

ACTS FACTS

THE MONTHLY NEWSLETTER FROM
ARTS, CRAFTS AND THEATER SAFETY (ACTS)

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PHONE 212/777-0062

January 2005

Vol. 19, No. 01

ACTS wishes you a healthy, happy 2004

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BRUCE WILLIS SUES STUDIO & SPECIAL EFFECTS MAN

SOURCE: Associated Press and United Press International release, 11/24/04 and published by many sources including USA Today, www.themovieblog.com, and ABC 4 News at 5, 5:30 & 10pm.

Bruce Willis filed a negligence lawsuit against Revolution Studios and their special effects foreman, Joe Pancake, for pyrotechnic injuries allegedly suffered during filming of the action picture "Tears of the Sun." The Superior Court suit claims the actor suffered substantial mental and physical injuries during the October 2002 movie set accident in which he was struck in the forehead by a "projectile" after the film's special effects personnel detonated pyrotechnic devices.

The explosive devices, known as squibs, were intended to "simulate the appearance of bullets striking the ground..." Squibs consist of an electric match (a unit in which small pyrotechnic charge is ignited when electric current heats a wire that goes through the charge) plus an additional larger pyrotechnic charge which is in turn detonated by the electric match. Squibs usually are contained in a thin metal tube and often have a hole or slit to direct the flame and debris produced upon their firing. Squibs are regulated much like blasting caps.

According to the October 20 lawsuit, Willis has endured "extreme mental, physical and emotional pain and suffering." The complaint doesn't seek specific monetary damages, but noted that Willis has incurred medical expenses and will incur additional medical expenses in the future. *Variety* said Willis has a bump on his forehead that has gotten larger over time rather than healing.

The complaint says that the defendants, Revolution Studios and special effects foreman Joe Pancake, "had a duty to Willis to ensure that the squibs were inspected, set up, placed and detonated in a safe manner, and to employ technicians who were trained and competent in their use." ACTS will be watching for the outcome of this suit.

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"GREEN" SOLVENT LINKED TO NERVE DAMAGE

BNA-OSHR, 34(42), 10/21/04, pp. 1054-1055

Marx Industries, Inc., has a plant in which workers use spray adhesives to glue together foam cushions. About 4 years ago, Marx Industries switched to a solvent that was environmentally friendly, that is, was an acceptable "green" substitute for ozone-depleting chemicals. But like many of these new solvents, there was very little testing of its effects on workers.

The solvent, 1-bromopropane (1-BP) caused nerve damage in six of the factory workers. They have leg or foot pain with sensory loss, weakness of both legs, gait problems, and memory problems. The workers, male and female Mexican immigrants, ranged in age from 16 to 46 years of age. They had worked with the solvent for about 3 years when an acute exposure occurred when a ventilation fan was turned off. At that point, several of the workers sought treatment at an emergency room.

The health effects have been long lasting. Nineteen months after the exposures ended, five of the workers still had difficulty walking and the two most severely affected workers had regained only minimal function according to Dr. Jennifer Majersik, a neurologist at the University of Utah. Majersik presented these findings at the October annual meeting of the American Neurological Association in Toronto.

1-BP is a highly volatile solvent that is easily breathed in and is likely to be absorbed by the skin. Protective equipment, good ventilation and/or respiratory protection is needed to use 1-BP safely. These precautions apparently were not used in the Utah factory. In June of 2003, Marx Industries was cited by OSHA for serious violations of the respiratory protection standard as well as for general requirements for machines, and mechanical power transmission. The company paid a \$4,625 penalty.

This seems a very low penalty since the company should have known about the solvent's hazards from similar incidents at another of their factories in Sawmills, North Carolina in 1999. At this time, NIOSH was contacted by the North Carolina Department of Labor after four workers were treated at a local hospital for neurologic symptoms associated with 1-BP. NIOSH stated that investigators

....found inadequate controls of 1-BP exposure and a potential health hazard among employees exposed to 1-BP. Most workers on the adhesive application line were exposed to 1-BP at concentrations above 25 ppm, and some were exposed to much higher concentrations. These results suggest that the spray-line exhaust fans in place at the Marx at the time were not adequately capturing the 1-BP vapors.....

