

area of exposed foam on board B (i.e., only the upper facing is removed leaving the full thickness of foam and the reverse facing intact).

- 3) Double half-lap join. Both boards are prepared by removing corresponding areas leaving an overhanging strip of facing on one side and an exposed strip of foam on the opposite side of each (i.e., Visualize a board lying flat. Remove a 2" strip of facing and foam down to the reverse of the lower facing. Now remove another 2" strip of facing only from the upper side of the board. Prepare the piece to be joined in the opposite manner so in this final step the foam of the two boards will butt against each other; one facing of each will overlap the exposed foam on the other. Without a diagram it sounds complex, but is really quite self-evident once you begin).

In all cases your choices of adhesive should be determined by experimentation. Aqueous adhesives should not be used; others should be tested for solvent action on the foam. Curing processes and aging qualities should be considered. We have used epoxies and silicon adhesives successfully.

The joins can be further reinforced by applying strips of ragboard over the reverse join or smoothed and reinforced by covering the obverse with a complete layer of ragboard, etc. Finally, on considerably oversized supports that may be required to bear considerable weights in a flat position, an appropriate strainer system could be adhered to the reverse.

JAMES L. GREAVES

*Editor's Note: The author intends to expand this piece into a Journal article.*

#### MEDICAL SURVEILLANCE

As conservators, we are often exposed to hazardous materials. Although we may respect the toxicity of these substances in large dosages, little is known about the hazards of long-term, cumulative exposure to small amounts. Also, solvents once thought to be safe have turned out to be carcinogens or suspected carcinogens. Many chemicals once in the body (via skin absorption, inhalation) are difficult to metabolize and thus can accumulate over a period of time. They remain to cause damage to the highly susceptible organs, especially the liver and the kidneys.

How can we protect and monitor ourselves? Protection is achieved by choosing whenever possible the substance of the least toxicity, and by limiting exposure through the proper use of gloves, respirators, and fume extractors. These topics will be covered in other articles by the AIC Health and Safety Committee. This article will limit its discussion to the establishment of an effective health monitoring program: medical surveillance.

Medical surveillance includes a battery of tests performed annually, or as exposure warrants, that measure the function of the vital organs. Test results accumulated over a period of years provide a specific average (base-line) for the individual as opposed to average values for the total patient-population. Should an abnormality occur, it can be spotted more quickly, be investigated further and be treated if necessary, before serious damage may occur.

To set up a medical surveillance program, consult a specialist in the practice of occupational medicine (ask your physician for a referral). The initial physical should begin with health and occupational histories including previous exposure to toxic solvents (esp. benzene) asbestos, silica, heavy metals and pesticides. Specific medical tests should include: complete blood count (CBC), urinalysis-albumin test,

routine chemical profile (liver/kidney function test), pulmonary function test with diffusion capacity, chest X-ray, electro-cardiogram (EKG), base-line lead test, eye exam and hearing evaluation. Subsequent yearly physicals should include: CBC, urinalysis-Albumin test, routine chemical profile, EKG (after age 35), pulmonary function test (every two years), chest X-ray (every other year or as deemed necessary), and base-line lead test (as exposure warrants).

The above tests are simply a suggested starting point for establishing a medical surveillance program. However, each individual may need certain tests repeated more or less frequently because of differing work habits and conditions. For example, women are at a distinct risk during pregnancy and lactation. Specific advice should be sought from their obstetrician/pediatrician during this period.

How expensive are these tests? The initial battery of tests may cost between \$300 to \$400. Unfortunately, since the tests are not for diagnostic purposes, most health insurance policies will not cover them. However, the specialist in occupational medicine will tailor the above tests and their frequency to the individual and thus help to keep the cost to a minimum.

Medical surveillance is only one part of a total occupational health and safety program. Proper protection from those hazardous substances in our work environment should be our major concern. For many maladies caused by these substances, no cure is known. Prevention prior to exposure is far better than testing after-the-fact for physical damage.

We must continually educate ourselves on the health hazards in our professions. As more research is performed, more is discovered about the toxicity of the materials we use. To best protect ourselves we must stay abreast of these new developments, yet most of us have neither the time nor the inclination to peruse the large number of journals dealing with toxicology. However, we are fortunate to have the Art Hazards Newsletter as a source for the most current information. All private conservators, museum conservation departments and regional conservation centers are urged to subscribe to this pertinent and well-written publication. For further information contact the Center for Occupational Hazards, 5 Beekman Street, New York, NY 10038.

STEPHEN D. BONADIES  
Health and Safety Committee

#### WASTE SOLVENT DISPOSAL

Responsible disposal of toxic waste solvents has for years been a source of concern to conservators whose work requires use of these. Solvent disposal in quantity has recently fallen under both federal and state regulation. These regulations, though confusing and subject to periodic amendment, represent a major step in the development of a safe and workable system for the disposal of hazardous waste in this country. Conservators who use solvents in quantity are therefore bound morally as well as legally to abide by the regulations. The experiences of Northeast Document Conservation Center (NEDCC) are described below to give those new to the subject an idea of what is involved. Questions and comments are encouraged.

