# ACTS FACTS

THE MONTHLY NEWSLETTER FROM
**ARTS, CRAFTS AND THEATER SAFETY (ACTS)**
181 THOMPSON ST., # 23, NEW YORK, NY 10012-2586 PHONE 212/777-0062

January 2003 Vol. 17, No. 01

# ACTS wishes you a healthy, happy 2003



## SAFER SUBSTITUTE FOR SOLVENT-BASED ADHESIVES

**Product recommendation**

ACTS suggests starting out the new year by replacing a toxic product with a safer one. We recommend using a water-based adhesive rather than solvent-based products like Barge® Cement.

**BARGE® CEMENT** has been a standard in the art and theatrical industry for more than 20 years. It will adhere to almost anything: plastics, leather, fabric, and much more. Theatrical costumers use Barge® because shoes, foam padding, and fabrics glued with it can be soaked in water or machine washed and the bond will hold.

But Barge® is toxic and flammable. It is a polymer adhesive dissolved in toluene, ethyl acetate and petroleum distillates. Ventilation, flammable storage cabinets, protective gloves and goggles, and sometimes respirators are needed to use Barge® safely. And if costume items glued with Barge® are not allowed to completely dry before performers don them, Barge® may harm performers, too. In the April, 2001, *ACTS FACTS* reported that lawyers alleged that a disabled dancer had a stroke caused by Barge® solvents when she danced in a freshly glued costume head piece. So in May 2001, I began looking for a substitute adhesive.

**THE SUBSTITUTE** that I found is called "Synthetic Latex 1812," distributed by Upaco Adhesives, a division of Worthen Industries, Inc. It is a synthetic polymer (not natural rubber) water-borne emulsion which is less toxic solvent-borne adhesives like Barge®.

The material safety data sheet (MSDS) says the Upaco product contains no toxic substances required to be reported by either EPA or OSHA. This doesn't mean there are no toxic substances present, it means they are below the levels required to be reported. I found an earlier MSDS stating that the adhesive contains 0.06% zinc oxide and 0.01% 2-butoxyethanol (a glycol ether solvent also called butyl cellosolve) and a touch of ammonia.

Glycol ethers and ammonia are typical components of water-based emulsion adhesives and paints. The amounts are so small that the

products usually are only harmful if exposures are excessive such as when large amounts of the adhesive is drying in a small, unvented space, or if the material gets on your skin. Excessive skin contact is especially inadvisable because the glycol ether solvent in the product absorbs through the skin and is suspected of be capable of causing adverse reproductive effects.

Upaco's Synthetic Latex 1812, however, is about as safe a product as you can find. But safe is not enough. It also must do the job.

**ROAD TESTING THE CEMENT.** In the past year, I kept in touch with three theatrical shops that tried out Upaco's Synthetic Latex 1812. All three said they were switching to the product because it is not only safer, they like it. However, they noted that it works a bit differently than solvent-based products.

1. Unlike the clear solvent products, Synthetic Latex 1812 is milky white when applied and becomes clear when dry. Some users liked this because they could easily see where it had been applied.

2. It takes a bit longer than solvent-based adhesives to dry. The amount of time it takes to dry depends on how thickly the adhesive is applied. Thin layers of the adhesive dry almost as fast as solvent-based products. Thickly applied adhesive dries slower and the object being glued may need to be held in position for a while.

3. Unlike the solvent-based products, the only odor is a faint ammonia smell while the water based cement is drying. However, the MSDS says that "individuals with sensitive airways (e.g., asthmatics) may react to airborne vapors."

4. Once the adhesive is fully dry, it is impervious to water. Products glued with the adhesive can get wet or be washed without weakening the bond. This was tested on plastic foam costume padding, shoes, and unintentionally on work clothes. Users agreed that if it dries on your clothing, no amount of washing removes it!

5. The water-based adhesive must be stored where the temperature cannot get below 32 degrees Fahrenheit. Like all emulsion products, it will coagulate and separate into an unusable mess if it freezes.

6. Except for temperature, there is no special storage requirements. It does not need to be in flammable storage cabinets.

If you want to try the product, call Upaco at 603/888-5443.*

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* ACTS does not accept donations, grants, gifts, or advertising from businesses or manufacturers. We do not benefit financially when we recommend products.

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## SHIPPING CONSULTANT MOVES

Jim Redinger, one of the regulatory consultants who wrote articles for *ACTS FACTS* on the shipping toxic and flammable art materials, has moved. If you need to consult with him, he is now at PO Box 1716, St. John, US VI 00831 or at www.compliance-consultant.com.

The other consultant, Brian C. Lee is still at Good Afternoon Toxicology Consulting, LLC, bclee@peak.org, ph.541-758-4697.

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# ARSENIC & OTHER PESTICIDES ON MUSEUM ARTIFACTS

*Applied Occup. & Envir. Hygiene.*, Vol 7(11):741-743, 2002

Two OSHA compliance officers, Barbara Smith and Bill Coulehan wrote an article for the *Applied Occupational and Environmental Hygiene Journal*. They discussed the many hazards found in museums including collections of toxic plants or minerals, pigments and dyes, and manufactured items made with hazardous materials such radium dials or PCBs in light ballasts.* They also pointed out that, during storage, other hazards may be acquired by the artifacts including products of decomposition, bacteria, molds, and dust residues from pesticides, fumigants and/or other preservative treatments.

Historically, museums did not keep good records of the treatments they applied. This makes it hard to know which pesticides and preservatives are present on particular artifacts. The authors suggest testing artifacts for common treatment chemicals and that workers use appropriate personal protective equipment.

The article then focuses on OSHA inspections of two museums. At one museum, a worker filed a complaint alleging that workers were exposed to arsenic and were not provided with protective equipment or training. Inspection of the second museum came about after OSHA was contacted by a physician treating a museum worker who experienced signs and symptoms of exposure to heavy metals.

Both inspections resulted in issuance of OSHA citations because the facilities failed to conduct the required assessment of the hazards and selection of the appropriate personal protective equipment for the job. Citations were also issued to both employers for failing to provide training on how to use personal protective equipment. The employer of the second facility also failed to provide the required OSHA hazard communication training. And although workers at first facility had been given some training, the employer had not developed the required written hazard communication program.

The authors did not name the institutions,** but the lessons for all museums is clear: attempts must be made to determine if artifacts have been treated with toxic substance and to quantify the potential hazards they present to workers. Next, training about the toxicity of the materials and the precautions to take must be included in the museum's OSHA Hazard Communication Program (29 CFR 1910.1200), their Personal Protective Equipment Program (29 CFR 1910.132), and, if needed, their Respiratory Protection Program (29 CFR 1910.134). If arsenic is found on the artifacts, the Inorganic Arsenic standard (29 CFR 1910.1018) must be included in the museum's programs. Other OSHA standards may apply if specific contaminants are identified such as cadmium, ethylene oxide, formaldehyde, methylene chloride and asbestos.

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* Not mentioned were PCB-mounted historic microscopic slide collections.

** Readers who wish to know which museums were cited can contact ACTS. OSHA inspection reports are public records, but OSHA makes them difficult to obtain. To obtain a report you need to know the inspection number and file a Freedom of Information Act request. But to know the inspection number, you have to have already seen that number on the report or some of the paper work related to the case. ACTS thinks the public should have easier access to this information.

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## CHILDREN'S LEAD POISONING: NOT ALWAYS PAINT

*MMWR*, 51(31), 8/9/02, pp. 684-686

In most States, sources of lead are investigated in the homes of children whose blood lead levels (BLLs) are found to be at or above 10 micrograms per deciliter (µg/dL). Although lead paint is the most common source of lead poisoning, five case histories from California illustrate that investigators must also consider candy, folk remedies, miniblinds, pottery, and other sources. Among the sources of lead reported in the 5 case studies of children with BLLs of 22 to 88 µg/dL were:

MEXICAN FOLK REMEDIES. A treatment for stomachache called "greta" contained 770,000 parts per million (7.7%) lead. Another lead-contaminated medicine called "azarcon" was also identified.

IMPORTED CANDIES. A Dulmex-brand Bolirindo lollipop had levels of 404 parts per million (ppm) and 21,000 ppm of lead in the stick and wrapper respectively, and 0.2 ppm and 0.3 ppm in the candy and seed respectively. The wrapper of another brand of candy was found to have a lead level of 16,000 ppm.

MINIBLINDS & POTTERY. Blinds on the windows of one home tested positive a by swab and cooking pottery was suspected in some cases.

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## SMELLY MAGAZINE ANALYZED

*Chemical & Engineering News*, 11/4/02, p.56

In the September issue of *Chemistry in Australia*, authors Robert Shellie and Philip Marriott report on detection of "a particular off-odor" in copies of the magazine. People had complained about the odor and the editor-in-chief asked the two chemists to address the problem. They used solid-phase microextraction on the June issue and analyzed the extract with gas chromatography.

They authors conclude that the offensive compound in the June issue was 2-butoxyethanol.* It's odor threshold is 0.1 parts per million and is commonly used in printing as a solvent. It is also in common cleaning products like Fantastik® and Windex®, in felt-tip marking pens, spray paints, paint strippers, and many other products.

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* This is the same chemical in the substitute adhesive in the first page story.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources.

Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell; Staff: John Fairlie, OES.

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February 2003 Vol. 17, No. 02

## BETTER CARBON MONOXIDE DETECTOR AVAILABLE

Editorial

Carbon monoxide (CO) is a hazardous air pollutant. Common indoor sources include malfunctioning furnaces, fireplaces, heaters and gas stoves. Artists can be exposed when working near fuel-fired and even electric kilns, glass furnaces, and other high temperature gas and electrical devices. Indoor film and TV locations workers can be exposed to CO generated by trucks, gas-powered lifts, kerosene heaters and other fuel-burning equipment. I usually recommend monitoring CO levels with industrial CO monitors costing in the range of $1000. If money is an issue, inexpensive household monitors can be used, but they do not alarm at levels low enough to protect our health. Now there is a better household monitor available. But to know which one to use, we must compare the levels of CO at which the monitors alarm.

**WORKPLACE LEVELS.** The Occupational Safety and Health Administration (OSHA) has a permissible exposure limit (PEL) for an eight hour work day of 50 part per million (ppm). Even OSHA thinks this level is too high but industrial lobbies have blocked lowering the PEL. Worse, OSHA's PELs are designed to protect only "almost all" healthy adult workers for a limited workweek. For protection of more diverse types of people, we must look to the Environmental Protection Agency's (EPA) standards.

**EPA STANDARDS.** EPA sets air quality guidelines. As you can see from the table below, the OSHA limit of 50 ppm is considered "hazardous" by EPA for the general public!

### EPA AIR QUALITY INDEX FOR CO

| description | 8-hour (ppm) |
|---|---|
| good | 4 |
| moderate | 9 |
| unhealthy for sensitive groups | 12 |
| unhealthy | 15 |
| very unhealthy | 30 |
| hazardous | 40-50 |

**HOUSEHOLD CO DETECTORS.** Inexpensive CO detectors like Nighthawk® and First Alert® are set to alarm at three levels:

100 ppm averaged for less than 90 minutes;
200 ppm averaged for less than 35 minutes; and
400 ppm averaged for less than 15 minutes.

At these levels, your CO detector will alarm in time to save your life, but certainly not your health.

**A BETTER MONITOR.** Now Aeromedix® has produced a monitor that begins to alarm at a peak levels of 10 ppm. Aeromedix suggests that people should not use their monitor in work in areas where CO concentrations are commonly at 10 ppm and above, because it would always be beeping. However, we think this beeping monitor might help convince employers that better ventilation is needed.

## AEROMEDIX® DETECTOR LIMITS

| LEVELS | ALARM |
|---|---|
| 10 to 25 ppm peak limits | beeps and flashes every 60 seconds |
| 25 to 50 ppm peak limits | beeps and flashes every 10 seconds |
| 50 ppm averaged for 60 minutes or 70 ppm averaged for 15 minutes | high-level alarm of beeps & flashes every 6 seconds. |

**RECOMMENDATIONS.** If you have heart problems, are pregnant, or have other problems that are worsened by CO exposure, avoid all locations where this gas is generated. Other workers can protect themselves by monitoring CO levels in one of three ways.

1. Buy an inexpensive CO detector like the Nighthawk® which has a digital display of CO concentrations for about $55. Keep checking to see what the highest peak reading is and reset it when the peak is high to see how long it takes to get back to that level.

2. Buy the Aeromedix® monitor for about $100. It will automatically monitor both peak levels and the average concentrations. Contact Aeromedix, P.O. Box 14730 982 West Broadway, Jackson Hole WY 83001, 307/732-2542, or visit www.aeromedix.com.

3. Buy a professional quality recording CO monitor. Most cost in the range of $1000 to $3000 (contact ACTS for sources).

For additional information about CO exposures and monitors, readers can send a SASE to ACTS and we'll send you a CO data sheet.

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## STAGE LIGHTS IGNITE BACKDROP IN AUDITORIUM

FIRE WATCH column in the *NFPA Journal*, November/December 2002 p. 22

In a Connecticut high school, a student tripped over ropes holding up a stage backdrop in a school auditorium, knocking the backdrop against the stage lights. Investigators believe that the backdrop fell against the stage lights when they were off. Later the lights were turned on for about an hour, then turned off again. By that time, however, they'd created enough heat to ignite the backdrop.

