

# Health & Safety

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## Free OSHA On-Site Consultation for CAP Sites

Primarily for smaller businesses, no-cost, confidential consultations help employers identify and address hazards and establish or improve safety and health programs. Services are provided by consultants from state agencies or universities. The On-Site Consultation program operates separately from OSHA enforcement.

- › Assess collection-based contaminant and storage hazards.
- › Resources to develop a comprehensive safety and health management system.

The consultants can help small businesses reduce accidents and related costs. They can:

- › Identify hazards, including in exhibit creation and collections care.
- › Provide recommendations to control and eliminate hazards.
- › Perform noise and air sampling.
- › Conduct training.
- › Review programs, including emergency action plans.

Learn how the Kodiak History Museum benefitted from their on-site visit in this [Success Story](#) provided by Gina Agron, Health Consultant, Alaska Occupational Safety and Health Consultation and Training, Margaret Gruetert, Chief Curator, Kodiak History Museum, and Amanda Lancaster, Curator of Collections, Alutiiq Museum & Archaeological Repository.

For more information and a testimonial from collections care staff at the Springfield Illinois Art Association, watch a recording of the [National Heritage Responders \(NHR\) OSHA On-Site Consultation webinar](#).

The state consultation programs that are currently focusing on cultural heritage sites include: Alaska, Connecticut, Georgia, Illinois, Indiana, Massachusetts, New York, North Carolina, North Dakota, Ohio, Oregon, Texas, and Washington. However, you can request a consultation visit in any state.

To book a no-cost consultation, visit: <https://www.osha.gov/consultation>.

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## Lead Transfer Risk from Handling Ceramics with Deteriorated Lead Glazes

Ubiquitous in museum collections, lead glazed ceramics are often thought to be inert but are usually handled like other stable collection items; with bare skin or hands covered by cotton or nitrile gloves. However, deteriorated lead glazes may become pitted and/or powdery, increasing the risk of exposure to lead during handling. The hazards associated with handling museum objects with an integral lead component, such as lead-glazed ceramics, are not widely understood or acknowledged.

### The Dangers of Lead

Lead is considered one of the most toxic heavy metals because it accumulates in the body and causes many severe and irreversible health effects. Long-term exposure can result in memory and attention problems, weakness, anemia, and kidney damage. Exposure to high levels of lead can cause severe damage to the brain and kidneys, and even death. According to the World Health Organization (WHO) as of this past year, there is no level of lead exposure that is considered acceptable or safe; all levels of lead exposure cause harmful effects.

## LEAD TRANSFER STUDY

Glazed ceramics are often handled without gloves due to the assumption that gloves are not necessary either to protect the object or the handler. However, this was challenged in a recently conducted study which looked at the potential for transfer of lead dust from ceramics with deteriorated lead-based glazes via nitrile gloves. This study was conducted to inform whether lead transfer is a risk to individuals interacting with artwork (such as art handlers, collections management, registrars, and conservators) who often perform other tasks concurrently, which necessitates touching and cross-contaminating multiple surfaces such as elevator buttons, carts, computer screens, writing implements, without handwashing or glove removal.

## RESULTS

The results of this experiment will be published elsewhere, but preliminary data confirmed that ceramics with deteriorated lead glazes can transfer lead to gloves during handling. While the experiment was limited to evaluating glove transfer during handling, these objects can possibly transfer lead to other surfaces, such as archival housing, storage materials, countertops, etc. Although this study identified degraded lead glazes as a potential exposure hazard, it did not look at the risk or amount of lead exposure associated with handling these objects.

## RECOMMENDATIONS

Collections care staff should take broad precautions when handling glazed ceramics. In general, best practice is to uphold good hygiene when working with collections due to the possible presence of unknown or undetected hazards. These practices include:

- › Minimizing handling.
- › Regularly changing out gloves.
- › Regular handwashing.
- › Using disposable work surfaces and materials.
- › Regular cleaning of surfaces and workspaces with a HEPA-filtered vacuum.
- › Refraining from eating and drinking in laboratory spaces.

Other recommendations include:

- › Commercial products designed to remove lead residues, such as D-lead soap and Lead-Off wipes, can be incorporated into regular cleaning and handwashing routines.
- › Gloves used to handle hazardous materials should not be used to touch other surfaces such as computers, doorknobs, and elevator buttons as this can cause accidental transfer and subsequent ingestion.
- › When the presence of lead is confirmed through testing or analysis, objects should be appropriately labeled in storage to inform others of the inherent hazards.
- › Institutions should provide regular staff training to promote awareness of potential hazards and best practices for minimizing risk, and these principles that should also be communicated to visiting researchers.
- › For individuals regularly working with lead objects, blood tests are recommended to establish a baseline level for potential heavy metals exposure that can be reevaluated over time to assess exposure levels.

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