COMMENT. Many new biodegradable, green, and environmentally friendly chemicals are more toxic to people than the chemicals they replace. The primary criteria by which they are selected include their effects on the ozone layer, soil, or water. Often the safety of the people who use them is not a primary concern and many green solvents have not been fully tested for their effects on humans.

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WELDING HAZARDS DISSERTATION PUBLISHED

BNA-OSHR, 33(48), pp. 1166-1167, 12/4/03

SOURCE: Digital Dissertations publication # ATT NQ88461, "Respiratory and systemic health of apprentice-welders: A prospective study," Ell-Zein, Mariam, PhD, McGill University (Canada), 2003, 179 pages, ISBN 0-612-88461-9.

Mariam Ell-Zein's McGill University dissertation was an epidemiological study carried out among apprentice welders at four vocational teaching institutions in the Montreal region. Its purposes were to: 1) assess the respiratory health of students before starting welding; 2) provide a reassessment of the respiratory health of these same students and an assessment of the incidence of metal fume fever (MFF) after being exposed to welding fumes; 3) estimate the association between MFF and the incidence of bronchial hyperresponsiveness and/or the presence of welding-related respiratory symptoms suggestive of occupational asthma); 4) determine whether allergies, sensitization to metals, smoking, and a personal history of asthma, are associated with increased level of bronchial hyperresponsiveness or welding-related respiratory symptoms suggestive of occupational asthma; and 5) determine the relationship between exposure to metal oxide fumes and the illnesses such as MFF, immunological sensitization to metals, welding-related respiratory symptoms suggestive of occupational asthma and bronchial hyperresponsiveness.

The study's pre-exposure assessment survey and two follow-up reassessments took place between September 1998 and June 2001. Tests carried out during these surveys included a respiratory symptom questionnaire as well as a systemic symptoms questionnaire, skin prick tests, spirometry, and methacholine challenge tests. Industrial hygiene sampling for welding fumes in the breathing zone of these students was also performed.

The results of this epidemiological study are presented in three interrelated manuscripts. The first describes methodology. The second manuscript determined the incidence of bronchial hyperresponsiveness and increases in airway obstruction. The third manuscript confirmed earlier findings of a strong association between metal fume fever and welding-related respiratory symptoms suggestive of occupational asthma. Go to <http://wwwlib.umi.com/dissertations/fullcit/NQ88461> for the full dissertation.

COMMENT. For years it was thought that metal fume fever was not associated with any residual ill effects. Now more and more studies are relating welding fume exposures to occupational respiratory illnesses. In addition, the small amount of manganese fume created by mild steel welding is now associated with neurological effects related to Parkinson's Disease.

Art welders are at even greater risk if they weld scrap and junk metals whose composition may be partially unknown. Highly toxic and cancer-causing metals such as cadmium, beryllium, chromium and nickel can be found in such metals. ACTS recommends that art welders and students be protected by either exhaust ventilation systems or OSHA-compliant respiratory protection programs.

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HANTAVIRUS KILLS GRAD STUDENT IN WEST VIRGINIA

MMWR, 35(46), 11/26/04, pp. 1086-1089, BNA-OSHR, 33(48), pp. 1166-1167,
12/4/03

In early July, a 32 year-old wildlife sciences graduate student from Virginia Tech (Virginia Polytechnic Institute and State University), visited an emergency room in Blacksburg with complaints of fever, cough and sore chest. The young man was admitted to the hospital with a fever of 102.7° F. Despite aggressive supportive care, the patient's status deteriorated and he died on the third day of his hospitalization. Tests confirmed the man had hantavirus, a viral disease transmitted by rodents throughout the US and for which there is no antiviral treatment. The disease has approximately a 37% fatality rate.

An investigation revealed that the young man and two other students had spent the previous month trapping small mammals for a college study project. They were handling mice daily. Reportedly, they had not consistently worn gloves while handling rodents and had not washed their hands after handling rodents or their excreta, even before eating. The students also reported frequent rodent bites on their bare hands.

COMMENT. The fact that this graduate student and two other students collected rodents in this unsanitary fashion reflects on their training at Virginia Tech. Hantavirus is only one of many diseases that could be transmitted by rodents and small mammals. Some rules they should have observed include:

* People who handle live wild animals should wear heavy gloves to protect themselves from bites. If bites cannot be prevented, they should be vaccinated for rabies.

