Allied Organizations

Roving in the Commonwealth

The Roving Archivist Program was developed by the Massachusetts State Historical Records Advisory Board (MA SHRAB) as part of its mission to provide leadership, advocacy, and guidance to help ensure the identification, preservation, and use of the Commonwealth's historical resources, both public and private. During the first year, the Board contracted with archival consultants, but in 2014 they created a part-time position--and one of those consultants, **Rachel Onuf**, became the Roving Archivist.

The program connects stewards of historical records with a professional archivist to assist in setting priorities, drafting policies, and developing processes to better preserve and provide access to their collections. Preference is given to repositories that have limited resources and do not have a professional archivist on staff, but the program is open to any cultural heritage repository. To date, the Roving Archivist has made 93 initial site visits to historical societies, local history rooms in public libraries, town clerks, and historical commissions, museums, and churches. In several instances, multiple repositories from a town have applied together, indicating a welcome willingness to collaborate. Although paper-based records are the focus of this program, the Roving Archivist addresses high-level needs of the collections as a whole whenever possible.

The application process is brief and straightforward; applications are accepted on a rolling basis, and the Board approves nearly every application. The different categories of assistance offered have evolved during the four years the program has been in existence, but most institutions start with a strategic assessment. During the initial site visit, the Roving Archivist tours facilities and meets with the applicants, who could be a single town clerk or more than a dozen people representing four different repositories in town. She then prepares a written report that reviews what was covered during the meeting and provides suggestions for next steps and additional resources. One of the most valuable aspects of this program is that once the Roving Archivist has visited a site, she is on retainer, and will continue to answer questions, review drafts of grant applications, and make return visits as warranted (57 and counting), as long as the program continues. Repositories can also reapply for more focused archival arrangement and description training and for assistance sharing collection descriptions with the world.

This is a grant-funded program, supported by the National Historical Records and Publications Commission (NHPRC), the granting arm of the National Archives and Records Administration (NARA). The SHRAB applies for a new State Board Programming Grant every two years; the program is currently funded through March 2019. This past summer, the MA SHRAB was awarded the Council of State Archivists – NHPRC SHRAB "Award of Merit" for its work, including the Roving Archivist Program.

For more information, please see the application guidelines at www.sec.state.ma.us/arc/arcshrab/shrabidx.htm, or contact the Roving Archivist Rachel Onuf at rachel.onuf@gmail.com.

—Rachel Onuf, Roving Archivist SHRAB, and Adjunct Professor at Simmons College, rachel.onuf@gmail.com

Health & Safety Committee

2017 Respirator Cartridge Guide

Air-purifying respirators (APR), available in half-face and full-face masks, are important personal protective equipment (PPE) tools for conservators. APRs protect against the inhalation of dangerous vapors and gases, such as those from organic solvents or formaldehyde, and harmful particulates such as mold, soot, or dust. Obtaining appropriate respiratory protection with APRs is a two-part system with proper selection, fit, maintenance, cleaning, and storage of both the respirator and cartridges.

Often trying to determine which cartridge is appropriate for your needs can be confusing, with so many types available in various shapes and colors, offering varying degrees of protective filtering. However, choosing the correct cartridge for your respirator is vital to ensure that the system is protecting you from the inhalation of dangerous substances. Here is some guidance on determining the appropriate respirator cartridge for your needs. (For more information specifically on respirators, see **AIC H&S Conservator's Guide to Respiratory Protection**, published on the AIC Wiki.)

Respirator Fit

Before choosing cartridges for your air-purifying respirator, you should be fit tested with your APR. As these types of respirators work by using filters to remove the contaminants from the air you are breathing, it is vital that the air pass through those filter cartridges and not leak around the face piece. Having a fit test performed is essential to help ensure there are no leaks, and that the air you breathe is being filtered. In addition, all respiratory protection components must be from the same manufacturer, so knowing which respirator fits you best is the first necessary step to be able to choose appropriate respirator cartridges. For example, if you have a 3M half-face respirator, only 3M cartridges should be used to ensure proper functionality. It is also important to make sure to get re-fitted annually. Fit tests can be performed at your place of employment, during AIC's Annual Meeting, or through an independent occupational health provider, such as an occupational health clinic or industrial hygienist. These latter choices can be found through your local American Industrial Hygiene Association (AIHA) chapter.