Heat from the fire tripped the auditorium's detectors, alerting the custodian and the fire department at 12:46 p.m. When fire crews arrived six minutes later, they discovered heavy smoke and struck a second alarm. Firefighters brought the blaze under control five hours later, limiting fire damage to the auditorium and smoke damage to the hallways and areas near the auditorium.

The NFPA Journal report does not explain why the backdrop was not properly fire retarded as the Connecticut fire rules demand. If it were, this fire would have self-extinguished. But the story should remind us to check the fire certificates for curtains and drops.

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# LAB WORKERS GET WEST NILE VIRUS

MMWR 51(50), December 20, 2002, pp. 1133-5

West Nile Virus has been documented to pass from animals-to-mosquitos-to-humans and from mosquitos-to-mother-to-fetus. Now two microbiologists contracted the disease in the laboratory while working with dead animals. In one case, the disease was acquired through a superficial cut on the worker's thumb received while dissecting an infected bluejay. The other acquired the disease through a needlestick received while dissecting infected mice.

The illnesses in these workers lasted about two weeks, but it is thought that, in the second case, some protection may have been derived from the patient's immunity to similar viral diseases. The patient's history included exposure to similar viruses (flaviviruses). The patient also had had dengue fever, and received yellow fever and Japanese encephalitis vaccines. These exposures did not confer immunity and the patient acquired an acute infection. However, the virus only caused a little over two weeks of symptoms and a loss of a single day's work.

**RECOMMENDATIONS.** We should add West Nile Virus to the long list of diseases, from parasites to plague, that workers in Mammals and Biology Departments can get working with dead animals. General precautions for such workers and students should include:

* wearing gloves and using all precautions to minimize exposure to fluids or tissues during handling;

* disposing of needles, scalpels, and other sharp instruments safely and in accordance with EPA and OSHA biowaste procedures; and

* minimizing the generation of mists and dusts by working in local exhaust ventilation systems such as chemistry fume hoods.

In addition, workers handling dead animals from the wild should have vaccinations for rabies and other diseases appropriate for each type of animal project before starting such work. Worker training should reinforce awareness of potential risks and the importance of timely reporting of injuries and illnesses. Immediately after any accident, a baseline serum specimen should be obtained and stored. If the worker develops an illness within the next few weeks or months, prompt medical evaluation, consultation with public health authorities, and collection of additional serum samples for virologic and serologic analysis should be done.

Some museums and schools still have intern and outreach programs in which high school students and other young people work on dead animals. This practice should cease unless all the precautions above are in place and the parents of the young workers and the workers themselves are fully informed about the risks.

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## REMINDER ABOUT ACTS E-MAIL INFORMATION SERVICES

When contacting ACTS electronically, please put your message in the body of your e-mail. We do not open attachments unless we are fully informed of their contents and source first.

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# PAINT DISPOSAL TIPS

Stevens Publishing Company's electronic newsletter, 1/15/03
stevenspub-e2-13706387@processrequest.com

Stevens Publishing Company, a supplier of safety training materials and services, had a good "Tip of the Week" in the mid January issue of their electronic newsletter. The tips were provided by Greg Stallings, environmental & safety specialist, Sherwin-Williams Co., Cleveland, and George C. Zguris, director of technology and senior scientist with Hollingsworth & Vose Co., West Groton, Mass. Stallings offers the following suggestions for left over paint:

1) Keep it from freezing. Paint that has been frozen cannot be recycled.

2) Store any extra *latex* paint indoors, above 40 degrees F.

3) Keep paint in its original container. The original label should remain readable so that the paint can be identified at a later date.

4) Purchase only the amount of paint necessary to do a job. Consult with store employees for advice on the quantity to purchase for a certain job.

5) Is there something else that can be painted? Painting brings out creativity, enhances appearance and may make an item last longer.

6) Contact your local regulatory agency (city or county) to find out how to recycle large amounts of excess paint. Many local entities have "household collection days" for such waste.

On a related note, Zguris offers this tip: "When cleaning oil-based paint from your hands, try using baby oil instead of solvents such as turpentine. Baby oil should remove paint stuck to your hands, plus leave your hands in better, softer condition."

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March 2003 Vol. 17, No. 03

## PYRO STARTS NIGHTCLUB FIRE

Source: multiple media accounts

The news is full of details about the pyrotechnic-generated fire at a nightclub in Warwick, Rhode Island that killed 98 people and put over 160 in the hospital. While there is nothing ACTS can do except express our great sympathy for those who lost loved ones, there are things we can say about avoiding conditions that led to the fire.

For example, we think the question of whether or not the band asked permission from the club's owner to use the pyrotechnic effects is moot because neither the band nor the owner of the club can grant this permission. If the band's pyrotechnician was licensed, he should have known that many states have adopted the National Fire Protection Association's NFPA 1126, a *Standard for the Use of Pyrotechnics before a Proximate Audience*. This standard at 4.1.2 says: "The use of all pyrotechnics shall be approved by the authority having jurisdiction." In many states, including Rhode Island, this authority is the local fire marshal.

However, the laws vary from state to state. A traveling pyrotechnician must know them all. Instead, this company and many other irresponsible road companies use pyro without permission and hope they will be gone before authorities know they are using it.

ACTS will cover this incident again when more facts are known. But at this point, we see this accident as yet another call to institute nationwide safety standards such as NFPA 1126 for pyrotechnics and NFPA 160 for fire effects before audiences.

## NEW JERSEY FACT SHEETS: A MODEL FOR NEW MSDSs?

*BNA-OSHR*, 33(6), 2-6-03, pp. 130-131

Everyone who reads material safety data sheets (MSDSs) knows they can be frustratingly confusing. For this reason, the Occupational Safety & Health Administration (OSHA) is reexamining MSDS formats. One model that they are considering emulating is that of the New Jersey Health Department's Hazardous Substances Fact Sheet (HSFS).

**WHAT ARE HSFSs?** When New Jersey's Right-to-Know program was instituted under the state's Public Employee's OSHA regulations, these data sheets were created to help workers understand the hazards of the chemicals they use. The PEOSHA rules require employers to provide both MSDSs and HSFSs (when available), on potentially toxic chemicals. This means that employees have <u>two</u> sources of information on their chemicals rather than information from the manufacturer alone provided by the MSDS.

The HSFSs are written in simple language and each one has the same six-page format which makes information easy to find. For example, a summary of the hazards, reasons that reporting is required, how to determine if you are over exposed, and workplace exposure limits are always on the first page. The second page covers acute and chronic effects, and medical testing. On page five there are definitions of the terms readers might find confusing. And so on.

**EXPERT OPINIONS.** The *Bureau of National Affairs-Occupational Safety & Health Reporter* interviewed a number of people about OSHA's interest in using HSFS as a model for their February 6th issue. For example, Peg Seminario, director of occupational safety and health for the AFL-CIO was quoted as saying that with an HSFS, "at least you get some competent, up-to-date information."

Richard Willinger, New Jersey's right-to-know program manager noted that every HSFS contains a medical testing section. "Occupational physicians may already know the symptoms of exposure or can get the information quickly, but many workers are seen by doctors not trained in occupational medicine," Willinger said. "Those doctors can use what we provide...," he said.

Rick Engler, director of the New Jersey Work Environment Council says that another advantage of HSFSs is their impartiality. "HSFSs are produced by an objective source, not by the very companies that profit from the materials they produce." he said.

**ACTS ASKED.** The BNA also quoted ACTS' opinion about the HSFSs. I told the BNA reporter that HSFSs usually contain much better information than MSDSs. In particular, I pointed out that "When you look on an MSDS under carcinogenicity, they list [the opinions of] IARC [international Agency for Research on Cancer], NTP [National Toxicology Program], and OSHA." If the MSDS indicates that none of these agencies consider the chemical to be a carcinogen, people usually "assume that [the chemical] is safe, but most times it means that the substance has never been tested."

The cancer hazard section on the New Jersey sheets, on the other hand, not only indicates if the chemical has been identified as a carcinogen, but whether or not it has been tested for cancer effects. I said that, "at least with the hazardous substances fact sheets you can bring to people's attention that we don't know squat about most of the chemicals they work with."

**LIMITS OF THE HSFSs.** There are HSFSs on about 1600 chemicals which is only a fraction of the roughly 75,000 chemicals used in industrial and consumer products. The sheets only address individual substances, not products that contain mixtures of chemicals. However, usually there are HSFSs for one or more of the chemical ingredients in common products we use. These can be very helpful in assessing the risks inherent in various products.

**WHERE CAN YOU GET THEM?** Individual HSFSs can be printed out or downloaded at http://www.state.nj.us/health/eoh/rtkweb/

without cost. There is a charge of $402 for downloading the whole set or getting them in paper copy. ACTS has them all and pays for the annual updates which costs at additional $50 - $65 per year. Data from these HSFSs is passed on to *ACTS FACTS* readers and others that contact us about chemical hazards.

**OTHER ACTS RESOURCES.** The HSFSs are just one of dozens of sources in which we check for information in response to requests. Pigment and dyes are researched in the volumes of the *Colour Index* which costs roughly $1200. We also consult many files and hard copy references such as *Sax's Dangerous Properties of Industrial Materials* (which costs about $900) and *Patty's Industrial Hygiene and Toxicology* (costs over $2000). ACTS also pays roughly $1500 in annual professional memberships so we can use the internet sites of these organizations for additional technical data.

Don't let all this money go to waste! Check with ACTS when you have questions. Otherwise, we're all dressed up with no place to go.

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## GRINDER EXPLOSION CAUSES INJURY, FOUNDRY FINED

*BNA-OSHR*, 33(7), 2-13-03, p. 154

Abrasive grindwheels, when not properly maintained, can literally explode into fragments which can maim and kill. For this reason, the Occupational Safety and Health Administration (OSHA) has complex rules for powered abrasive grind wheels (29 CFR 1910.215).

**OSHA RULES.** Basically, OSHA requires that the grind wheel tool rests must be adjusted 1/8 inch from the wheel's surface, the break out plate (adjustable tongue) must be adjusted to within 1/4 inch of the wheel's surface, and the guards must be in good repair. In addition, the abrasive wheel must be dismounted periodically and struck lightly to see that it "rings," indicating that there are no cracks in it. Wheels must be discarded if their integrity is compromised such as after someone grinds on the side of the wheel.

**ACCIDENT SPARKS FINES.** An accident in August, 2002, in which a swing mounted abrasive grindwheel critically injured an employee, resulted in $127,750 in proposed fines for Maynard Steel Casting Co., a foundry in Milwaukee, Wisconsin. OSHA cited them for nine safety violations. Two of the alleged willful violations--carrying penalties of $122,000--were for failure to safely maintain and test equipment. Seven serious violations--carrying $15,750 in penalties--were for several machine guard violations and a failure to lock out equipment during repair procedures.

**CHECK YOUR SHOP.** I see many dangerous grindwheels in schools, universities, museums, and theater shops. Teachers, students, and workers commonly remove tool rests, break out plates, and guards so there is room to grind surfaces on items too large to fit in the space remaining between the guards. But these wheels are only designed to grind small flat objects such as chisels. Using them for other purposes is dangerous. Grinding of larger objects should be done with other types of hand held tools such as Dremel grinders.

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# FATAL ELECTRICAL FIRE AT UNIVERSITY OF MARYLAND

*BNA-OSHR*, 33(7), 2-13-03, p. 153

Electrical service rooms are small rooms containing active electrical panels and other electrical equipment. They are not to be used for any other purpose such as storage.

A fire in October of 2002 in a misused electrical room at the University of Maryland resulted in the death of a worker. The Maryland Office of Occupational Safety and Health (MOSH) cited the University on January 31 for five alleged safety violations. Included were citations for blocked exits, the use of an electrical room for storage, inadequate lighting, inadequate hazard communications, and failure to provide personal protective equipment, including appropriate insulated gloves, flame-retardant clothing, and eye protection.

A university spokesman said the school has already abated most of the safety issues, gutted the room wnere the fire occurred, and moved the electrical equipment to the roof. The university is also inspecting all of its 1,500 electrical rooms and abating any additional hazards found.

**NO FINES.** MOSH, a state agency, is unable to levy fines with their citations because the university also is a state institution. This sad situation exists in a number of states and, in my experience, is the reason many state universities do not take their safety programs seriously.

**SPECTACULAR MISUSE.** In years of inspections, I have seen some amazing electrical service rooms. Some were jammed with combustibles such as paper and wood. One had a flammable storage cabinet in it. Several times I have seen compressed gas cylinders stored in these rooms. The most unique misuse was at a prestigious college in which full-sized electric stoves were installed between the service panels, partially blocking their doors, in the service rooms on two floors of the art building so teachers and students could make hot lunches. Check your electrical service rooms and see if one of yours could make this list.

