



Procedures for Handling and Treating Mold-Damaged Records

Iraqi Jewish Archive Preservation Project National Archives and Records Administration

This document is based on the NARA Conservation Lab's mold policy document: "RXC Procedures for Handling and Treating Mold-Damaged Records". It has been modified to reflect the special needs of the IJA collection and the physical areas in which project work will be undertaken.

Summary Points:

- IJA treatment on mold-damaged records will take place at Archives II in Room 1400, in the fume hoods dedicated to this function. The dedicated fume hoods are in Room 1411, and at the far northern end of room 1400 in the corner where the IJA staff benches are.
- Air velocity readings have been taken on these hoods; strips of tape have been used as markers to indicate the maximum opening that will achieve a face velocity of 100 cfm or higher. The bottom sash on the hood in room 1411 must remain closed during treatment to maintain the proper face velocity.
- Staff should wear appropriate personal protective equipment while handling mold-damaged records. The minimum requirement of personal protective equipment is a lab coat and latex or nitrile gloves.
- The primary protection for staff treating mold-damaged records is proper use of the fume hood and the associated use of the Nilfisk industrial vacuum cleaner with HEPA filter.
- Staff should develop working techniques that permit them to have their hands and forearms in the hood, but not their heads. Positioning the work table and the document to be cleaned as close to the front of the fume hood as possible will help in this regard.
- When working without penetrating the sash, the use of full or half-face respirators with the appropriate cartridges, or dust and mist respirators, is a personal option but not mandatory. When doing close-up work with one's head in the hood, use of a properly fit-tested full or half-face respirators with the appropriate cartridges, or dust or mist respirators, is highly recommended. If any of these respirators are used, they must have been fit-tested within the previous calendar year.
- Wearing additional personal protective covering, such as Tyvek sleeves, is recommended but not mandatory.

Assessing and Stabilizing Records:

- IJA project staff will retrieve IJA objects from the vault and bring them to room 1400 without opening their sealed paper wrappers.
- IJA conservators will open the paper wrappers in a dedicated hood to assess the object's need for mold mitigation.

Storing IJA Objects in RXC:

- IJA objects will only be stored in the vault (B715), in Room 1400 when undergoing intellectual control or documentation as well as conservation treatment and mold mitigation, or in imaging room B411.
- While in the vault, IJA objects will either be in their paper wrappers, in their foldable records storage boxes, in the staging area, or in permanent housing created by IJA staff. To minimize the spread of debris, IJA project staff will not be handling IJA objects outside of their wrappers in the vault.
- While in Room 1400, IJA objects are to be handled inside of dedicated hoods until after mold mitigation, to minimize dust and debris exposure. After mold mitigation, objects may be handled in the open at the discretion of the staff.

Personal Protective Equipment:

- Latex or nitrile gloves and a washable lab coat must be worn when handling and treating mold-damaged records.
 - Following a treatment cycle, gloves should be removed in the fume hood and discarded in the waste basket located in the hood.
- Staff may wear any combination of the following protective clothing when handling and treating mold-damaged records:
 - lab coats
 - disposable Tyvek or polyethylene coveralls
 - aprons
 - caps
 - frocks or lab coats with elastic cuffs
 - sleeve protectors & shoe protectors
 - goggles or similar items
- Such protective clothing will help protect personal clothing and hair from air borne debris and odor that can be associated with mold.
- The degree to which staff wants to wear protective clothing is a personal choice, but at a minimum washable or disposable lab coats and disposable gloves are required when carrying out mold remediation.
- An old or back-up lab coat should be designated for such work; it can be cleaned as necessary and/or discarded at the end of a project. As necessary,

disposable protective clothing should be discarded in the waste basket kept in the fume hood.

- To the degree possible when treating records in the fume hood, staff should work without having their head break the sash of the hood (i.e., move beyond the window into the hood proper). However, depending on the records in question, one's working method, and the need to get close to an item, it may be necessary on occasion to do so. In such instances, use of a properly fit-tested half or full-face respirator outfitted with cartridges to trap particulates is recommended but not mandatory. An alternative is a disposable dust and mist respirator, which again is not mandatory.

Room 1411 - Work Methods and Cleaning:

- The door to 1411 should be kept closed while mold is being treated in the fume hood.
- Upper and lower sashes on the fume hood should be kept closed when treatment is not underway.
- While cleaning mold-damaged records, the sashes on the hoods should be opened no further than the tape indicators to allow for proper air flow. Airflow readings have been taken recently, and at the tape-indicated opening, the face velocity exceeds the recommended minimum level of 100 cfm (cubic feet per minute).
- The bottom sash in 1411 must be kept closed during treatment, which means that staff may not sit at the hood with their legs inside.
- During the course of treatment, the bottom sash must be opened momentarily to turn the Nilfisk vacuum cleaner off and on; it must also be opened to remove tied plastic bags filled with debris.
- On Fridays, the Nilfisk tools, interior surfaces of the fume hood and the work table must be cleaned, as well as affected countertops.
- The Nilfisk HEPA-Filtered Vacuum may be used for dry cleaning (using the large brushes and crevice tools). Surfaces and tools will also be cleaned using a prepared solution of isopropyl alcohol and water.

Room 1400 - Work Methods and Cleaning:

- The sashes on the built-in fume hood will remain entirely closed while not in use. The opening on the MicroZone fume hood will be covered with plastic when not actively in use.
- During treatment, the sashes on the fume hood should be opened no larger than the marked levels that ensure the minimum 100cfm face velocity.
- The Nilfisk vacuum will be just outside the fume hood in 1400 and will be taken to room 1411 whenever the vacuum bag needs to be changed. The bag will be changed weekly or as needed. All vacuum maintenance will be recorded.
- A small, plastic-lined wastebasket will be placed inside the hood to collect debris and non-record materials (see below) separated during mold mitigation,

as well as cleaning supplies like sponges and erasers. When the plastic liner is full, it is to be tied off inside the fume hood and placed inside another plastic lined trash can just outside the hood. At the end of the work day, the larger can liner should be tied off and placed outside the door to 1400 in order to ensure it is disposed of.