* Before handling dead rodents, rodent feces, nests, or contacting contaminated surfaces, spray thoroughly with a diluted household bleach (one part bleach added to nine parts tap water).

* Wear disposable gloves when handling dead rodents or their excreta and wash hands immediately afterwards.

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February 2005

Vol. 19, No. 02

MAINE SCHOOLS STOCKPILED HAZARDOUS CHEMICALS

SOURCE: Meredith Goad, *Portland Press Herald*, October 18, 2004

A two-year program originally designed to get mercury out of Maine schools has uncovered stockpiles of potentially dangerous chemicals that could cost millions to clean up. So far, 6,500 pounds and more than 1,000 gallons of hazardous waste have been removed from science labs, maintenance departments, art and vocational classrooms, and nurses stations in 80 Maine Schools.

More than 700 pounds of mercury have been removed. The mercury was in old thermometers, wall barometers, blood pressure cuffs stored in the school nurse's office, and old bottles of mercury compounds. At one school, elemental mercury sat in an open paper cup in an unventilated room. In addition, there were elevated levels of mercury vapors in schools where, over the years, mercury waste was poured down sinks where it outgases from plumbing traps.

The clean-out program, run by the Maine Department of Environmental Protection (DEP), also found: old stores of chemicals that were so unstable they could explode if moved; 30-40 year-old pesticides; unsecured nitric and sulfuric acid bottles within 2 feet of a child's desk; and radioactive materials.

STOCKPILING. Ann Pistell of the DEP who coordinated the program until it ran out of funding last year, said some of the schools had stored enough chemicals to last for 100 years. The Department of Education says schools are only supposed to keep a two-year supply. Pistell blames in part the school's low budgets which encouraged them to buy in bulk and donations of chemicals from industry.

Pistell also cited the lack of training which kept teachers from being aware of the hazards of stockpiling. Every school is required to have a chemical hygiene plan which requires training and inventorying all chemicals annually. Yet Pistell found only two schools with a chemical hygiene plan and not one school that had done the required chemical inventory.

EPA GOT INVOLVED. In a separate action in September, 2004, the US Environmental Protection Agency (EPA) fined Maine's community college system \$238,225 for hazardous waste violations. The most serious violation was at Eastern Maine Community College in Bangor, where inspectors found several containers of unstable and explosive picric acid near a teaching classroom.

COMMENT. Don't blame Maine. Schools in many other states are in the same condition. This problem should be addressed nationwide.

MEDIUM-DENSITY FIBER BOARD (MDF) DUST STUDIED

SOURCES: See footnotes

Medium-density fiber board (MDF) has been a popular woodworking material since the 1980s. Made of wood fibers derived from defibrated (ground) wood chips and urea-formaldehyde resin, MDF is usually composed of 85-100% softwood (e.g., pine), and 0-15% hardwood (e.g., beech, oak). Most MDF contains 8-18% urea formaldehyde resin, which is 2-3 times more resin than normal particle board, so MDF releases more formaldehyde.

The dust generated in machining MDF causes eye, nose, throat and skin irritation. In a 1991 Swedish study, 94% of the workers machining MDF complained of nasal irritation.¹ Now in 2004, a Finish study compared data from 3 small furniture factories that used an all beech hardwood MDF with data from two factories that used mainly natural wood (birch and pine).²

FINDINGS. The amount of respirable dust (≤ 10 microns in diameter) to which workers in the two different types of factories were exposed were essentially the same. It averaged between 1.2 and 1.3 milligrams/cubic meter (mg/m^3)--well below the generally accepted standard of $5 \text{ mg}/\text{m}^3$ for respirable wood dust in Finland.

The particle size of the two types of dusts also were not very different. Under 30% of dusts in both types of factories were respirable. This is surprising because workers often perceive the dust from MDF to be composed of smaller particles.

Solvents in the air from lacquers and paints were somewhat higher in the MDF factory due to the location of the paint departments. Terpenes (solvents from wood itself) were very low, but higher in the factories where natural wood was used.

The formaldehyde level was significantly higher for workers who machined MDF (0.17 vs. $0.10 \text{ mg}/\text{m}^3$). The particles of MDF also released over 1000 micrograms/gram of formaldehyde when leached with water indicating that the particles, once inhaled, were a source of additional formaldehyde exposure to workers.