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## 9/11 AIR NOT SAFE, INSPECTOR GENERAL SAYS

Source: EPA's Response to the World Trade Center Towers Collapse (Code 2002-0000702) Status of EPA Office of Inspector General Investigation

Last month, an internal report from the Environmental Protection Agency's Office of the Inspector General (IG) was leaked to the press by Cate Jenkins of EPA. The report evaluated the EPA's performance following the 9/11 disaster. The IG's independent federal investigation included the following conclusions:

1. EPA did not and does not have sufficient data to declare the outdoor air was "safe to breathe" when they did because:

* EPA did not and is not using the correct standards to conclude that asbestos levels are safe.
* EPA did not and is not considering the cumulative impact of the various substances in the dust and their synergistic effects.
* EPA did not and is not addressing short-term health impacts such as severe irritation of the respiratory tract, bronchitis, etc.
* EPA only had data on 4 of the 14 pollutants of concern to which people were potentially exposed immediately after the collapse. And EPA based its conclusions on a cancer risk level 100 times greater than the one traditionally used to protect the public.

2. The report questions EPA's decision not to implement the procedures outlined in the National Contingency Plan which would have given EPA control of indoor clean up of the dust. And EPA used the school clearance level (under AHERA) to claim asbestos levels were safe. The IG concluded this level is only a rough test used to see if anything major went wrong with clean up procedures. This level is not a safe level for school children or anyone else.

3. Safe procedures during clean up and recovery work at Ground Zero were not followed such as wetting down the dust properly before transporting asbestos-containing debris from the site.

4. EPA did not and is not communicating the risks clearly, and people returned to homes and businesses too soon.

5. The Report questions whether the current cleanup plan for residences is adequate for the following reasons:

* It is a voluntary program. If only some of the residents' apartments are cleaned and if the ventilation ducts and common areas are not cleaned, there is a possibility of recontamination of the building from the uncleaned areas.
* The clean up area is limited to south of Canal Street and does not include other potentially contaminated areas such as in Chinatown and Brooklyn.

* The EPA only tested for asbestos, and currently only tests for asbestos. There are other contaminants of concern.

*ACTS FACTS* readers will recognize many of the points above as ones we made in our October, November, and December, 2001 issues. It is nice to be proven right, but it comes to late for the hundreds of fire fighters, workers, and residents who are sick. And it certainly is too late for those people who will develop diseases, including asbestos-related diseases, in the future. Readers who would like a copy of the report can send an SASE to ACTS.

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## ANOTHER UNIVERSITY CITED BY EPA FOR HAZARDOUS MATERIALS HANDLING

*The Chronicle of Higher Education*: Daily News, 03/10/3002, 11/22/02, 5/31/02, 1/26/01, 10/15/99

The Boston office of the U.S. Environmental Protection Agency (EPA) has proposed fining Fitchburg State College $358,000 because it allegedly improperly stored laboratory chemicals that could have exploded or released toxic vapors near two active classrooms.

In April, 2002, EPA inspectors found many containers of materials improperly labeled and stored on the campus. The materials were so hazardous that a removal crew had to use an automated robot to collect them. While no one was injured, "the college's failure to follow basic rules of handling and storing hazardous chemicals and waste put students and employees, as well as the environment, at an increased risk of harm," said Robert W. Raney, regional administrator of the EPA's New England office.

Since the problems were discovered, the college has hired its first full-time environmental safety officer to work with the faculty to correct the problems. ACTS thinks every university needs safety and environmental professionals on staff.

The proposed fine for Fitchburg State College is the latest in a series of enforcement actions that the EPA has filed against colleges and universities. Some of the large fines levied over the last two and one-half years include the following:

| | |
|---|---|
| Columbia University (New York City) | - $797,019 |
| Long Island University (Brooklyn Campus) | - $219,883 |
| New Jersey City University (Jersey City) | - $88,344 |
| Pratt Institute (New York City) | - $301,000 |
| University of Hawaii System | - $1.7 million |

The EPA has focused in recent years on academic institutions because they typically have poor compliance with environmental regulations. University officials, however, commonly argue that federal enforcement, originally aimed at companies and factories, should be modified to recognize the unique nature of college campuses, which often have many laboratories, each storing small amounts of chemicals.

ACTS agrees that EPA's rules should be modified. We think the rules should be made <u>stricter</u> for schools where students learn the habits and procedures they will use later when they are employed or work on their own. Students should learn how to comply with environmental laws and regulations earlier rather than later.

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## SOLVENT EXPOSURE IN A COLLEGE PRINTMAKING CLASSROOM

Timothy J. Ryan, Erin M. Hart, Lon L. Kappler, *AIHA Journal*, 63:703-708 (2002)

"Despite a sizable educational art enterprise in the United States there is a dearth of rigorously performed studies of exposures to persons engaged in such activities," declare the authors of a study of an Ohio University printmaking studio. One reason so few studies exist is that each art classroom is unique. A study of one school often is not applicable to other schools because each art teacher uses different art materials and processes for different numbers of students in rooms with very different ventilation systems.

**VENTILATION.** This study found that the ventilation system kept personal exposures of students and teachers to 45 EPA-designated volatile organic compounds below occupational limits during the tasks monitored. The ventilation system exhausted 100% of the air to the outside, but the rate at which the air was exhausted was not disclosed. As a result, this study cannot be used to show exposures to solvents in any other printmaking studio will be similar.

**SOLVENT EXPOSURE.** Toluene was the most prevalent solvent found with an average concentration of 0.017 parts per million (range <0.001-0.319 ppm). The workplace standard (TLV-TWA) for toluene is 50 ppm and the indoor air quality standard* is one tenth of this or 5 ppm. Exposures also were well below TLVs for 20 other solvents including 1,1,1,-trichloroethane; xylenes; 1,3,5-trimethyl benzene; propyl benzene; methylene chloride; and ethyl benzene. The average total volatile organic exposure of 0.181 ppm to a mixture of solvents. Sensitive students or teachers who work 40 hours per week or more may experience effects from this mixture of solvents.

**LONG-TERM OUTCOME.** The authors point out that "The significance of these low exposures, in particular to teenaged persons routinely present...is unknown." And that "For a student progressing into an occupation such as visual artist, it is important to note the existence of such an early-career exposure scenario, albeit low."

**SKIN CONTACT.** The authors also said their "observations indicate that contact exposures from print-making and cleaning processes may be more important than breathing zone exposures. Students and faculty should be wearing gloves when cleaning.... They should also wear eye and face protection when working at the cleaning station." Clearly, schools need to provide both proper ventilation and protective equipment for traditional printmaking activities.

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* The American Society of Heating, Refrigerating & Air-conditioning Engineers-ASHRAE-62.

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## MUSEUM PROGRAM & TENURED PROFESSORS AXED AT UNIVERSITY of NEBRASKA

*The Chronicle of Higher Education*: Daily News, 03/11/3002

The University of Nebraska at Lincoln plans to eliminate a master's-degree program in museum studies and lay off the eight tenured faculty members who are affiliated with it. Besides the tenured positions, an additional 47 non-tenure-track faculty and staff positions are scheduled to be cut.

Eliminating the professors, the master's program, and the research division of the Nebraska State Museum will save the institution $1.1 million. The total savings with the non-tenured cuts will be $7.4 million. The cuts, announced Monday, March 10, are only the first phase of the campus's effort to deal with a $21-million reduction in state funds. Its clear there will be more.

This is the first time in the university's history that tenured faculty members will lose their jobs because of financial problems. Nebraska also appears to be the first major research university to cut faculty positions during the current economic downturn. And ACTS predicts that most cuts will be seen in the future and they are likely to fall more heavily in the museum and art study areas.

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## HARD HEADS OR HARD HATS?

*Standards Watch*, ESTA's Technical Standards Program newsletter, December 2002, Vol 6 No. 7, page 1

The Entertainment Services and Technology Association (ESTA), whose members are predominantly distributors and manufacturers of theatrical and entertainment industry materials and equipment, sets standards for proper use of such equipment. One standard ESTA is developing will set guidelines for proper assembly and use of a type of rigging equipment called "theatrical boom and base assemblies." When ESTA's Technical Standards Manager, Karl Ruling, asked members to submit comments on a draft of the standard he wrote:

> *...you don't have to wait until the last minute to send in your comments. Help avoid bloodied pates and badly parted hair by commenting on this draft standard sooner rather than later.*

This statement, coming from within the industry, makes a powerful argument for using hard hats during overhead rigging work. Yet industry workers commonly are seen without protective headgear even though OSHA requires them to be worn when ever there is a potential for head injury. ACTS believes the ESTA standards for all equipment that involves overhead work should include a requirement that hard hats be worn.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources. Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell, Robert Peat, Brian Lee; Staff: John Fairlie, OES.


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May 2003 Vol. 17, No. 05

## CPSC BANS CANDLES WITH LEAD-CORED WICKS

CPSC Press Release # 03-105, April 7, 2003

The U.S. Consumer Product Safety Commission (CPSC) voted unanimously to ban the manufacture and sale of lead-cored wicks and candles with lead-cored wicks. CPSC determined that candles using lead-cored wicks could present a lead poisoning hazard to young children. The federal ban, which applies to all domestic and imported candles, should deter manufacturers from making non-conforming wicks, allow the U.S. Customs Service to stop shipments of lead-cored wicks and candles, and allow for the CPSC to seek penalties for violations of the ban.

A CPSC investigation found that despite a voluntary industry agreement in the 1970s to remove lead from candle wicks, a small percentage of candles sold in the past several years still contained lead-cored wicks. CPSC staff found that some lead-cored wicks could emit relatively large amounts of lead into the air during burning. Children may then inhale the vaporized lead, placing them at risk. Children may also be exposed to lead by mouthing objects on which lead has settled or by handling such objects and then mouthing their hands.

Some of the candles tested by CPSC staff emitted lead levels in excess of 3,000 micrograms per hour, about seven times the rate that could elevate blood lead levels in a child. CPSC estimates that an indoor air lead release of 430 micrograms per hour from burning candles could result in hazardous exposure to children.

Safer alternatives to lead-cored wicks, including zinc, synthetic fibers, cotton and paper, are used by most candle and wick manufacturers. For example, tapers, commonly used as dinner candles, use cotton wicks and do not contain lead. However, there is no way to tell if a metal-cored wick contains lead or an alternative such as zinc. Consumers may wish to contact the retailer for information about the wicks used in their candles.

The CPSC was petitioned to ban candlewicks containing lead cores and candles with such wicks by Public Citizen, the National Apartment Association, and National Multi Housing Council on February 20, 2001. ACTS applauds these organizations.

*ACTS FACTS* has covered lead wick problems in past issues (6/99, 3/00, 5/00, 3/02) and we are glad that the ban is finally in place. It will be effective in October 2003. And since the ban includes sale of both the candles and the lead-cord wicks separately, it will prohibit inclusion of these wicks in craft candlemaking kits.

# HALLMARK HALL OF FAME SUED FOR MOVIE SET ACCIDENT

*BNA-OSHR*, 33(13), 3/27/03, p. 297

A U.S. district court in Kansas on March 14 refused to dismiss a negligence claim filed against Hallmark Hall of Fame Productions, Inc., by an equipment repairman who was badly injured on a movie set in Osage County, Kansas (*Cuiksa v. Hallmark Hall of Fame Productions Inc.*, D. Kan., No. 00-1389-JAR, 3/14/03).

**THE ACCIDENT** occurred April 16, 1999, on the set of Hallmark's "Sarah Plain and Tall." McGee Street Productions, a wholly-owned subsidiary of Hallmark, built the movie set on land in Osage County that was leased from a local landowner. McGee leased heavy equipment for the production from D & D Equipment & Sales, Inc.

On April 16, a lift leased from D&D broke down. The vehicle was hot-wired and moved so that it would be out of the way during filming, but it ended up parked partially beneath a 11,000-volt power line with the knowledge of a McGee supervisor. D&D sent Jason Erick Cuiksa and another worker to repair the lift. By the time the repairmen were allowed on the set, it was dark. While driving to the lift, the technicians were allowed to use only their parking lights so that filming would not be interrupted.

After inspecting the lift, the technicians discovered it would not operate because someone had flipped the safety-kill switch. Cuiksa attempted to test the lift by raising its bucket, which contacted the overhead power line. The repairman was badly burned, and both his hands were amputated.

**NEGLIGENCE CLAIM.** Cuiksa subsequently brought a lawsuit against McGee and Hallmark, alleging that the companies negligently failed to warn him that the lift was parked under a power line. McGee requested summary judgement, on the basis that as Cuiksa's "special employer," it was protected from lawsuit by the Kansas Workers' Compensation Act. Hallmark also requested summary judgement, arguing that it could not be held liable for McGee's negligence because the subsidiary was not its alter eqo.

Under Kansas's multi-employer doctrine, the workers' compensation act may be extended to a company that is not the employer of the injured worker if a special relationship exists that makes the company the injured worker's "special employer." However, the court held that Hallmark and McGee were not entitled to summary judgement because Cuiksa was ordered onto the movie set by D&D to repair equipment owned by D&D. McGee did not control the manner in which Cuiksa performed his work, and had no authority to fire him.

Further, the court held that Hallmark and McGee were alter egos. Hallmark was the sole shareholder of McGee stock, the two companies had many directors and officers in common, shared the same California address, and Hallmark paid McGee's general overhead expenses, insurance, legal services, and risk management costs.

Because McGee's assets were limited and questionable, it would result in injustice to Cuiksa if he could not look to the more affluent Hallmark for compensation, the court concluded.

