

Health and Safety News

HEPA HEPA HEPA

For years the members of the Health and Safety committee have been whispering “HEPA.” After September 11, we are shouting “HEPA” from the rooftops. With the potential for contaminated dusts from the World Trade Center disaster and other hazardous situations, the use of appropriate filtering systems on vacuum cleaners has become all the more important.

HEPA stands for High-Efficiency Particulate Air filter and refers to a material rated to trap 99.97% of airborne particles 0.3 microns and larger. The ULPA, Ultra-Low Penetration Air, filter traps even more, 99.99% of particles 0.12 microns and larger.

A HEPA vacuum is a vacuum cleaner designed with a HEPA filter as the last filtration stage. HEPA is the legal standard for lead abatement and asbestos mitigation (ULPA is legal, too). For those tasks as well as WTC dust, HEPA filtration or better is required.

An ULPA filtered machine provides better capture for extremely fine particulates. Examples of such materials include powdered organic dyes, condensed lead fumes (around molten lead or leaded bronze), at least some viruses, or very finely divided modern pigments like the

cadmiums.

When selecting a vacuum, make sure you get true HEPA or genuine HEPA filtration. Avoid lesser grade look-alike systems with names like hospital-grade HEPA, HEPA-like, or Gore-Tex microfilters. These are cheaper but in spite of similar looking ratings, they are not acceptable for conservation work. It is also important that the vacuum be designed and constructed so that all the air taken in is passed through the HEPA filter before it is exhausted. This is sometimes referred to as a “HEPA sealed system.”

Some HEPA vacuums designed for home use eliminate the collection bag and use only “cyclonic” filtration to remove the dust before passing the exhaust through a HEPA filter. This type of system is fine for general house-keeping, but is inadequate for cleaning hazardous materials because of the very high risk of exposure when handling the uncontained collected dust.

The HEPA or ULPA filter itself is expensive so vacuums incorporate a number of pre-filtration stages to protect it. The collection bag is considered the first stage. The more intermediate filtration stages, the longer the HEPA filter will last.

A number of recent articles have referred to “HEPA filter bags.” Even if true HEPA collection bags exist, which is doubtful, they would not be acceptable to use to clean up hazardous materials. Were the bag to rip, the contami-

Corrections

Please note the following corrections to the health and safety insert, “From Cradle to Grave: Waste Management for Conservators,” from the November 2001 issue of *AIC News*:

- The insert should be listed as number 4/1.
- In the box entitled, “Some Information on Chemical Compatibilities with Regard to Waste,” please note the following corrections:

“Acids and Alkalies: Acids and alkalies may be disposed of in the sewer system under certain conditions. If the acid or base contains no dissolved heavy metals, it may be neutralized and then washed down the drain with plenty of water (neutralization with strong acids is a potentially very dangerous activity and should only be attempted with a thorough understanding of good practice for handling chemicals). Consult with local water treatment facilities before deciding on this course of action. Municipalities may wish to test the stock solution before allowing you to proceed with neutralization prior to disposal.”

“Dry Waste: Disposal of solid or dry waste is difficult to discuss in general terms, but as a rule, solid or dry materials should be kept in that state and not mixed in with liquid waste for disposal. Seek advice from a professional on particular disposal methods, especially for toxic and reactive chemicals, or any highly regulated materials such as lead or asbestos.”

nants would spew out of the vacuum creating an extremely hazardous environment.

Before using a HEPA vacuum, be sure to ask how to change the collection bag and maintain the intermediate filters and HEPA filter in a way that will not release contaminants. The act of opening the machine and removing the bag may create a dust cloud of exposure. Some manufacturers (Nilfisk, for example) have step-by-step instructions for changing bags and filters inside a glove bag (or a large, clear, garbage bag in a pinch). Others may want you to send the unit back to a service center. If you have access to local exhaust ventilation or a large lab hood, you may want to consider using this as your change area for smaller vacuum units.

The increased popularity of HEPA vacuums with allergy sufferers has resulted in an increase in the number of manufactures and models that are available. Prices and options vary widely. When comparing different vacuums, consider general durability, options like variable motor speed, the capacity of the tank/collection bag, the cost of replacement filters and bags, the noise level, and performance specifications like CFM, water lift, and the horsepower of the motor. A HEPA vacuum is always more expensive than a similar conventional vacuum. Prices range from extremely high to as little as \$130.

A chart comparing a number of HEPA/ULPA vacuums, "A Heap 'O HEPA Information" by Batyah Shtrum, was published in *WAAC Newsletter* in September 1997 (19/3). The article is available online at <http://palimpsest.stanford.edu/waac/wn/wn19/wn19-3/wn19-306.html>. Scroll down to get to the article.

—Chris Stavroudis, *Paintings Conservator, Member of AIC Health & Safety Committee*, [REDACTED] Los Angeles, Calif. 90069-2904; [REDACTED]

H & S Committee Participates in Mailing

Members of the AIC Health and Safety Committee, the Smithsonian Center for Materials Research (SCMRE), The Smithsonian's Office of Safety and Environmental Management (OSEM), and Arts, Crafts and Theater Safety (ACTS) collaborated in producing a packet of documents to help guide conservators in handling objects contaminated with dust that contains hazardous components from the World Trade Center disaster site. Copies of the packet were mailed to NYRAC members, courtesy of SCMRE.

—Members of the Health and Safety Committee

Grants, Awards, and Fellowships

US/ICOMOS 2002 International Summer Intern Program in Historic Preservation

The United States Committee, International Council on Monuments and Sites (US/ICOMOS) is seeking United States citizen graduate students or young professionals for paid internships abroad in the summer of 2002. Positions are entry-level where participants work for public and private nonprofit historic preservation organizations and agencies under the direction of a professional for a period of three months. Past internships have required training in architecture, architectural history, landscape architecture, materials conservation, history, archaeology, interpretation, museum studies, and cultural tourism.

Students will be paid a stipend equivalent to \$4,500 for the 12-week internship (in some countries with convertible currency). In other cases, the stipend is based on local wages. Exchanges offer partial or full travel grants. Applicants must be graduate students or young professionals with at minimum a bachelor's degree (or near completion of master's preferred) and 22 to 35 years old. Applicants should be able to demonstrate their qualifications in preservation and heritage conservation through a combination of academic and work experience. Speaking ability in the national language is desirable.

Apply no later than February 15, 2002. For further information and to receive an application form, contact

Grachel Kubaitis, program officer, US/ICOMOS, 401 F St. NW, Room 331 Washington, DC 20001-2728; (202) 842-1862; fax: (202) 842-1861; e-mail: gkubaitis@usicomos.org; www.icomos.org/usicomos.

Museum Loan Network

The Museum Loan Network (MLN) facilitates the long-term loan of art and objects of cultural heritage among United States institutions as a way to enhance the installation of museums, thus enabling them to better serve their communities. Funded and initiated by the John S. and James L. Knight Foundation and The Pew Charitable Trusts, the MLN is administered by the Massachusetts Institute of Technology's Office of the Arts.

MLN awards grants to eligible nonprofit institutions in the U.S. that are interested in borrowing or lending works on a long-term basis:

- Travel grants are available for museum personnel, community advisors, and other experts' travel to prospective lending institutions to research possible loans and initiate collaborations
- Survey grants are available to institutions interested in identifying objects from their collections for future loans and inclusion in the MLN Directory. Additional funds are available for provenance and/or copyright research on objects involved in the survey
- Implementation grants are available to borrowing institutions to cover the direct costs associated with actual loans of objects, including programming