CONCLUSIONS. Eye, nose, throat, and skin symptoms were common in both exposed groups, but the MDF group had significantly more nasal and eye symptoms than the wood dust groups. The authors suggest that the occupational exposure limit for MDF board dust should be $1 \text{ mg}/\text{m}^3$, much lower than the $5 \text{ mg}/\text{m}^3$ current exposure limit for wood dust in Finland.³ (We should also consider potential long-term hazards since beech, oak, and formaldehyde are carcinogens.⁴)

FOOTNOTES

1. Holmström, M., et. al.: Symptoms, Airway physiology and histology of workers exposed to medium-density fiber board. Scand. J. Work Environ. Health 17:409-413 (1991)

2. Eero Priha, et. al.: Exposure to and Acute Effects of Medium-Density Fiber Board Dust. Jour. Occup. & Envir. Hygiene, 1:738-744 (2004)

3. In the US, there is a negotiated voluntary $5 \text{ mg}/\text{m}^3$ OSHA standard for total wood dust. The ACGIH has total dust standards of $5 \text{ mg}/\text{m}^3$ for soft wood and $1 \text{ mg}/\text{m}^3$ for hard woods such as beech due to their ability to cause cancer and various irritant effects.

4. The American Conference of Governmental Industrial Hygienists (ACGIH) and the International Agency for Research in Cancer (IARC) rate them as known human carcinogens.

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UPDATE ON PBDE FIRE RETARDANT CHEMICALS

SOURCE: 69 FR 70404-12, Dec 6, 2004.

Our October, 2003, *ACTS FACTS* covered the hazards of a class of fire retardants called polybrominated diphenyl ethers (PBDE). PBDEs are known to persist in the environment and are now found in human beings and breast milk throughout the world. Some PBDEs can disrupt thyroid function and are linked to neurological damage in animals. They are suspected of being as toxic as the well-known polychlorinated biphenyls or PCBs. PBDEs are used in a multitude of products, including plastic housing of electronics and computers, circuit boards, and in foam and textiles used in furniture.

Europe and California banned certain PBDEs. Now Great Lakes Chemical, the only US producer of PBDEs, voluntarily discontinued production of the chemicals. In December, the Environmental Protection Agency (EPA) put most of the PBDEs on a list which requires any future manufacturer to submit a significant new use rule (SNUR) registration in order to initiate production. The PBDEs on the list include: tetrabromodiphenyl ether (aka tetraPBDE); pentaPBDE; hexaPBDE; heptaPBDE; octaPBDE; and nonaPBDE.

COMMENT. One PBDE that is not covered by this rule is decabromodiphenyl ether. The EPA states that decaPBDE is commonly used for "backcoatings for draperies and upholstery." Theatrical workers and textile artists should request material safety data sheets from suppliers of fire retardants and on curtains, drops, and similar fabrics and ask specifically if decaPBDE is present. Dust from cutting such materials should be controlled.

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ACGIH SUED AGAIN

SOURCES: *ACGIH Today*, Online, 12 (4), Fall 2004; *ACTS FACTS*, 3/01 & 1/05

In 2001, the American Conference of Governmental Industrial Hygienists (ACGIH) successfully defended themselves against three lawsuits relating to the group's recommended chemical substance threshold limit values (TLVs). The effort cost all ACGIH members (including me) \$200 in assessments for their defense.

THEY'RE BA'ACK. Industry groups are suing again. The International Brominated Solvents Association, Aerosafe Products, Inc., and the National Mining Association, claim ACGIH is a government advisory group whose proposed TLVs for 1-Bromopropane (*ACTS FACTS* 01/05), copper, silica, and diesel exhaust, constitute false and misleading information which interferes with their business. These plaintiffs filed a restraining order to enjoin ACGIH from taking any action on these TLVs, but a US District Court judge in Macon, GA, ruled:

- * The plaintiffs do not have standing to bring this action under the Federal Advisory Committee Act (ACGIH is not a governmental agency);
- * an injunction would constitute restraint on free speech; and
- * TLVs are not commercial speech and ACGIH is fully protected by the First Amendment.