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# BLURRED VISION ASSOCIATED WITH PRINTMAKING CHEMICALS

NIOSH Health Hazard Evaluation Report: HETA #2001-0144-2867,
www.cdc.gov/niosh/hhe.html

A National Institute for Occupational Safety & Health (NIOSH) investigation of employees at the Superior Label Systems plant, Mason OH, found that two commonly used printmaking chemicals, dimethylisopropanolamine (DMIPA) and dimethylaminoethanol (DMAE), were associated with a risk for job-related visual problems.

**AMINE SYMPTOMS.** DMIPA and DMAE are in a class of chemicals called tertiary amines.* In general, the teriary amines have been associated with skin, eye and mucous membrane irritation, headache, nausea, and faintness. Several reports also associated exposure to certain amines with blurred vision, halos, or blue-grey vision. These same vision effects were reported by 89% of the assembly line plant workers. They had difficulty in operating machinery and driving home. The effects were caused by a clouding or opacity of the cornea. This reverses within a few hours of leaving work.

The company requested NIOSH's assistance and NIOSH's investigation determined that the condition was linked with exposure to DMIPA, a component of an additive used to thin ink, and to DMAE, a component of water-based inks. Neither of these amines previously had been reported to cause visual disturbances in humans. According to NIOSH, it was impossible in the statistical analysis to distinguish the role of one compound from the other, but both would be expected to produce the same effects, given their close chemical similarity.

**EXPOSURE.** Three products were implicated as sources of exposure: the water-based inks containing 1% DMAE, a clean print additive containing 45% DMAE, and a pH adjuster containing an undisclosed amount of DMIPA. Air sampling found assembly line exposure to DMIPA averaged 9.96 milligrams/cubic meter ($mg/m^3$) and 3.47 $mg/m^3$ to DMAE. Eye exposure to the amines was thought to be by both direct deposition on the eye's surface and systemic absorption (since analyses of the workers' lacrimal fluid, i.e., tears, found high levels of these amines).

**CONTROL.** There are no occupational exposure limits for either of these chemicals, but NIOSH points out that employers are still required by OSHA to protect their employees from hazards, even in the absence of a particular permissible exposure limit. NIOSH recommended diluting the pH adjuster to reduce volatilization of DMIPA, covering all 5 gallon pails, improving local exhaust ventilation at printing presses, ensuring ventilation intake grills and exhausts were located to prevent reentering of exhaust air, switching from latex gloves to butyl rubber gloves, and conducting more air monitoring whenever new chemical products are introduced.

**RELEVANCE.** This study is of interest to art printmakers, because these and many other amines are found in many of water based inks, retarders, and other printmaking chemicals.

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* Aliphatic amines are ammonia ($NH_3$) derivatives in which an alkyl or alkanol group replaces one or more hydrogen atoms. They are classified as primary, secondary, or tertiary amines based on the number of substitutions.

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# SAFETY SIGN COLOR CODES

To make your own safety signs or interpret existing signage correctly, you need to know the color code. Both the Occupational Safety and Health Administration (OSHA) and the American National Standards Institute (ANSI) have developed compatible Safety Color Codes. The OSHA standards are found in 29 CFR 1910.145, .1030, and .1096 and the ANSI standard is Z535.1, 1998. The chart below incorporates the color codes of both OSHA and ANSI Z535.1.

| COLOR (STN'D) | MEANING | APPLICATIONS |
|---|---|---|
| **Red** (OSHA/ANSI) | Danger or stop | Safety cans for flammables, emergency stop buttons & bars, fire protection equipment |
| **Orange** (OSHA/ANSI) | Warning | Hazardous parts of machines that may cut, crush, or other-wise injure |
| **Yellow** (OSHA/ANSI) | Caution | Trip, fall & striking hazards; storage cabinets for flammable materials; containers for corrosive or unstable materials |
| **Green** (ANSI) | Emergency egress & first aid & safety equipment | First aid kits, safety the location of showers, stretchers |
| **Blue** (ANSI) | Safety information | Mandatory action signs for wearing personal protective equipment; specific warnings against starting, using or moving equipment being repaired |
| **Black, white, yellow or combinations of these colors** (OSHA) | Boundaries | Traffic or housekeeping markings; stairways, directions and borders |
| **Magenta or purple on yellow** (OSHA) | Radiation, caution | X-ray, alpha, beta, gamma, neutron & proton radiation |
| **Florescent orange or orange-red with symbols in contrasting color** (OSHA) | Biosafety | Labels and containers for blood and infectious waste |

*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources. Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell, Robert Pear, Brian Lee; Staff: John Fairlie, OES.


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June 2003 Vol. 17, No. 06

## STUDY SHOWS EVEN LOWER BLOOD LEAD LEVELS HARMFUL

*New England Journal of Medicine*, Vol.348:1517-1526, Apr. 17, 2003, No.16

It is well known that lead adversely affects the development of children's brains and thinking skills at concentrations of 10 micrograms per deciliter (µg/dL) of blood and above. Now a study confirms that there are significant effects at much lower levels.

Richard L. Canfield of Cornell University and his colleagues periodically measured blood-lead concentrations in 172 children beginning when the kids were 6 months old and continuing until they were 5 years old. Each child was given an intelligence test at age 3 and at the end of the study. The results demonstrated a dose-response for lead's effects at levels below 10 µg/dL. In fact, lead caused a larger incremental IQ drop for each microgram of lead change at levels below 10 µg/dL than it does at higher levels.

The researchers found that for blood-lead concentrations between 1 and 10 µg/dL, the total decrease in IQ averaged 7.4 points, a drop of 0.82 points for each 1 µg/dL. However, the decrease in IQ associated each increase of 10 µg/dL at levels above 10 µg/dL was only 4.6 points, that is, 0.13 points lost for each additional 1 µg/dL.

**ACTS POLICY.** This data demonstrates a dose-response for lead at levels lower than 10 µg/dL. This establishes it as causative at these lower levels rather than merely an association. It reinforces our policy of urging parents and teachers to eliminate all lead-containing and lead-contaminated art products from schools and homes. Clearly, any exposure to lead has an adverse effect on kids.

## CLASS ACTION PLANNED FOR SPECIAL EFFECTS INJURIES

E-mail: Carol Wetovich/Diane@lawgal.net

Attorney Diane Davisdon, who specializes in entertainment law, is interested in filing a class action lawsuit on behalf of people injured by theatrical fog effects. She is developing a list of possible plaintiffs to determine how she should proceed. If you think you might want to participate, please send the following information to: Diane Davidson, Attorney at Law, at 1222 Glenback Ave., Baltimore MD, 21208 or to Diane@lawgal.net. Data requested:

Your name, address, phone number
Date and type of injury
Place or name of production when injury occurred
Type of effect used & Manufacturer of the effect (if known)

Further information can be obtained at lungsworking@aol.com. If the class action proceeds, notices will be posted at: www.lawgal.net or http://hometown.aol.com/lungsworking/fxfactshazards.htm.

## SERIOUSLY INJURED WORKER GETS NO COMPENSATION

*BNA-OSHR*, 33(16), 4/17/03, p. 380

This case history and court decision reported in *The Bureau of National Affairs Safety & Health Reporter* contains a sad lesson.

**THE STORY.** An experienced ironworker was found seriously injured beneath a bridge. He had fallen 25 feet while installing fall protection equipment on a bridge. There were no witnesses to the fall and the brain damage he suffered left him with no memory of the accident. The worker's safety harness was cut from his body after the fall and found intact, indicating it had not been connected to a safety line when the man fell.

**RULE VIOLATED.** Based on the condition of the worker's harness, a Workers' Compensation deputy commissioner concluded that the worker had violated his employer's safety rule by not tieing off while working. The worker was denied benefits. The deputy commissioner's decision to deny benefits was upheld by the full Workers' Compensation Commission. The worker appealed the decision to the Virginia Court of Appeals (*Byam v. North Star Construction Corp.*, Va. Ct. App., No. 2783-02-1, unpublished opinion 4/8/03).

The appeals court noted that under Virginia's (and most other state's) workers' compensation laws, an employer is not required to pay compensation benefits if a worker is injured because of a willful violation of a safety rules. To establish a willful violation, the employer must show that the rule was reasonable and known to the employee, the rule was promulgated for the employee's benefit, and the employee intentionally violated the rule by performing the hazardous act. In this case, the court said, the safety rule applied to this worker's job, he was an experienced ironworker who knew about the rule and its purpose, and he was not in compliance when he fell and was injured.

**THE LESSON.** In other words, if employers violate safety rules and a worker is injured, the worker cannot sue the negligent employer and must be content with the pittance awarded by workers' compensation. But if workers violate safety rules and are injured, both the workers' compensation board and the employer can abandon them. They get nothing. Never cut corners and ignore safety rules. The cost may be way out of proportion to the time you save.

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## RESPIRATORS: FATAL FACTS

"Fatal Injuries in the U.S. Involving Respirators, 1984-1995," *Applied Occupational and Environmental Hygiene*, Volume 18(4): 289-292, 2003

A survey of Occupational Safety and Health Administration (OSHA) investigations from 1984 to 1995 found there were 45 deaths due to asphyxiation or chemical poisoning while wearing a respirator. Twenty-three deaths were related to misuse of air-line respirators, 17 deaths involved use of air-purifying respirators, and 5 deaths involved self-contained (air tank) breathing apparatus. Most of the deaths involved procedural violations. For example, three of the workers who died wore tight-fitting respirators over beards (which allows contaminated air to seep into the respirator) in atmospheres that were immediately dangerous to life and health.

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## WATER: TOO MUCH OF A GOOD THING CAN KILL

*The Chronicle of Higher Education, Today's News*, Friday May 2, 2003, http://chronicle.com/daily/2003/0502003050206n.htm

For years, I have illustrated "the dose makes the poison" principle in my lectures by pointing out that people have died from drinking too much water. For example, this happens when athletes replace water lost from sweating without replacing electrolytes, when psychiatric patients abuse water, and, recently, when the drug ecstasy impairs people's judgement about the amount of water they drink. Now this disease, variously called hydroneutremia, hypoxic encephalopathy or water intoxication, is associated with homicide.

Eleven members of the Psi Epsilon Chi fraternity at the State University of New York College at Plattsburgh were charged on March 26 collectively with 150 crimes including criminally negligent homicide. A police investigation found that the members were hazing a student, Walter Dean Jennings, by forcing him to drink gallons of water poured through a funnel. He died from swelling of the brain.

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## THE BARE FACTS: NUDE MODELS FORM UNION

*The Chronicle of Higher Education, Today's News*, Monday May 12, 2003, http://chronicle.com/daily/2003/0502003051205n.htm

Nude models who pose for classes at the Moore College of Art and Design in Philadelphia, voted to form a union. The first of its kind, the new nude-model union will be part of District Council 47 of the American Federation of State, County, and Municipal Employees (ASFCME).

Gary Kapanowski, an ASFCME organizer who helped bring this about said "One of the issues is not just money, it's dignity." All of the models at Moore had the opportunity to vote for the union and they did so overwhelmingly, he noted. Mr. Kapanowski expects up to 150 models from other colleges in the Philadelphia area to join.

Some of the models say that the studios they work in often are dirty, reek of paints and chemical fumes, and are too cold. (However, I have worked at Moore College and it is one of the better colleges with respect to conditions in the studios--Editor.)

**ACTS VIEW.** One common cause of discontent among nude models is the fact that art teachers and students often readily accept working conditions that normal people will not willingly tolerate. Many school art studios are dangerously cluttered and crowded, inadequately ventilated for the use of solvents, and the temperature and humidity are not well-controlled. This new nude model union could be a force for getting better conditions for themselves, art students and teachers in the Philadelphia area.

ACTS always encourages workers to band together to deal with workplace issues. We find that most workers are afraid to demand safe working conditions unless they they have job security and union backing. ACTS wishes the new union well and hopes any bitterness developed during unionization will be replaced with the good will the employers and the union will need to work together.

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## FIRE DESTROYS ART FOUNDRY AT UMASS

*The Daily Hampshire Gazette*, 4/23/03 & *The Campus Chronicle*, UMass, 4/25/03

A beautiful 140-year-old building used for art welding and bronze casting at the University of Massachusetts in Amherst was completely destroyed by a fire visible from several miles away on April 22, 2003. The roof of the two-story wood-frame building, known as the "foundry," collapsed, as did most of the upper floor.

A class in the Foundry had been let out at 4:15 pm that day. No one was believed to be inside at 8 pm, when a student walking past spotted flames through a window and called 911. When the first firefighters arrived at 8:04 pm, flames were already shooting high above the roof and the building was too unstable to enter, said Amherst Assistant Fire Chief Michael Zlogar. Firefighters surrounded the building with fire trucks and sprayed water for nearly two hours, until most of the fire was out. The fire is now under investigation, but it is well-known that welding and foundry work is not compatible with old wood-frame buildings.

Two explosions were heard during the fire which were believed to be tanks of acetylene and oxygen stored in the building. It was not clear how many tanks remained inside, but firefighters managed to protect a large propane tank outside the building from the flames.

Ronald Michaud, art department chairman, met with staff and faculty the next morning to discuss where to hold the class that had met in the foundry, and to address what to do about student projects, equipment and studio space lost to the fire.

Ironically, the Fire Prevention Association of Massachusetts was in the midst of its three-day annual convention at UMass at the time.