Choosing a Respirator Cartridge

There are three main considerations when choosing a respirator cartridge:

1) The cartridge selected should protect you against the inhalation of the specific hazardous substances to which you are exposed

2) Cartridges you choose ***must*** be from the same manufacturer as the respirator with which you have been fitted

3) The respirator cartridge ***must*** have a National Institute for Occupational Safety and Health (NIOSH) approval label on it

Before choosing a respirator cartridge for your respirator, it is essential to know the types and concentrations of the specific hazardous materials you will be exposed to and need protection against. The Safety Data Sheets (SDS) for the products you are using can help you determine the hazardous substances your cartridge must be able to filter. Manufacturers generally sell three types of respirator cartridges: particulate-only filters, gas/vapor-only filters, and combination particulate and gas/vapor filters. For particulates, you need to determine the size of the particulates and whether oily conditions are expected, as particulate cartridges are available in nine classes of filters, with three levels of filter efficiency: 95%, 99%, and 99.97%, and three categories of resistance to filter efficiency degradation: N (not resistant to oil), R (somewhat resistant to oil), and P (strongly resistant to oil) – see Figure 1. And, as no single cartridge has the capability to protect against everything, exposures to multiple hazards may require you to customize your cartridge selection to the particular task you are performing. For more information about particulate respirators, go to: https://www.cdc.gov/niosh/docs/96-101/.

No matter which type of respirator cartridge you choose, it must have a NIOSH approval label. NIOSH requires that each respirator, respirator component, and respirator container be labeled to show the lot number, serial number, or approximate date of manufacture. The use of the NIOSH label ensures that the manufacturer meets a certain level of quality and specifications. These labels contain important information to assist users in understanding the respirator and its protections, cautions, and limitations, as well as the approved configuration of various components. Labels attached to individual cartridges, filters, and filter containers are examples of abbreviated NIOSH labeling; these contain the NIOSH emblem, type of protection, manufacturer part number, and lot number. An adhesive label placed on the cartridge or filter, or printed directly on the container, is also acceptable. (https://www.cdc.gov/niosh/docs/96-101/).

Once you determine which hazards you need to protect yourself against, you can select a NIOSH-approved cartridge that provides that specific protection. All respirator cartridges are color-coded to identify their filtration capabilities. These color codes have been established and recently revised by the American National Standards Institute (ANSI) and the American Industrial Hygiene Association (AIHA), and are published in ANSI/AIHA Z88.7 – 2010 ***American National Standard - Color Coding of Air-Purifying Respirator Canisters, Cartridges, and Filters***. NIOSH/Occupational Safety Health Administration (OSHA) also have color coding guidance, which is often referenced by manufacturers in their product literature. (https://www.osha.gov/dts/shib/respiratory_protection_bulletin_2011.html).

While the two systems of color coding are generally the same, there are variations in how these systems are applied that the conservator needs to be aware of. For example, North sells a mercury and chlorine cartridge with an olive-colored label, while 3M offers the same cartridge with an orange label. This is because the ANSI/AIHA standard has an orange designation for mercury, but olive is both the NIOSH/OSHA and ANSI/AIHA color for mixed gas/vapor, making both designations correct. In addition, although ANSI and AIHA have specified the CMYK color model values for each color, cartridge colors

Primary Providers of Air-Purifying Respiratory Protection Equipment

- 3M Personal Safety Division
  (800) 243-4630
  3M.com/workersafety
- Draeger Safety, Inc.
  (800) 858-1737
  www.draeger.com
- Mine Safety Appliances
  MSA Customer Service
  (800) MSA-2222
  www.msanet.com
- Moldex
  (800) 421-0668
  www.moldex.com
- Honeywell Safety Products (includes **North** and **Survivair,** both now manufactured by Honeywell)
  Customer Service:
  (888) 212-7233
  Technical Support:
  (800) 873-5242
  www.honeywellsafety.com
- Scott Safety
  (800) 247-7257
  www.scottsafety.com

—Reprinted from Craig Colton, "A Conservator's Guide to Respiratory Protection." http://www.conservation-wiki.com/w/images/c/c3/H%26S_A_Conservator%27s_Guide_to_Respiratory_Protection_2016.pdf, with minor updates