- On Fridays, the Nilfisk tools, interior surfaces of the fume hood and affected countertops must be cleaned.
- The Nilfisk HEPA-Filtered Vacuum may be used for cleaning surfaces (using the large brushes and crevice tools). Surfaces and tools will also be cleaned using a prepared solution of isopropyl alcohol and water.

Debris:

- All debris generated during treatment, including non-record materials, old folders and boxes, newsprint, blotters, wrapping materials, eraser crumbs, dirty wedges of chemical sponge, etc. should be discarded in the plastic-lined waste basket kept in the fume hood proper.
- Please adhere to NARA requirements for disposal of archival containers by crossing out markings on folders and tearing folders along their fold lines, and tearing the tops/lids off discarded boxes prior to discarding in the plastic lined waste basket.
- Confining the debris within the hood will help to keep lab areas clean.
- In 1411, the waste basket is in the bottom half of the hood.
- In the north end of 1400, there is a small plastic-lined wastebasket inside the hood, the contents of which will be transferred to a larger wastebasket outside the hood after the bag has been tied off.
- When the plastic liner is full, it should be tied while still in the hood, removed through the bottom sash, and placed near other waste baskets in 1400 for pick-up.
- Debris generated during treating mold-damaged records is not considered hazardous waste and should not be labeled as such.

Handling Mold-Damaged Records:

- Boxes or wrapped packages containing IJA objects should be brought to the work space inside of a dedicated fume hood, where they may be unwrapped or opened in preparation for treatment or examination. This will help to confine debris to the dedicated fume hoods and will keep lab areas as clean as possible.
- As records are surface cleaned, they may be removed from the fume hood and placed in folders or between blotters on a cart. Cleaned records may be taken

to other areas in the conservation labs for additional treatment such as mending, housing, etc.

Tools for Cleaning Mold-Damaged Records:

- The primary tool for surface cleaning mold-damaged records is the Nilfisk industrial vacuum cleaner outfitted with variable speed control and HEPA filter. This effectively removes and traps particulate debris without permitting it to become airborne.
 - When being used for mold removal, the Nilfisk canister is positioned in the bottom of the 1411 hood proper, or just outside the other dedicated hoods.
 - The Nilfisk hose and wand are secured via a sling at the working level inside the hood.
 - Various brushes, wands, and crevice tools in both standard and micro sizes are available for different tasks; the manufacturer's instructions are kept in a drawer in room 1411.
- Museum Services and Nilfisk of America suggest the following maintenance guidelines:
 - Replace paper bags as needed
 - Replace the micro filter (cotton sock) yearly
 - Replace the main filter (cotton bag) when the vacuum does not regain suction and the dust bag is not full and the hose is not obstructed. The main filter may last the life of the machine. Vacuum off if necessary, replace if wet.
 - Replace HEPA filter after 2,000 hours of use, or every year if the vacuum runs 8h/day.
 - Replace electrical brushes after 2,000 hours of use.
 - Replace motor bearings after 10,000 hours of use.
- A variety of brushes, spatulas, knives, scissors, nylon screening used to protect and turn paper during vacuum cleaning, and similar hand tools may be used during the course of mold removal and associated disbinding, mechanical separation, etc. They should be labeled and retained in the dedicated fume hoods for use in mold removal.
- Nilfisk brushes and hand tools should be cleaned weekly with a isopropyl alcohol and water.

Mold Treatment Protocols for IJA materials:

- A treatment protocol which includes mold remediation will be created for the entire IJA project.

- Item level treatment statistics will be collected in the IJA database, and we will document significant deviations from the treatment proposal on paper forms and in the database.
- A treatment report will be written at the end of the project.

For materials that require mold remediation prior to imaging, we will observe these protocols:

- In general, a single IJA object will be treated by a single IJA staff member. In some instances, particularly large, dirty or moldy objects may need more mold mitigation than one staff member can accomplish in one day, and can be handed off to another staff member starting a mold remediation shift.
 - When an IJA object is completed, it will be removed from the fume hood and its work ticket updated.
 - If an object must remain in a fume hood overnight, it will be clearly indicated as in process.
 - No objects will be left in fume hoods over the weekend, in order to facilitate weekly cleaning.
- If possible, discard or replace any unnecessary mold damaged materials (blank folders and boxes, or ring binders).
- As mold remediation progresses, use new, rust-resistant stainless steel paper clips and archival bond folders.
- Bound volumes will be vacuumed on all six sides while tightly closed before opening and vacuuming each page. After the pages are vacuumed, the exterior six sides will again be vacuumed before being placed in housing.
- Loose debris will be removed by vacuuming the recto and verso of documents, paying close attention to gutter margins, crevices in folds or flaps of paper, partially obscured areas under lifting attachments, etc.
- Fragile paper will be vacuumed through nylon screening.
- Other techniques may be applied to complete surface cleaning including vulcanized rubber sponges, eraser crumbs, stiff brushes, and spatula.
- The goal is to remove mold that could harm the imaging technicians and users as well as dirt that could obscure the image.
- This project will not address cosmetic issues like staining.
- For extremely damaged materials, we may choose to limit mold removal in order to preserve text for imaging. In this case, we will sleeve or otherwise sequester the object to protect imaging and cataloging staff.