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## CONSUMER PAINTS TO CARRY LEAD WARNING

*Chemical & Engineering News*, May 19, 2003 p. 17

Beginning in September, paint makers will place labels on consumer paint products warning of potential lead dust exposure during remodeling of old buildings. The National Paint & Coatings Association negotiated the labeling and a concurrent educational program for paint makers with the attorneys general of 46 states. (I've seen the warning on some labels already. Editor)

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## UNIVERSITY OF BRITISH COLUMBIA STUDIES FOG

Kay Teschke, Yat Chow, Michael Brauer, Chris van Netten, Sunil Varughese & Susan Kennedy, "Atmospheric Effects in the Entertainment Industry: Constituents, Exposures & Health Effects," Report to SHAPE, the Workers' Compensation Board of BC and the BC Lung Association, March 27, 2003.

The first study of medical effects from exposure to theatrical fogs and smoke was initiated by the National Institutes for Occupational Safety and Health in 1990 (released 1994-HETA 90-355-2449). There have been several since. Now a new study was released March 27, 2003 by the University of British Columbia which was sponsored by the Workers' Compensation Board (www.shape.bc.ca/news/).

STUDY SUBJECTS. The researchers studied 111 entertainment industry personnel working in 19 TV and movie locations, in live theater, music concerts, and in a video arcade. Area and breathing zone air samples were taken for 32 days. Some sites were visited more than once. On about half the days, glycols fogs were used to produce many types of fog effects, and on the other half, mineral oils were used for atmospheric haze effects.

PARTICLE SIZE. The study confirmed that the fog aerosols were small enough that a large portion could enter the smallest airways and air sacs of the lungs. These small aerosols also can stay suspended in the air for long periods, from hours to days.

EXPOSURE LEVELS. The average of all fog aerosol concentrations measured in the breathing zones of the study subjects was 0.07 milligram per cubic meter ($mg/m^3$) ranging from 0.05 to 17.1 $mg/m^3$. Glycol exposures ranged from 0.94 vs. 0.49 $mg/m^3$ which are all below the current 8-hour glycerin mist standard of 10 $mg/m^3$. The average personal mineral oil mist exposures exceeded the proposed workplace standard (ACGIH TLV) for all mineral oils (0.2 $mg/m^3$).

HEALTH EFFECTS. Lung function tests before and after a fog-exposure of 101 of the 111 subjects were conducted along with a standard interview about lung health. These were compared to similar information from a control group. Researchers concluded:

> *Compared to the control group, the entertainment industry employees had lower average lung function test results and they reported more chronic respiratory symptoms: nasal symptoms, cough, phlegm, wheezing, chest tightness, shortness of breath on exertion, and current asthma symptoms, even after taking other factors into account such as age, smoking, and other lung diseases and allergic conditions. The entertainment industry employees also had increased rates of work-related phlegm, wheezing, chest tightness, and nasal symptoms.*

The study also found that more symptoms and greater decreases in lung function were associated with having been exposed to greater amounts of theatrical smoke. Lower levels of lung function were also documented in employees who worked closest to the fog machine.

**ACUTE EFFECTS.** Acute symptoms and lung function changes also were noted of the actual days testing was done. The researchers report:

> *Increased nose, throat, and voice symptoms were associated with increased exposure levels overall. Increased dry cough or dry throat and increased headache, dizziness, and tiredness on the testing day were more common when glycol fogs were used. In contrast, a measurable drop in lung function (over the testing period of about 4 hours on average) was more often seen when mineral oil fogs were used.*
>
> *Overall, the health study results suggest that exposure to theatrical smokes and fogs is provoking non-specific respiratory irritation and increasing the risk for chronic airflow obstruction among BC theatrical industry employees.*

**RECOMMENDATIONS.** The researchers recommended that exposure control plans be put in place to insure reduction of the oil mist exposures to comply with regulations. And while the glycol mist levels measure were found to be below the occupational standard, the researchers suggest minimizing exposure to further reduce symptoms. Methods of reducing exposure they recommended were:

* *increased emphasis on other methods to create generalized atmospheric haze (e.g., filters, post production computerized methods);*
* *more conscious decision making in every production about the necessity (or not) of chemically generated special effects;*
* *consideration of other products where feasible, e.g., fresh de-ionized water mists or steam for short-lived effects, use of liquid nitrogen;*
* *maximizing the distance between employees and fog machines, minimizing the number of machines used, reducing the time fog machines are on, minimizing the time that employees spend in visible fog;*
* *scheduling filming that uses fogs near the end of a production day so that the residual airborne mist is given time to settle when no one is on the set;*
* *ventilating the sets with fresh air during and after fog use; and*
* *training about potential exposures and health effects resulting from the use of smokes and fogs.*

In addition, they recommend exposures be monitored to ensure that control methods are working whenever fogs and smokes are used.

The study confirms reports of respiratory symptoms and reduction in lung capacity seen in most of the other studies. These effects can progress to the development of chronic lung diseases in some people. ACTS wonders how many more studies it will take before the industry sees that the fogs and smokes are permanently harming and ending the careers of some of their workers.

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# BRICK & CLAY KILN EMISSIONS REGULATED

68 *FR* 26690-26755, May 16, 2003, *Ceramic Industry* (from the *Brick & Clay Record*), July 1998, pp.46-54, 57-62

The Environmental Protection Agency (EPA) has published a final rule on national emissions standards for hazardous air pollutants (NESHAP) for new and existing sources at brick and structural clay products and clay ceramics manufacturing facilities.

**WHO IS AFFECTED.** The rule applies to certain manufacturers of Brick and Structural Clay Tile, Ceramic Wall and Floor Tile, Other Structural Clay Products, and Vitreous Plumbing Fixtures (sanitary ware). Dinnerware and pottery manufacturing also are included in these categories, but will not be covered by the law because EPA determined that there are no dinnerware or pottery facilities in the US large enough to be major sources of the covered emissions. Small potteries and school art departments also are exempted.

However, small dinnerware and pottery kilns may already come under local air quality regulations which either require scrubbers on kiln stacks or do not permit kiln firing in certain locations. Local authorities also may be interested in the data EPA has developed on types of toxic substances released by ceramic kiln stacks when they plan their own regulations.

**DATA DEVELOPED.** Early in 1998, the Environmental Protection Agency (EPA) sent out extensive questionnaires to every structural clay plant in the U.S. (*ACTS FACTS*, August 1998). Some plant operators already knew of EPA's concerns because some state laws already required them to install scrubbers on their kiln stacks.

EPA concluded from analysis of stack emissions data that hydrofluoric acid (HF), hydrochloric acid (HCl), and small amounts of metals (antimony, arsenic, beryllium, cadmium, chromium, cobalt, mercury, manganese, nickel, lead and selenium), are emitted by the kilns. Sulfur oxides, carbon monoxide, and particulate matter also are emitted by kilns, but they are not regulated under this rule.

**BENEFITS.** The EPA rule is expected to reduce the acid and metal emissions by 2,300 tons per year nationwide. Hydrogen chloride and hydrogen fluoride emissions account for 2,290 tons per year (99.6%) of these emissions, while the metals released to the air nationwide will be reduced by about 6 tons per year (0.4%).

**RELEVANCE TO POTTERS.** EPA's kiln emission data should remind us that there are many sources of chloride and fluoride compounds in clays and glaze materials that release HCl and HF. And while it was known that low-melting metals such as arsenic, lead, selenium, mercury and cadmium are released at kiln temperatures, it is now documented that cobalt, chromium, and manganese also are emitted.

The amounts of toxic metals emitted by indoor pottery kilns is very small, but if the kilns do not have exhaust venting, the fumes are emitted into enclosed spaces rather than open air. Metal fumes are particulates which can settle in pottery dust and build up in time.

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## WATCH OUT FOR NEW SOLVENT CALLED n-PB

68 *FR* 33284-33316, June 3, 2003

The Environmental Protection Agency (EPA) has proposed a new rule allowing n-propyl bromide (nPB) also called 1-bromopropane to be used as a substitute for certain ozone-depleting solvents. The chemical has a short atmospheric lifetime and low ozone depletion potential when emitted from locations in the continental U.S.

The proposal restricts use of nPB as a solvent for cleaning and degreasing metals, for precision and electronics cleaning, as an aerosol spray solvent, and in adhesives.

However, EPA says that if workplace exposure to nPB is poorly controlled, it may increase health risks. EPA recommends that users adhere to an acceptable exposure limit of 25 parts per million over an eight-hour work day until the Occupational Safety and Health Administration (OSHA) develops a mandatory workplace exposure limit. EPA also warns that "like many halogenated solvents, nPB has the potential to be absorbed through the skin and" recommends "avoiding skin exposure to nPB by wearing protective clothing and flexible laminated gloves." This implies that nPB hasn't actually been tested for skin absorption and laminated gloves of more than one type of plastic barrier are recommended because glove permeability studies also have not been done.

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## SEAT BELTS STILL REQUIRED ON FORK LIFTS

*BNA-OSHR*, 33(20), 5/15/03, pp. 473-474

In September, 2002, The Occupational Safety and Health Administration (OSHA) proposed changes to the Powered Industrial Truck Operator Training directive which would have permitted inspectors to not issue citations for failure to wear seat belts on fork lifts when the possibility of a tipover was remote and there was no history of tipovers or near misses at the workplace.

OSHA asked for input on the proposal. On May 9, Richard Fairfax, OSHA's director of enforcement programs, announced that respondents commenting on the proposed change overwhelming said to leave the policy requiring seat belts in place. OSHA has decided to leave the seat belt provision in the rules.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources.
Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell, Robert Pear, Brian Lee; Staff: John Fairlie, OES.



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# ACTS FACTS

THE MONTHLY NEWSLETTER FROM
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August 2003 Vol. 17, No. 08

## AIR BRUSH TANNING AND MAKEUP

http://www.cfsan.fda.gov/~dms/cos-tan4.html

The US Food and Drug Administration (FDA), Center for Food Safety and Applied Nutrition, Office of Cosmetics and Colors has issued a statement about the new DHA-Spray Sunless "Tanning" Booths. In these booths, consumers receive an air brush mist or spray application of dihydroxyacetone (DHA), a chemical which gives the skin the appearance of a tan.

**THE LAW.** DHA is regulated by FDA as a color additive. On their website, FDA explains the color additive rules as follows:

> *The Food, Drug, and Cosmetic Act (FD&C Act), Section 721 authorizes the regulation of color additives, including their uses and restrictions. These regulations are found in Title 21, Code of Federal Regulations (21 CFR), beginning at Part 70. If a color additive is not permitted by regulation or is used in a way that does not comply with the specific regulation(s) authorizing its use, it is considered unsafe under the law. Such misuse of color additives causes a cosmetic to be adulterated.*
>
> *DHA is listed in the regulations as a color additive for use in imparting color to the human body. However, its use in cosmetics - including sunless "tanning" products - is restricted to external application (21 CFR 73.2150). According to the CFR, "externally applied" cosmetics are those "applied only to external parts of the body and not to the lips or any body surface covered by mucous membrane" (21 CFR 70.3v).*
>
> *In addition, no color additive may be used in cosmetics intended for use in the area of the eye* unless the color additive is permitted specifically for such use (21 CFR 70.5a).*

**FDA's ADVICE.** When exposed to an air brush mist in the tanning booth, it is difficult to avoid exposure to DHA in a manner for which it is not approved such as in the area of the eyes, lips, or mucous membrane, or even internally by inhalation. Consequently, FDA advises you ask the following questions when considering commercial facilities where DHA is applied by spraying or misting:

- *Are consumers protected from exposure in the entire area of the eyes, in addition to the eyes themselves?*
- *Are consumers protected from exposure on the lips and all parts of the body covered by mucous membrane?*
- *Are consumers protected from internal exposure caused by inhaling or ingesting the product?*

*If the answer to any of these questions is "no," the consumer is not protected from the unsafe (and thus illegal) use of this color additive.*

**THEATRICAL AIR BRUSH MAKE UP.** The FDA rules which restrict various cosmetic ingredients to specific body areas or external use applies to all cosmetic ingredients including those used in the air brush cosmetics and theatrical makeups. Ingredients approved for use on the cheek may not be approved for use around the eye or on the lips and mucous membranes. And most importantly, cosmetic ingredients are not approved for inhalation.

**COMMON COSMETIC INGREDIENTS.** Makeup is likely to contain:

* **MINERALS** such as talc, kaolin (and other clays), chalk, zinc oxide, titanium dioxide, mica, and bismuth oxychloride. These minerals are harmless by skin contact or by ingestion. They are only hazardous if they are inhaled.
* **DYES and PIGMENTS** such as organic pigments (e.g., FD&C Yellow #5 or D&C Red #7) or inorganic pigments containing chromium, cobalt and other toxic metals.
* **PRESERVATIVES** such as thimerosal (mercury preservative), methyl-paraben, and other biocides in small amounts to extend shelf-life and keep microorganisms from multiplying in the cosmetics.

These ingredients are approved for use on the skin, but not for inhalation. ACTS suggests that performers ask air brush makeup artists the same questions posed by FDA for tanning booths. Further ACTS believes that these products are being used illegally and pose a long term hazard to both performers and makeup artists.