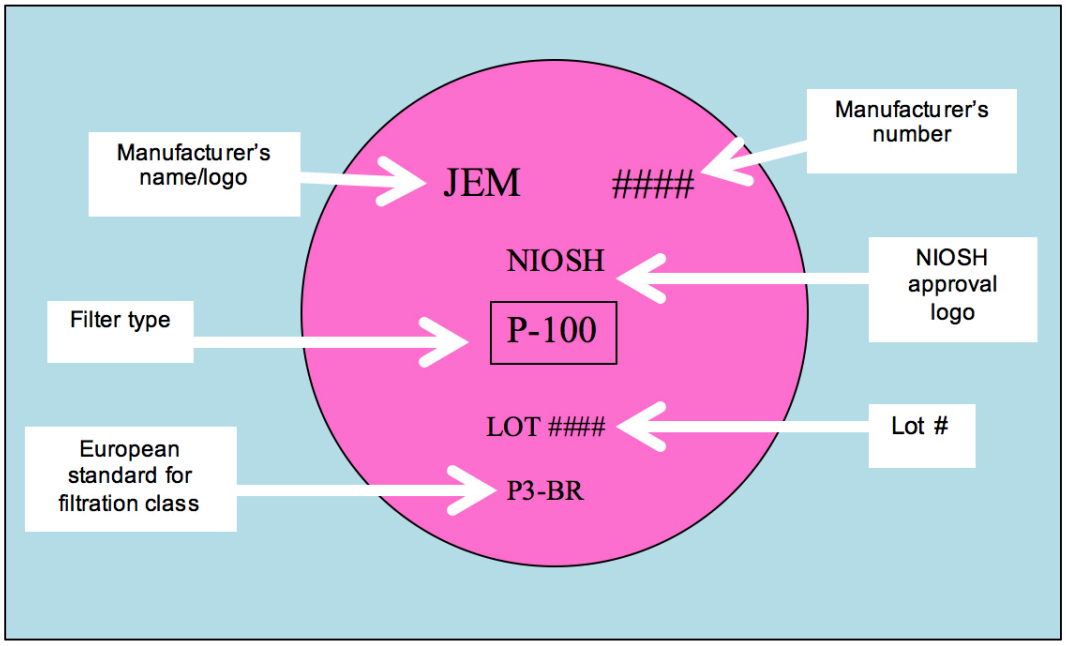

Fig. 1. Sample of air-purifying (particulate) respirator cartridge with markings. Drawing based on CDC/NIOSH information. https://www.cdc.gov/niosh/topics/respirators/

may vary in appearance to the intended color or may be confused with similar colors. Such is the case with the P100 particulate cartridge. This cartridge is assigned "purple" under ANSI/AIHA standards, but often appears and is labeled as "magenta" by many manufacturers. Furthermore, color appearance may vary between cartridge materials. Particulate cartridges that are a plastic canister-type or a fabric pad-type can range from dark purple to light pink in color. Of particular concern to conservators is the color code variation found with acid gases and organic vapor cartridges. While yellow is the NIOSH/OSHA designation for these types of cartridges, there is no yellow designation in the ANSI/AIHA standard. So, while color standardization can be a helpful tool, it should never be the only reference tool utilized when selecting a cartridge. Conservators should choose respirator cartridges based on their expected hazard exposure, not solely based on cartridge color. Always use your specific respirator manufacturer's cartridge guide when choosing the most appropriate cartridge for the task at hand.

In addition to color, cartridges have specific information printed on the label or directly on the cartridge or filter pad (see Figures 1 and 2). Information found on cartridges include the manufacturer's name or logo, the manufacturer's part number, NIOSH's approval emblem, and the filter type. On particulate cartridges, the lot number and European standard for filtration class are also often provided. Additionally, gas/vapor cartridges sometimes provide a NIOSH approval class of filter and the manufacturer's warning. Gas/vapor cartridges often use chemical abbreviations to indicate the filter type. Some examples of chemical abbreviations can be seen in Figure 2; however, it is best to always refer to the manufacturer's cartridge reference chart for a full list of abbreviated chemicals covered by the manufacturer's cartridges.

Shelf and Service Life Considerations

Cartridges have a service life that is determined by many factors (concentration of contaminant, humidity, length of time in use, etc.), making it difficult to determine service life. Here are some tips and guidelines to help determine when to replace your cartridges:

- Always write the date on each cartridge when you first open a package.
- Create a cartridge change-out schedule for your lab. OSHA and most manufacturers websites have cartridge service life estimators. However, exposure of a contaminant must be known to be able to use these estimators and; therefore, may be difficult to quantify in most conservation situations. Examples of 3M and North cartridge service life estimators can be found at http://extra8.3m.com/SLSWeb/serviceLifeDisclaimer.html
- Some cartridges, such as mercury, have an End-of-Service-Life Indicator (ESLI.) Always adhere to the ESLI and replace cartridges when indicator color change occurs.
- If service life cannot be determined, follow the manufacturer's recommendation.