NEDCC, a regional center for the treatment of library and archival materials and art on paper, generates approximately 180 kilograms (396 lbs.) of waste solvent per year. Solvents include toluene, ethanol, methylethyl ketone, methonal, acetone, naphtha, and xylene. Locating a disposal company willing to dispose of our relatively small amount of waste solvent was difficult, with most companies preferring to deal with much larger amounts of solvent. We eventually found a company which, because of its firm commitment to the proper disposal of hazardous waste, was willing to work with the small as well as the large generator of toxic waste.

The company, North East Solvents Corp. of North Andover, MA, explained federal and state regulations and helped us fulfill the requirements of these. Federal law mandates that users of toxic waste who generate 1000 or more kilograms of waste per month or who store 1000 or more kilograms of waste at one time obtain an EPA number. Regulations in many states are more rigorous with Massachusetts, where NEDCC is located, requiring users who generate or store 20 or more kilograms of waste to obtain an EPA number. We obtained the number by completing a Notification of Hazardous Waste Activity form.

We store our waste solvents in a 55 gallon metal drum approved by the Massachusetts Department of Transportation. North East Solvents Corp. requires use of this drum because in testing it proved safe for transportation over roads. The drum is stored outside and is clearly labeled as required. The labels states that the drum contains flammable hazardous waste and includes the accumulation start date and the DOT number. When the drum is full, we contact North East Solvents Corp. to dispose of it and provide an empty drum. At this point we complete seven copies of a hazardous waste manifest; we keep one copy, send one copy to the state, and give five copies to North East Solvents Corp. The manifest is part of a tracking system intended to prove that the waste reaches its proper destination.

The cost of such a disposal service depends on the type of solvent. North East Solvents Corp. charges \$50 to \$112 per drum for disposal of pumpable flammable liquid. The cost of the drum, which must be purchased each time, is \$15. NEDCC paid \$60 plus \$15 for another drum the last time it disposed of solvents.

Generators of very small amounts of waste solvents - 1 or 2 gallons per month - have a problem. Disposal of this quantity is not yet required by law, so fulfillment of regulations is not a concern. The problem lies in finding a place to dispose of the solvents. Many disposal companies refuse to pick up small amounts stating flatly that this is not worthwhile. Some of those which pick up small amounts charge by the drum since disposal of a gallon costs as much as disposal of a drum. Small generators should consult the telephone yellow pages for a service which would agree to take very small amounts at affordable rates. Small generators should also contact the appropriate hazardous waste agency in their state. A third possibility is community-sponsored hazardous waste disposal where small amounts of home-generated hazardous waste are collected on a certain day each month. A fourth possibility is for small generators to make arrangements for larger generators to take their solvents.

SHERELYN OGDEN  
Health and Safety Committee

#### QUERY

The question of the effects of smoking in collections areas has raised its head again at our museum. I am requesting articles or documented personal experiences regarding the damage that occurs with the interaction of tobacco smoke and collections (textiles, decorative arts, ethnographic materials and the like). Please send the information to: RON HARVEY, Milwaukee Public Museum, Conservation Lab, 827 7th Street, Milwaukee, WI 53233.

## MATERIALS

PROCESS MATERIALS CORP. has issued its 1984-85, Archivart Catalog listing and describing all the Archivart products for conservation, including materials and equipment for framing and mounting,

archival preservation and restoration, art and print-making, bookbinding and library preservation. The six sections of the informative and handsome catalog are cross-referenced for specific applications in conservation of artworks, museum artifacts, photographs and textiles. Contact: Process Materials Corporation, 301 Veterans Blvd., Rutherford, NJ 07070 (201-935-2900).

ASAO SHIMURA, paper historian and creator of miniature (2 x 3") letterpress books on traditional paper-making techniques, has fine Japanese papers available for purchase. These include a variety of kozo, mitsumata and gampi papers suitable for conservation needs such as sekishu, mino and tengujo. They are generally made from home-grown fibers prepared in the studio virtually free of bark and impurities, carefully beaten, not chemically bleached, and board dried; some are rarely distributed outside of Japan. The papers may be purchased by mail (or on the Washi Tour - see Conference Column). Write for price information and sample books to: Mr. Asao Shimura, [REDACTED] Ibaraki-ken 309-15, Japan, (tel. [REDACTED]).

BETTY FISKE

**Archival Document Repair Tape**

ACID-FREE

Archival Aids Document Repair Tape

3 Easy Steps to:  
ARCHIVAL DOCUMENT REPAIR

Cut to size using dispenser box. Position over tear in document. Burnish with Bone Folder.

- Acid Free Paper Tape
- Non-Yellowing
- Reversible
- Pressure Sensitive
- Comes in Handy Dispenser Box

WRITE TO US FOR YOUR FREE SAMPLE AND ARCHIVAL CATALOG.

**University Products, Inc.**  
P. O. BOX 101 • SOUTH CANAL ST. • HOLYOKE, MA 01041