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* The "area of the eye" is "the area enclosed within the circumference of the supra-orbital ridge, including the eyebrow, the skin below the eyebrow, the eyelids and the eyelashes, and conjunctival sac of the eye, the eyeball, and the soft areolar tissue that lies within the perimeter of the infra-orbital ridge." (21 CFR 70.3s)

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## LEAD IN TELEPHONE CORDS STUDIED

"Quantification of Lead in Telephone Cord: Use of X-Ray Photoelectron Spectroscopy Technique," Wathiq N. Abdul-Razzaq, Unchul Lee, Syed S. Islam, and Alan M. Ducatman, *Applied Occupational and Environmental Hygiene*, 18: 533-557, 3002

Lead compounds still are commonly used as plasticizers for vinyl plastics including the plastics used to encase telephone wires. These lead compounds are known to leach to the surface of the plastic and are a potential hazard to young children.

A study reported in *Applied Occupational and Environmental Hygiene* looked at the PVC plastic covers of telephone cords that connect the handheld part of the phone to the base. The study showed that X-ray Photoelectron Spectroscopic analysis could rapidly measure surface lead levels both on the outside and the inside of the wire. Significant surface amounts of lead were found on both the inner and outer surface of a cord that was about 12 years old. Four samples of new phone cords did not show surface lead. Researchers noted:

> *... We have not assessed lead contents in all newer telephone cord covers, including the many brands imported from other counties [sic countries]. To protect vulnerable populations, we recommend conducting a wider survey of telephone cord covers to reduce potential causes of lead poisoning in children....*

## EPA FINDS MOLDS CAUSE ALLERGIES IN MICE

*BNA-OSHR*, 33(30), p. 710, 7/24/03

Respiratory exposure to two types of mold caused significant allergic responses in female mice similar to those observed in human allergic lung disease, a scientist with the Environmental Protection Agency said July 21.

According to Marsha Ware, an immunologist with EPA's National Health and Environmental Effects Research Laboratory in Research Triangle Park, NC, the study she and other scientists conducted suggests that the molds--*metarhizium anisopliea* and *stachybotrys chartarum*--could have a role in the induction of asthma. The effect in mice exposed to a third mold the researcher studied--*penicillium chrysogenum*--was less significant, she said.

Ward presented her research results at an indoor air quality symposium in Durham, NC. She noted that previous studies have associated molds with the exacerbation of asthma, but this study indicates they may contribute to the induction of allergic asthma.

During the course of the meeting, EPA scientists discussed the recent trend to minimize the health effects of molds. Referring to this controversy, Marc Menetrez, director of research on bio-contamination with EPA's National Risk Management Laboratory in Research Triangle Park, NC, said "we don't trivialize the issue and we prefer that others do not."

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## FIESTAWARE PLANT ASSESSED $201,000 IN OSHA FINES

*BNA-OSHR*, 33(30), pp. 702-703, 7/24/03

Homer Laughlin China Co., Newell, WV, manufacturers of Fiestaware, a brightly colored dinnerware, faces $201,000 in penalties for 35 alleged workplace safety violations an OSHA official said on July 18, 2003.

Homer Laughlin failed to provide guarding on a machine that makes chinaware where two employees received serious injuries, said Stanley H. Elliot, area director of the Charleston, WV, OSHA office. The company faces two willful violations--one for machine guarding and another for electrical deficiencies. The company also faces 31 alleged serious citations carrying $76,000 in penalties, and two other-than-serious violations, which carry no penalty. The 31 serious violations are for electrical and machine guarding hazards; exposed holes in the floor; improper storage of oxygen and acetylene cylinders; lack of fall protection, eye protection, and eye wash facilities; lockout/tagout deficiencies; and confined space entry and evaluation.

The inspection was initiated by OSHA in December 2002 as part of the agency's site specific targeting plan for industries with high injury and illness rates. A complaint was also investigated simultaneously, OSHA said.

COMMENT. Until 1972, Fiestaware used radioactive uranium glazes on some of its ware with a hiatus from 1943-1959 when uranium was diverted to government use. Colors that may contain uranium include orange, yellow, beige, ivory, and blue-green. (*ACTS FACTS*, 3/99).

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## GRINDWHEEL ACCIDENT KILLS: FOUNDRY FINED $156,500

*BNA-OSHR*, 33(28), p. 655-656, 7/10/03

OSHA announced on July 7 that it has fined a Wisconsin foundry $156,500 in proposed penalties following the death of a worker on January 7, 2003. The accident happened when an abrasive wheel on a stand grinder exploded, propelling fragments that struck the grinder operator. The wheel guard was unable to contain the fragments from the abrasive wheel. Safety glasses and face shields cannot withstand the force of these fragments.

Grede Foundries Inc., Milwaukee Steel Foundry, was cited with two willful violations related to the accident, each carrying a fine of $70,000, plus six serious violations.

COMMENT. Another grindwheel accident was reported in *ACTS FACTS*, October, 1999, in which a worker was partially blinded. I worry about these accidents because I see unsafe grind wheels in almost every school, studio, and shop I inspect.

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## OSHA TAKES THE GLYCOL ETHER RULE OFF AGENDA

68 *FR* 30583, May 27, 2003

In 1993, the Occupational Safety and Health Administration (OSHA) proposed lowering the permissible exposure limits (PELs) for the solvents called primarily glycol ethers: 2-methoxyethanol, 2-ethoxyethanol and their acetates. These solvents were common ingredients in water-based cleaners, paints and inks until they were found to cause severe adverse reproductive effects in animals and humans including atrophy of the testicles and birth defects.

Then in 2002, OSHA again called for comments to determine if a new regulation was needed. OSHA received only 5 comments in response. All the commenters agreed on the chemicals' basic toxicity, but they differed on the need for an improved standard. Now after almost 10 years, the whole proposal has been dropped.

COMMENT: I still see these glycol ethers in a few art and theater materials. They are highly toxic to inhale, absorb through the skin, and penetrate many chemical gloves without changing the gloves' appearance. Read your MSDSs and avoid these solvents.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources.
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## RHODE ISLAND NIGHTCLUB OWNERS FINED $82,000

*BNA-OSHR*, 33(34), pp. 797-798, 8/21/03

The Occupational Safety and Health Administration (OSHA) announced August 20 that it fined the owners of The Station nightclub in West Warwick, RI, $82,000 following an investigation into a February fire which killed 100 people including seven employees.

OSHA cited the owners for seven alleged violations including a willful violation, carrying a $70,000 fine, for installing a door that did not swing in the direction of travel. Six additional alleged serious violations carrying $15,200 in proposed penalties were for:

- an interior exit door and surrounding walls covered with highly flammable foam;
- an exit door that was not distinguishable from the walls because it was covered in highly flammable foam;
- failing to have a written emergency action plan;
- failing to have a written fire plan;
- failing to designate and train employees to assist in a safe and orderly evacuation of other employees; and
- failing to review its fire hazard plan with employees.

The February 20th fire was ignited during a pyrotechnic display staged by the rock band, Great White. OSHA also fined Great White's corporate entity, Jack Russell Touring Inc., $7,000 for an alleged serious violation under the general duty clause, section 5(a)(1) for failing to furnish employment and a place of employment free from recognized hazards.

According to OSHA, Jack Russell exposed its Great White workers to fire hazards and fire byproducts. The agency found that the touring company failed to store unused pyrotechnic materials at least 50 feet from unprotected heat sources; failed to develop a plan for the use of pyrotechnics; had not conducted a rehearsal of the pyrotechnics; failed to have all pyrotechnic operators licensed or approved as required; and failed to have personnel with a working knowledge of fire extinguishers present while the pyrotechnics were being handled and used.

COMMENT. ACTS hopes that other touring companies using pyrotechnics will consider all the applicable OSHA rules and comply.

## NIOSH RELEASES REPORTS ON MOLD AND POOR AIR QUALITY

BNA-OSHR, 33(30), p. 708, 7/24/03

In June, the National Institutes for Occupational Safety and Health (NIOSH) published four health hazard evaluation (HHE) reports of workplaces affected by mold and poor indoor air quality:

1. At Benefis Healthcare in Great Falls, MT, culturable fungi, cockroach allergens, temperature problems, and carbon dioxide were found to be associated with a 17.1% diagnosed asthma prevalence as opposed to a prevalence of 11.4 statewide (HHE No. 2001-0255-2868).

2. At Nassau Community College in Garden City, NY, it was found that working in a building with visible mold significantly increased a worker's odds of having wheezing, chest tightness, shortness of breath, and sinus symptoms (HHE No. 200-0168-2871).

3. At the Somerset County Assistance Office in Somerset PA it was shown that the 55 species of culturable fungi identified in indoor air samples were related to symptoms. NIOSH reported 92 % of their questionnaire respondents reported nasal symptoms, 52% reported shortness of breath, 40 % reported chest tightness, and 38 % reported wheezing (HHE No. 2001-0067-2896).

4. In the Fayette County Courthouse in Uniontown PA, it was shown that inadequate ventilation and mold were associated with employees complaints (HHE No. 2002-0343-2902).

**NIOSH RECOMMENDATIONS.** To address poor indoor air quality and mold found at all four sites, NIOSH recommended that the workplaces:

- promptly fix water leaks and replace material that has been wet for a day or longer;
- provide adequate fresh air to all work areas;
- promptly remove visible mold;
- conduct medical surveillance for work-related respiratory problems; and
- communicate to workers what is being done to improve air quality.

NIOSH also recommended that workers promptly notify maintenance personnel of water leaks, understand work-related respiratory problems, and consult a doctor about persistent work-related symptoms.

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## NEW JERSEY FACT SHEETS UPDATE

Our March issue carried a story on use of the New Jersey Health Department's Hazardous Substances Fact Sheets (HSFSs) as a model for better material safety data sheets. In that article I said that individual HSFSs can be printed out or downloaded from their website, but that there was a charge for downloading the whole set or getting them in paper copy. There is indeed a charge for ordering more than 10 HSFSs in paper copy, but you can download as many as you want from:

http://www.state.nj.us/health/eoh/rtkweb/

Whenever you see a chemical name that is not familiar to you, check this website to see if there is an HSFS on it.

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**OTHER WIRES.** The researchers also suggest studying computer wires and other forms of cable. ACTS agrees. The first time we heard of this problem was in 1993 when lead poisoning was documented by the Centers for Disease Control in a telephone installer who had the habit of stripping the thin colored cable wires with his teeth and chewing on them (*ACTS FACTS*, Aug 1993). Samples of the white, blue, and yellow plastic wire insulation were analyzed by traditional means. The clear plastic outer coating on the wires contained no lead, but the colored coatings beneath contained 10,000 to 39,000 micrograms of lead per gram.

Brightly colored telephone cable wires are often used in children's art projects in elementary schools and daycare facilities. Teachers must cease using these plastic coated wires with children until there is a way to select only those wires that are lead-free.

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## WTC DISASTER DOCUMENT RELEASED

Cate Jenkins, Ph.D., Environmental Scientist at EPA has produced an incredibly detailed 432 page document commenting on the EPA Office of Inspector General's 1/27/03 interim report titled: "EPA's Response to the World Trade Center Towers Collapse." The secondary title is "A Documentary Basis for Litigation." It accomplishes this purpose by providing the entire story of EPA's failure to properly address the hazards of the dust and direct the clean up. This story is told in the context of actions taken by local agencies, the press and citizens. Anyone interested in the whole story in a document that reads like a novel can download a copy from: http://www.nyenvirolaw.org or http://www.nycosh.org

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## VERMICULITE INSULATION RECOMMENDATIONS

http://www.wa.gov/newsroom/headline2_052103.htm & Andrew Schneider, St. Louis Post-Dispatch, May 18, 2003

On May 21, a national consumer awareness campaign was launched to provide homeowners information about vermiculite attic insulation, often sold as Zonolite®, which may contain asbestos. The campaign is coordinated by the Environmental Protection Agency (EPA) and the Agency for Toxic Substances and Disease Registry (ATSDR).

**VERMICULITE** is a granular product which is absorbent and resistant to heat. It has been used in commerce for almost 80 years. Much of the vermiculite used to make attic insulation originated from a mine in Libby, Montana, where natural veins of tremolite asbestos were also present. An ASTDR study[1] showed that asbestos-related health effects in Libby are far worse than anywhere else in the nation. W.R. Grace, which owned and operated the mine from 1963 until its closure in 1990, has filed for Chapter 11 bankruptcy protection against litigation from the thousands of claims from victims of cancer and other asbestos diseases.

Even people living near plants where the vermiculite was "popped" (heated and made fluffy) have been found at risk. *ACTS FACTS* reported on the death from mesothelioma (a cancer caused by asbestos) of artist Caroline Ellingson who was raised near one of these plants in Minneapolis (*ACTS FACTS*, August 2002).

EPA and other agencies knew in the late 1970s that W.R. Grace vermiculite contained asbestos in hazardous amounts. In 1979, EPA and the Consumer Product Safety Commission jointly issued a list of consumer products containing asbestos which included vermiculite used as potting soil.[2] Yet no one stopped W.R. Grace from selling bags of vermiculite labeled "Contains no harmful chemicals" and "Masks, gloves or special (safety) equipment" not needed.