Always replace cartridges if you notice any breathing resistance, or if you have a proper mask seal but can still detect the smell or taste of the contaminant. It is good practice to dispose of any unopened/sealed cartridges after five years, and to keep cartridges in original packaging until ready to use.

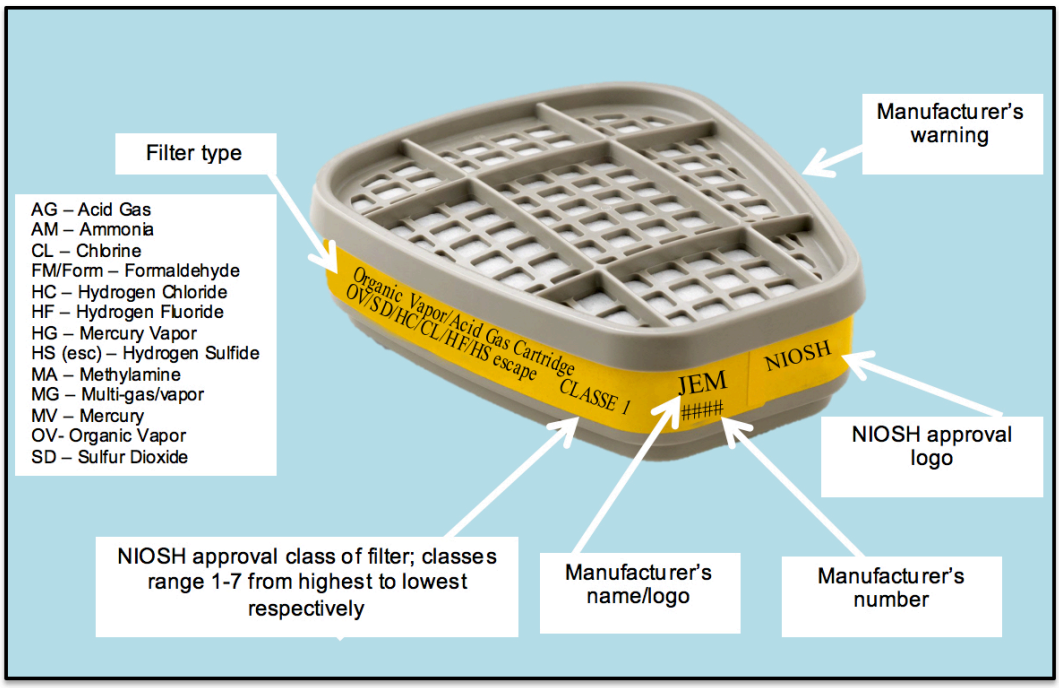

Fig. 2. Sample of air-purifying (gas/vapor) respirator cartridge with markings. Image courtesy of envirosafety.

Storage and Cleaning

After use, the outside of the respirator mask and plastic cartridges should be wiped down with alcohol-free wipes designed for safety equipment cleaning. Alcohol and other chemicals should not be used to clean a respirator as they can degrade the plastic. Although cartridges cannot be washed, respirator masks may be washed with warm water and mild detergent before and after use. When working with particulates such as mold or asbestos, it is good practice to apply a strip of adhesive tape to the outside opening of each cartridge with a plastic cannister (to prevent contaminants from the outside of the cartridge getting lodged on the part of the filter that attaches to the interior of the mask), and store in a re-sealable bag in a clean, dry place away from direct sunlight. Cartridges should be stored in separate bags from respirator masks and from other cartridges to prevent cross-contamination.

For more information on respiratory protection, visit the AIC Health and Safety Committee AIC Wiki page (http://www.conservation-wiki.com/wiki/Health_%26_Safety#Respiratory_Protection).

Special thanks to the AIC Health & Safety Co-chairs, committee members, and to Kim Harmon for her contributions to this article.

—Aisha Wahab, University of Michigan Library, wahaba@umich.edu

Need help?

Have a question about health and safety in your conservation work? Send it to us at health-safety@conservation-us.org.

Resources

Colton, Craig E. A ***Conservator's Guide to Respiratory Protection.*** American Institute for Conservation of Historic & Artistic Works, accessed February 23, 2017, www.conservation-wiki.com/w/images/c/c3/H%26S_A_Conservator%27s_Guide_to_Respiratory_Protection_2016.pdf.

American National Standards Institution (ANSI). 2010. ***Color Coding of Air-Purifying Respirator Canisters, Cartridges, and Filters***. In ANSI/AIHA Z88.7, accessed February 23, 2017, http://webstore.ansi.org/RecordDetail.aspx?sku=ANSI%2FAIHA%2FASSE+Z88.7-2010.

