nanotechnology Research Center: 3D Printing with Metal Powders](https://www.cdc.gov/niosh/docs/2020-114/pdfs/2020-114.pdf?id=10.26616/NIOSH PUB2020114)**
(<https://www.cdc.gov/niosh/docs/2020-114/pdfs/2020-114.pdf?id=10.26616/NIOSH PUB2020114>)
- **[Nanotechnology Research Center: 3D Printing with Filaments](https://www.cdc.gov/niosh/docs/2020-115/pdfs/2020-115.pdf?id=10.26616/NIOSH PUB2020115)**
(<https://www.cdc.gov/niosh/docs/2020-115/pdfs/2020-115.pdf?id=10.26616/NIOSH PUB2020115>)



Slips, Trips, and Falls (29 CFR 1910, Subpart D)

- **[DWC Preventing Slips and Trips](https://www.tdi.texas.gov/pubs/videoresource/essislipstrip.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/essislipstrip.pdf>)



Woodshops

- **[OSHA Woodworking eTool](https://www.osha.gov/etools/woodworking)**
(<https://www.osha.gov/etools/woodworking>)
- **[DWC Nail Gun Safety Fact Sheet](https://www.tdi.texas.gov/pubs/videoresource/dfsnaailgun.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/dfsnaailgun.pdf>)
- **[DWC Wood Dust Hazards and Control](https://www.tdi.texas.gov/pubs/videoresource/t5wooddust.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/t5wooddust.pdf>)



Working at Heights

- **[OSHA Safety and Health Topics: Fall Protection](https://www.osha.gov/fall-protection)**
(<https://www.osha.gov/fall-protection>)
- **[AIC Fall Protection: Working Safely at Heights](https://www.culturalheritage.org/docs/default-source/resource-guides/fall-protection-working-safely-at-heights.pdf?sfvrsn=1)**
(<https://www.culturalheritage.org/docs/default-source/resource-guides/fall-protection-working-safely-at-heights.pdf?sfvrsn=1>)
- **[OSHA Fact Sheet: OSHA's Final Rule to Update, Align, and Provide Greater Flexibility in its General Industry Walking-Working Surfaces and Fall Protection Standards](https://www.osha.gov/sites/default/files/publications/OSHA3903.pdf)**
(<https://www.osha.gov/sites/default/files/publications/OSHA3903.pdf>)
- **[DWC Ladder Safety](https://www.tdi.texas.gov/pubs/videoresource/t5laddersafe.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/t5laddersafe.pdf>)
- **[DWC Scaffold Safety](https://www.tdi.texas.gov/pubs/videoresource/cklscaffold.pdf)**
(<https://www.tdi.texas.gov/pubs/videoresource/cklscaffold.pdf>)
- **[USGS Safety and Health for Field Operations](https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations)**
(<https://www.usgs.gov/media/files/445-3-h-safety-and-health-field-operations>)