**RECOMMENDATIONS** made by EPA and ASTDR for homeowners who have vermiculite insulation in their attics are:

- *Homeowners should not disturb vermiculite attic insulation. Any disturbance has the potential to release asbestos fibers into the air.*

- *If homeowners must go into attic space with vermiculite insulation, they should make every effort to limit the number, duration, and activity level of those trips. Boxes or other items should not be stored in attics if retrieving them will disturb the insulation.*

- *Children should not be allowed to play in an attic with open areas of vermiculite insulation.*

- *Homeowners should never attempt to remove the vermiculite insulation. If removal is necessary, hire professionals training and certified to safely remove the material.*

- *If you plan to remodel or conduct renovations that would disturb the vermiculite, hire professionals trained and certified to handle asbestos safely to removed the materials.*

ACTS finds these recommendations completely unacceptable. Clearly, the presence of vermiculite insulation renders a portion of a person's house unusable and the homeowner should be compensated and the problem fixed at W.R. Grace's or the government's expense.

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1. ATSDR's Year 2000 "Medical Testing of Individuals Exposed to Asbestiform Minerals Associated with Vermiculite in Libby, Mont.," a report released Aug 23, 2001.

2. 44 *FR* 60055-60068, October 17, 1979.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources. Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell, Robert Pear, Brian Lee; Staff: John Fairlie, OES.


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## ORCHESTRA PIT ACCIDENT SUIT SETTLES FOR MILLIONS

Press Release: 8/25/03, Finch McCranie, LLP, Atlanta

The Atlanta City Council paid $1.256 million, the City's largest-ever settlement in a personal injury lawsuit, to the family of J.J. Caldwell. J.J. was a 9 year-old boy who died as the result of an accident at the Boisfeuillet Jones Atlanta Civic Center. An additional $2 million was paid by three other defendants: Smart-Tech Management, Inc., Promoter Kasper Entertainment Group, and a security firm. A second security firm operating at the Center made an additional settlement with the Caldwells that is confidential.

**THE STORY.** In late 2000, J.J. Caldwell, then age 7, attended his first play at the Atlanta Civic Center. Following the performance, he and his grandparents followed other audience members toward the stage and into the open orchestra pit. They did not realize that only a black cloth hung from the lip of the stage to the floor of the pit to hide the pit's deep elevator shaft. While watching the crew striking the set, J.J. fell through the curtain into the shaft, over a dozen feet below.

J.J. lingered in a coma for more than two years before dying. His injuries quickly exhausted the family's insurance, and his medical bills totaled over $1.5 million. J.J.'s father lost his job due to the time and effort required by both parents to care for their son at home and the family was forced to move from their home.

**LEGAL STRATEGY.** Michael A. Sullivan and Richard W. Hendrix, partners in the lawfirm of Finch McCranie, LLP, investigated the accident. They discovered that two other children had been injured falling through this same gap a few years prior to J.J.'s accident and that Civic Center employees had created a safety fence which fell into disrepair and was not attached when J.J. fell. By failing to address this hazard, the "auditorium fell far below safety standards required by OSHA and the performing arts industry for protection of performers and the public," Hendrix said.

However, the theater was owned by the City of Atlanta who claimed that sovereign immunity protected them from lawsuits. But since the City's own theater workers, the security services, the management company, and the promotor were all aware of this safety hazard and took no preventive actions, they named them all as defendants.

**LESSONS.** This suit demonstrates that 1) publicly owned theaters should not rely on immunity from lawsuits; and 2) all workers including theater employees, security workers, management companies and promoters must take steps to protect the public from known safety hazards or find themselves liable if an accident occurs.

**PERSONAL COMMENT.** The story above is based on the press release from Finch McCranie. However, I was an expert witness in this case and I would like to tell the story from my perspective.

When I was first contacted about this case, it was assumed that the City of Atlanta either could not be sued or, if it was possible, there would be a $1 million cap on any award--less than J.J.'s medical bills. The family had no money, so the cost of fighting this possibly hopeless case was assumed by Finch McCranie, LLP. The ability to take such cases on contingency is an example of the very best of the US legal system. And these lawyers ultimately got enough money from the various defendants to put the grieving Caldwell family back on their financial feet.

The promoters and management company felt it was unfair to sue them. They didn't think safety was their responsibility. But safety is everyone's responsibility. We must all speak up when we become aware of serious hazards, or our failure to do so can be considered negligence. ACTS congratulates all the folks at Finch McCranie.

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## CALIFORNIA BANS TWO FLAME RETARDANT CHEMICALS

AB 302 Assembly Bill, *C&EN*, 8/4/03 p. 21

California will ban two brominated flame retardants, chemicals the European Union also has prohibited. In late July, the California Senate and Assembly passed the bill (A.B. 302) and in August, Governor Grey Davis signed it. The bill bans products containing more than 0.1% pentabromodiphenyl ether or octabromodiphenyl ether. These chemicals are in a class called polybrominated diphenyl ether (PBDE) and the ban on all uses of these two PBDEs in amounts over 0.1% will take effect in 2008.

These chemicals are currently used in a multitude of products, including plastic housing of electronics and computers, circuit boards, and the foam and textiles used in furniture. Albemarle Corp and Great Lakes Chemical are the U.S. producers of the two chemicals. The attempts to ban these chemicals in other parts of the world have resulted in the development of a number of safer substitutes for the PBDEs.

The California bill cited concerns about the amount of polybrominated diphenyl ether (PBDEs) increasing in breast milk, noting that women in California were found to have more PBDEs in their bodies than any other group studied. Some PBDEs also can disrupt thyroid function and are linked to neurological damage in animals.

Winston H. Hickox, secretary of the California Environmental Protection Agency, supports the measure and says the two compounds should be banned across the U.S.

**COMMENT.** Theatrical scene, costume and prop makers work with fire retarded fabrics and apply fire retardants to materials. ACTS thinks theatrical manufacturers should identify fabrics and products that contain the PDBEs on labels and data sheets.

The PDBEs also was in smoke from the burning World Trade Centers and should be monitored in residents and workers in the NYC area.

==========

## GLASGOW UNIVERSITY ART STUDENTS DIE YOUNG

*The Week*, Vol. 3; Issue 121, Sept 5, 2003 (www.theweekmagazine.com)

A survey of more than 8,000 men who attended Glasgow University between 1948 and 1968 showed that art students are 60 percent more likely to die prematurely than science students. Researchers at Queen's University Belfast tracked the subjects through June 2000. Engineering students fared the best. Only 8.92% of them perished during the study, compared with 9.25% of the scientists, 9.89% of doctors, 12.88% of lawyers, and 14.81% of arts students.

Study leader, Peter McCarron, surmised that art students probably die younger because they come from poorer backgrounds and have less future earning power. He cites poverty, stress and malnourishment as possible factors. The art students also had twice the rate of deaths from respiratory disease which he assumes without any proof is because art students are more likely to smoke.

**COMMENT.** ACTS thinks it is more likely that the toxic materials artists use could be a predominant factor in their early demise and high rates of respiratory problems. One good bit of news, however. The male artists must be happy because the study found that art students were the least likely to commit suicide.

==========

## A+ ENVIRONMENTAL SERVICES CEO GOES TO PRISON

*BNA-OSHR*, 33(36), p. 865, 9/11/03

The head of an asbestos-removal company has been sentenced to 14 years in federal prison for allegedly running a "rip and skip" operation that falsified reports and exposed workers to the hazardous material during abatement jobs (*United States v. Thorn*, N.D.N.Y, No. 00-CR-88, 9/2/03). In addition to the long prison sentence, Thorn was also ordered to pay a forfeiture of $939,079 as well as $299,593 in restitution.

Contractor Joseph P. Thorn, head of A+ Environmental, employed some 700 workers in upstate New York, and worked on more than 1,100 separate facilities including commercial buildings, nursing homes, residences, and elementary schools. Thorn allegedly had his workers quickly strip asbestos from pipes without any containment system. In some cases, Thorn failed to supply workers with required protective gear during such operations, according to prosecutors, and generally failed to provide decontamination equipment. Workers were exposed to "snowstorms" of asbestos, which has been linked to various forms of cancer and to asbestosis.

**COMMENT.** Beware. This is a common problem with abatement firms.

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## FIREWORKS EXECS PLEAD NOT GUILTY TO COVER UP AFTER PLANT EXPLOSIONS

*BNA-OSHR*, 33(34), p. 797, 8/21/03

Three former executives of a St. Louis-area fireworks manufacturer pleaded not guilty August 18 to charges that they tried to block federal investigations into explosions at a fireworks plant which claimed two lives and injured at least three others, and that they violated federal workplace safety regulations (*United States v. Walker*, E.D. Mo.,03-CR-481-ALL, pleas entered 8/18/03).

The executives are Ronald Walker, former president of Pyro Products Inc., and of a subsidiary called Next F/M Inc.; Kim Walker, chief financial officer and safety director of Pyro, and vice president and secretary of Next F/X; and Russell R. Nickel, vice president and director of Next F/X.

According to prosecutors, explosions occurred at the facility in November 1999, September 2000, and June 2001, killing two employees and injuring five others. In addition, a fourth explosion that prosecutors say was never reported occurred in November 1998, injuring an undisclosed number of employees.

After the explosion in November 1999, Ronald Walker had Pyro employees help him remove high explosives and finished products from work buildings and the press room before federal, state, or local inspectors could begin their investigation, the indictment says. Later, Kim Walker and Ronald Walker created documents which falsely represented the daily inventory of explosive magazines, and created false documents in response to requests by inspectors.

After the explosions in September 2000 and June 2001, the Walkers made similar efforts to cover up violations. In the moments after the June 2001 explosion, Ronald Walker personally dismantled the unauthorized laboratory and hid its contents, even before an emergency 911 call was placed, the indictment said. Also after the June 2001 explosion, Kim Walker ordered an employee to hide fireworks waste from ATF inspectors by loading it onto a pickup truck and driving the truck around the facility until the inspectors left the site, the indictment said.

Ronald Walker was charged in five counts of the seven-count indictment, and faces a maximum possible sentence of 21 years in prison and a fine of up to $1.1 million. Kim Walker was charged in six counts, and faces a maximum possible sentence of 26 years in prison and a fine of up to $1.35 million. Nickel was charged in three counts, and faces a maximum possible sentence of 15 years in prison and a fine of up to $750,000. The corporations were also indicted: Next F/X, was charged in two counts, faces a maximum fine of up to $1 million; and Pyro, was charged in one count, faces a maximum fine of up to $500,000.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources.
Editor: Monona Rossol; Research: Tobi Zausner, Nina Yahr, Diana Bryan, Sharon Campbell, Robert Pear, Brian Lee; Staff: John Fairlie, OES.


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THE MONTHLY NEWSLETTER FROM
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November 2003 Vol. 17, No. 11

## TORONTO HOSPITAL TRANSMISSION OF SARS DUE TO RESPIRATOR FAILURES

*MMWR*, May 16, 2003, 52(19), pp. 433-436

An investigation of the cases of severe acute respiratory syndrome (SARS) in the Toronto area last April shows transmission of the disease to nine health care workers was apparently due to failure of hospital respiratory equipment and safety programs. The personal protective equipment worn by the health care workers (HCWs) was ineffective. They wore gowns, gloves, duckbill masks, and goggles. Some also wore overlying face shields.

The problem was that the hospital had no formal respiratory protection program and the HCWs had not been fit tested. Moreover, the primary nurse for the patient had a small beard and reported that his mask did not fit well. He wore both a duckbill mask and a surgical mask with face shield, but he sometimes could feel air entering around the sides of his mask.

The equipment and procedures followed by the HCWs are those recommended by Health Canada, but they differ from US Centers for Disease Control and Prevention (CDC) guidelines. These guidelines specify use of respirators approved by the National Institute for Occupational Safety and Health (NIOSH) rated at an N95* level of protection or greater. Health Canada only recommends use of "N95 equivalent" respirators which are not necessarily NIOSH-approved.

Most importantly, professional fit testing was not recommended by Canadian health authorities at the time of the SARS outbreak. Now it is. Fit testing has been mandated in the US since 1972.

**COMMENT.** I hope the knowledge gained during this SARS outbreak will spill over into general workplaces in Canada. I am frustrated when I train art workers in Canada because schools and employers usually are not required to institute written respirator programs, and to provide medical certification, professional fit testing, and formal training for workers who wear respirators. It is my experience that respirators cannot be depended upon for protection unless all of these conditions are met. And of course, beards cannot be allowed when air-purifying respirators are used.

ACTS thinks Canadian workers should follow the Canadian Standards Association's Z94.4-02 guidelines which has all these provisions. And workers' unions should advocate putting this standard into law.

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N95 masks capture 95% of particulates that are 0.3 microns in diameter or larger. Also note that this kind of mask is a continuous filter "respirator."

## VANDALISM CONTAMINATES SCHOOL WITH MERCURY

www.washingtonpost.com/wp-dyn/articles/A36898-2003Oct2.html,
/3Oct5/Oct5/Oct6/Oct8/Oct9/Oct9/Oct14/Oct17/Oct23/Oct27/Oct28

On October 2, a student at Ballou Senior High School in Southeast Washington, DC, stole about 8 ounces of liquid mercury from an unlocked chemistry lab and gave it to other students who flung it around the school to see it splatter on walls and threw mercury at each other. More than 20 students may be involved and the 16-year-old who took the mercury has been arrested and charged with theft.

As a result, the school was closed. Officials expect the $1 million professional cleaning to be finished and the school reopened early in November. The students also contaminated eleven of their homes resulting in the evacuation of sixty nine people from 17 families who are now staying in hotels at city expense. They were allowed to take nothing with them, not even their cars.