"NIOSH-Approved Particulate Filtering Facepiece Respirators," Centers for Disease Control and Prevention, accessed February 23, 2017, www.cdc.gov/niosh/npptl/topics/respirators/disp_part/default.html.

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Centers for Disease Control and Prevention. 1996. NIOSH Guide to the Selection and Use of Particulate Respirators. Centers for Disease Control and Prevention. Accessed on February 23, 2017, www.cdc.gov/niosh/docs/96-101/.

Ebola Preparedness. 2014. N95 vs P95 vs R95 Masks – What's the difference between these respirators? Ebola Preparedness. Accessed on February 23, 2017, http://ebolapreparedness.org/n95-vs-p95-vs-r95-respirator-masks/.

"General Respiratory Protection Guidance for Employers and Workers," Occupational Safety and Health Administration, accessed on February 23, 2017, https://www.osha.gov/dts/shib/respiratory_protection_bulletin_2011.html.

Occupational Safety and Health Administration. 2004. Respiratory Protection: Frequently Asked Questions. Occupational Safety and Health Administration. Accessed February 23, 2017, www.osha.gov/dte/library/respirators/faq.pdf.

New Publications

Braun, Melanie, et al. ***17th-century men's dress patterns, 1600-1630.*** London: Thames & Hudson; Victoria and Albert Museum, 2016. ISBN: 9780500519059. This title is the latest addition to the Victoria and Albert Museum's series on historical dress patterns. It contains step-by-step drawings of the construction sequence for 12 different garments (or ensembles) to enable the reader to accurately reconstruct them. Photographs, diagrams, and x-ray images reveal the hidden structure of each piece. The previous two volumes in the series dealt with 17th-century women's dress patterns.

Clarke, Mark. ***The crafte of lymmyng and the maner of steynyng: Middle English recipes for painters, stainers, scribes, and illuminators.*** Oxford: Published for the Early English Text Society by the Oxford University Press, 2016. ISBN: 9780198789086. This book contains all the known Middle English technical recipes for painters, strainers, scribes, illuminators and dyers, written c. 1300-1500.

Foster, Kathleen A. ***American watercolor in the age of Homer and Sargent.*** Philadelphia: Philadelphia Museum of Art; New Haven, Connecticut: Yale University Press, 2017. ISBN: 9780300225891. This book was published to accompany an exhibition of the same name, held March 1 - May 14, 2017, at the Philadelphia Museum of Art. It includes a chapter by Rebecca Pollak on the history of manufacturing watercolor paint in America.

Fourestié, Anne, and Isabelle Gui. ***Photographier le patrimoine aux 19e et 20e siècles: histoire de la collection photographique de la Médiathèque de l'architecture et du patrimoine (1839-1989).*** Paris: Hermann, 2017. ISBN: 9782705693275. This book was published to mark the 20th anniversary of the founding of the ***Médiathèque de l'architecture et du patrimoine*** (MAP) in Paris. It traces the history of the archives and photograph collections held by MAP, assembled since the 19th century by the administration of the Monuments historiques.

Khandekar, Narayan. ***Collecting colour.*** Arnhem: Artez, 2017. ISBN: 9789491444487. The author is the director of the Straus Center for Conservation and Technical Studies, where the Forbes Pigment Collection is housed. The book provides an introduction to the collection, which contains more than 3,000 natural and synthetic coloring agents.

Lowry, James, ed. ***Displaced archives.*** London: Routledge, 2017. ISBN: 9781472470690. This collection of papers addresses the issues surrounding archival collections that have been separated from their country of origin as a consequence of conflict and colonialism. The authors explore solutions (such as shared heritage approaches and repatriation), drawing on case studies from around the world.

Palla, Franco, and Giovanna Barresi. ***Biotechnology and conservation of cultural heritage.*** Cham, Switzerland: Springer, 2017. ISBN: 9783319461663. This book addresses the role of microorganisms and microbial products in the biodeterioration of cultural heritage, and its conservation and restoration.

Pearlstein, Ellen, ed. ***The conservation of featherwork from Central and South America.*** London: Archetype, 2017. ISBN: 9781909492394. This volume presents a feather identification and condition template for recording feather features and conditions together with case studies of documentation and subsequent conservation treatment. It also contains a comprehensive review of the relevant scientific and conservation literature.

—Sheila Cummins, Research Associate for Collections Development, Getty Conservation Institute, scummins@getty.edu