So far, elevated levels of mercury have been found in the blood of three children and seven adults, but not in amounts that are immediately life threatening. However, this data is confused by the fact that some of these individuals are of Latino and Caribbean origin and are thought to be practicing religions such as Santeria and voodoo which use liquid mercury in folk remedies and rites.

**COMMENT.** Leaving mercury in an unsecured location is negligent. Mercury also is not needed in school programs since science can be taught effectively without it. Many high schools and colleges use only mercury-free experiments, thermometers and equipment.

==========

## TEACHERS TO BE PAID FOR MOLD-RELATED EXPENSES

*BNA-OSHR*, 33(39), pp. 957-958, 10/2/03

In response to a grievance alleging that a suburban Chicago school district failed to honor the workplace safety provisions in its contracts with two unions, an arbitrator determined that teachers and support workers must be reimbursed for any out-of-pocket expenses incurred due to a significant mold infestation two years ago. In addition, the school district must restore all sick days used by employees for their mold-related illnesses. The expenses and sick day restoration requires a doctor's verification.

In an opinion dated Sept 15, the arbitrator found the St. Charles Community Unit School District 303 responsible for the mold related health expenses of approximately 1,300 teachers, secretaries, and support personnel.

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## BOOK ON SOAPMAKING RECALLED

CPSC Press Release # 04-010, October 15, 2003

The US Consumer Product Safety Commission announced a voluntary recall of a paperback book, *Candle and Soap Making for Dummies*, published by John Wiley & Sons, Inc., Hoboken, NJ. The book tells readers to mix water and sodium hydroxide in the wrong order. Following these directions can cause the mixture to bubble over posing a burn hazard. Consumers can return the books for a full refund. Contact the publisher at www.wiley.com or 877/762-2974.

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## OSHA CITES ELEPHANT TRAINING FIRM UNDER TB REGS

*BNA-OSHR*, 33(39), pp. 956-957, 10/2/03

In the first enforcement action of its kind, the Occupational Safety and Health Administration (OSHA) issued citations against an animal training company that failed to protect its employees from contracting tuberculosis from several infected elephants.

An investigation of Hawthorn Corporation in Richmond, Illinois, was initiated after a number of employees tested positive for tuberculosis. On September 19, Hawthorn was cited with a range of serious and willful violations totaling $37,100. Hawthorn employs approximately 20 people and trains and cares for exotic animals including elephants and tigers. The animals are provided to festivals and amusement parks for entertainment purposes.

In 1997, an OSHA inspection discovered similar health problems at Hawthorn. At that time the agency did not issue citations because little was known about the ability of elephants to transmit TB to humans. Instead, the agency presented Hawthorne with a letter recommending a series of safety precautions including the training of employees and the use of protective clothing and equipment. Hawthorn failed to institute these precautions and was cited for failing to provide employees with appropriate personal protective equipment, failing to maintain a medical monitoring program, and failing to provide signage to inform people of a health hazard.

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## CHILD WITH BIRTH DEFECTS ALLOWED TO SUE IBM FOR FRAUD

*BNA-OSHR*, 33(39), p. 963, 10/2/03

A New York appellate court allowed an infant plaintiff who was born with serious birth defects to add fraud claims to a personal injury lawsuit filed against her mother's employer, IBM Corp., on the basis that the company fraudulently misrepresented the work environment as safe for pregnant women (*Curtis v. IBM Corp.*, N.Y. App. Div., Nos. 2001-07927 & 2002-00471, 9/22/03). In a 3-2 split, the New York Supreme Court, Appellate Division, held that although the alleged misrepresentations were not made to the infant but to the infant's mother, the infant could maintain fraud claims against IBM because she was injured as a result of the false statements.

The infant's mother, Heather Curtis, was employed at IBM's semiconductor manufacturing plant in East Fishkill, N.Y. Heather Curtis contended that while she was pregnant, IBM repeatedly assured her that the workplace was safe for her unborn fetus. Candace Curtis subsequently was born with extremely serious birth defects. Heather Curtis sued IBM in her individual capacity and on Candace Curtis's behalf, alleging that the child's birth defects were due to exposure to chemicals in the workplace.

**COMMENT.** The chemicals in this case are the primary glycol ethers which are known to cause birth defects in animals. Closely related glycol ethers are also used in many water-based paints, inks, and cleaning products. Until these chemicals are fully tested for reproductive effects, ACTS thinks pregnant women should not be exposed to them. An example of such a chemical is 2-butoxyethanol.

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# SIGN MAKING COMPANY EXPLOSION DUE TO LAX LAWS

*BNA-OSHR*, 33(39), p. 963, 10/2/03

A federal investigation into an April 2002 explosion at a New York City sign manufacturing facility uncovered weaknesses in the city's fire code and other regulations, the US Chemical Safety and Hazard Investigation Board (CSHIB) said September 30 in its final report. A stronger fire code and better inspections might have prevented the building explosion, the CSHIB said. The blast and partial building collapse injured 36 people including workers, bystanders, and firefighters.

The direct cause of the explosion at Kaltech Industries was the mixing of two incompatible waste chemicals--lacquer thinner and nitric acid. The indirect causes identified by the CSHIB were:

* outdated chemical safety provisions in the NYC fire code which has not had a major revision since it was adopted in 1918;

* No hazardous materials plan under which chemicals could be identified, labeled, and managed;

* No separation of incompatible materials;

* No training of workers in their own languages;

* No material safety data sheets on file at the site; and

* Failure of OSHA and fire inspectors to detect unsafe practices.

The board also recommended that buildings housing businesses that use hazardous chemicals be required to develop a building-wide safety plan to protect other tenants and the public.

CSHIB chairman Carolyn Merritt said that Kaltech "operated for many years, seemingly oblivious to some of the most basic safety rules and worker rights." Kaltech denied causing the explosion and said they did not use nitric acid. Tests, however, confirmed the presence of nitric acid in a container that workers said was the last to be used before the explosion. There were no records of Kaltech receiving or using nitric acid. It is thought that the acid was left over from the inventory of a previous owner 10 years earlier.

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*ACTS FACTS* sources: the *Federal Register* (*FR*), the *Bureau of National Affairs Occupational Safety & Health Reporter* (*BNA-OSHR*), the *Mortality and Morbidity Weekly Report* (*MMWR*), and many technical, health, art, and theater publications. Call for information about sources.
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December 2003 Vol. 17, No. 12

## DISNEYLAND SPECIAL EFFECTS WORKER KILLED IN FALL

*BNA-OSHR*, 33(42), p. 1027, 10/23/03

Disneyland Resort in Anaheim, California, was issued two safety citations and fined $18,350 after an April accident in which a worker died after falling 42 feet inside a theater at the amusement park, the California Division of Occupational Safety and Health (CalOSHA) announced, October 15.

The 35-year-old Disneyland employee was severely injured on April, 22, when he fell while conducting a daily inspection of a "flying magic carpet" special effect used in a show within the theme park's California Adventure area. The worker died in the hospital about four weeks after the incident, according to CalOSHA.

Disneyland was cited for a serious violation with a proposed penalty of $18,000 for not providing a safe platform (catwalk) for inspections of the theater's gantry tracks and an additional $350 for using a lanyard that was not labeled to indicate it met any ANSI standard. Disneyland is expected to contest the citation.

## CHEMICALS IN CLEANERS AND CHROMIUM-CONTAINING CEMENTS BANNED IN EUROPE

*BNA-OSHR*, 33(48), p. 1125, 11/20/03

A European safety directive (EU Directive 2003/53/EC) issued by the European Parliament's Council of June 18, 2003 banned consumer use of two items commonly used in the US: nonylphenol-based detergents and cements containing chromium. Member states are asked to implement the directive by July 17, 2004, so that it will take effect by Jan 17, 2005. The German Cabinet approved the ban on November 5.

1. NONYLPHENOL AND NONYLPHENOL ETHOXYLATES are detergent ingredients. The European directive bans detergents based on these chemicals for sale or use in industrial and household cleaning agents, pesticides and many other products. The chemicals do not break down easily in the environment and are now found in lakes and streams. They are toxic to aquatic life and can be detected in many foods. A German government-funded study released in 2002 tested 60 different foodstuffs and concluded they all contained nonylphenols. The chemicals act like estrogen and people are consuming small amounts on a daily basis.

2. CEMENT CONTAINING CHROMIUM. The ban on chromium-bearing cement is intended to reduce the incidence of skin reactions caused by contact with the chromium in cement, which Germany's Environment Ministry called "the most common occupational illness in the

construction industry." Studies have demonstrated that use of chromium free cement leads to significant reduction in disabling allergic dermatitis, the ministry said in a statement.

Many cements, including the Portland Cement used in the US, contain small amounts of chromium which is a contaminant from the raw mineral ingredients in the product. It has long been known that the chromium contaminant is not only responsible for dermatitis, but for respiratory allergies in construction workers.

COMMENT. This ban should be of interest to many art conservators who used nonylphenol-based detergents for cleaning paintings and objects and to sculptors and crafts people who use commons cements.

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## SMALL BUSINESSES FEAR LOWER OSHA SILICA LEVEL

*BNA-OSHR*, 33(45), p. 1093, 11/13/03

A proposed regulation that substantially lowers the permissible exposure limit (PEL) for crystalline silica could put some smaller operations out of business, members of a small business review panel told the Occupational Safety and Health Administration (OSHA) November 10. Speaking during telephone conference calls, owners of small foundries, brick factories, mines, and other businesses told OSHA that one of the PELs it is considering--50 micrograms per cubic meter ($\mu g/m^3$) for an eight-hour time-weighted average--would have greatly impact them.

OSHA PELS. Crystalline silica has been on OSHA's regulatory agenda since 1997. Under the draft proposed standards, the agency plans to lower the PEL to either 50, 75, or 100 $\mu g/m^3$.

OSHA's current PEL for respirable crystalline silica is based on a complex formula and it is not protective enough. A 2002 hazard review by the National Institute for Occupational Safety and Health (NIOSH) found that, at the current OSHA PEL, the estimated risk of silicosis for a 45-year workplace exposure is 47 to 90 percent of those exposed.

OTHER STANDARDS. The American Conference of Governmental Industrial Hygienists already has a 50 $\mu g/m^3$ standard for all crystalline forms if silica and lists quartz silica as a suspected carcinogen. The International Agency for research in cancer, the National Toxicology Program, and NIOSH list all forms of crystalline silica as known human carcinogens.

OTHER PRECAUTIONS. The proposed OSHA rule also requires monitoring of airborne silica by a "competent person" (someone trained to do air testing), protective work clothing, and hygiene facilities. These measures, too, would be costly for employers.

COMMENT. This law would also impact schools and small art businesses that mix clay, sand blast, grind stone, etc. These high-silica activities could easily be replaced without damaging school art programs. Or schools can offer professional programs that properly protect the faculty and students with ventilation, respiratory protection, and OSHA training.

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## LEAD POISONING FROM A DEODORANT, CHALK, NECKLACE

http://www.washingtonpost.com/wp-dyn/articles/A17278-2003Nov8.html, Press Release # 04--32, CPSC, 11/13/03 & Press Release # 03-178, CPSC. 9/10/03

**1. DEODORANT.** A source of potential lead poisoning was found after Rhode Island health officials noticed that elevated levels of lead persisted in the blood of several children, even after lead abatement of their homes. The investigation lead to a deodorant.

The deodorant is a yellow or peach-colored powder called litargirio, which is used in the Dominican Republic and contains 80 percent lead. It has been turning up in some of East Coast specialty shops that cater to Latinos.

Moises Perez, executive director of Alianza Dominicana, a Dominican advocacy group, told *Newsday* that the product has long been used on the island and in the United States. "Some people use it for their feet; other people used it for open wounds. But none of us knew it was dangerous," he said.

**COMMENT.** This product reinforces the studies that show lead compounds can absorb through the skin.

**2. SIDEWALK CHALK.** Multicolored Sidewalk Chalk (26,000 packages) imported from China by Target Corporation were found to contain high levels of lead posing a risk of poisoning to young children. The sidewalk chalk was sold at Target Stores from March 2003 to July 2003 for about $1 per package. Consumers should return the multicolored sidewalk chalk to Target stores for a refund. Call Target Corporation at 800/440-0680 or go to www.target.com.

**COMMENT.** *ACTS FACTS* has repeatedly noted that Chinese products are recalled with more frequency than are products from any other country. And although the CPSC said that there were no incidents or injuries from the chalk, three people reported to ACTS that local Midwest radio stations reported that high lead levels were found in a child who had used the chalk. If readers know more about these reports, please contact us.

**3. NECKLACE.** L.M. Becker & Co., Inc., announced a recall of toy necklaces. The necklaces' pendant contains high levels of lead, posing a risk of poisoning to young children. The firm received a report of a child who swallowed the necklace's pendant, which reportedly resulted in high lead levels in her blood.

The necklaces consist of a 10-inch black cord with a 7/8-inch-diameter grey metal pendant. The metal pendant has assorted symbols on one side. Made in India, the necklaces were sold from vending machines in malls, discount department and grocery stores nationwide from March 2002 through April 2003 for about 50 cents.

**COMMENT.** Craftspeople should be reminded that lead solders, cast bronzes that contain lead, and other lead-containing alloys should not be used in jewelry. Lead test kits may be purchased at home improvement centers for testing such items.

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