COMMENT. This administration's tort reform program should begin by eliminating frivolous lawsuits filed by industry against standard setting organizations.

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CARBON BLACK APPROVED FOR COSMETICS

69 FR 60307-60308, October 8, 2004

A high purity furnace black D&C Black No. 2, has been approved as a color additive in eyeliner, brush-on-brow, eye shadow, mascara, lipstick, blushers, rouge, makeup, foundation, and nail enamel. The Food and Drug Administration (FDA) amended the color additive regulations to add D&C Black No. 2 to the list of approved color additives for cosmetics in response to a petition filed by the Cosmetic, Toiletry, and Fragrance Association.

D&C Black No. 2 is a high-purity carbon black manufactured by injecting a heated aromatic petroleum oil into the combustion zone of a natural gas-fired furnace. The reaction is quenched with water and the carbon particles are cooled and collected on a fabric filter. The resulting pigment consists essentially of fine particles of carbon with a high surface area (200-260 meters²/gram).

During the furnace combustion process, D&C Black No. 2 becomes contaminated with potentially cancer-causing polynuclear aromatic hydrocarbons (PAHs). To limit the amounts of PAHs in the color additive, FDA is requiring each batch to be certified as containing amounts of total PAHs (benzo[a]pyrene and dibenz[a,h]anthracene) below levels set by FDA.

FDA also specifies levels for arsenic, lead, and mercury because these metals may contaminate the color additive from the water and petroleum oil used in the manufacturing process. And since eye irritation may be caused by large carbon particles, a specification for surface area is also imposed.

COMMENT. D&C Black No. 2 is essentially the same as pigments used in artists paints called Colour Index Pigment Black 6 and 7 (lamp black and carbon black respectively). These pigments are also made by burning oils or other carbonaceous materials. Artist should be aware that the carbon pigments in art materials are not likely to be expensive batch-approved cosmetic grade pigments. Instead, they probably contain PAH and toxic metal impurities at levels above those allowed in cosmetic pigments.

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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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March 2005

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TORONTO DISTRICT SCHOOL BOARD FINED C\$187,500

Canada NewsWire, 1/28/2005, Toronto/CNW, BNA-OSHR, 35(5), 2/3/05, p. 101

The Toronto District School Board, Canada's largest school board with 560 schools in its jurisdiction, was fined C\$187,500 (US\$159,375) in January for violating the Occupational Health and Safety Act. The violation resulted in the death of an employee. The incident occurred at Alexander Stirling Public School, a public elementary school located on Fawcett Trail in Scarborough.

THE INCIDENT. On June 24, 2002, a part-time caretaker on an evening shift complained to a co-worker of being unable to breathe. The caretaker's condition deteriorated and the caretaker died later that evening in hospital. According to a police report, the caretaker seems to have mixed bleach with toilet bowl cleaner. Two products were seized as evidence. They were: 1) a sanitizer/deodorizer identical in composition to household bleach that contained sodium hypochlorite; and 2) a liquid toilet bowl cleaner that was incorrectly reported as containing hydrochlorite (actually hydrochloride aka hydrochloric acid). When mixed, the two cleaners release corrosive chlorine gas. Police officers on the scene reported a very strong odor like swimming pool chemicals.

THE VIOLATION. A Ministry of Labour investigation found the caretaker had not received instruction on these products, as required by the Workplace Hazardous Materials Information System (WHMIS) regulations. The Toronto District School Board pled guilty, as an employer, to failing comply with Section 7(1) of the WHMIS Regulations which require that the caretaker be instructed on:

- * the contents, purpose and significance of the information on the labels for the two cleaning products;
- * the contents of the material safety data sheets and their purpose and significance;
- * procedures for the safe use and handling of these products; and
- * procedures in case of an emergency involving these products.

Ontario law requires school boards to provide refresher training on the handling of dangerous chemicals every two years, but the deceased worker had not received training in 13 years, John Weatherup, president of Local 4400 of the Canadian Union of Public Employees said. "The safety programs of the Toronto District School Board are so inadequate that thousands of employees are without the safety training required by law. There have been over 800 accidents in each of the past three years," he said. "Today's conviction ... is grim evidence of the state of occupational health and safety in Toronto schools."

COMMENT. WHMIS laws in Canada and HAZCOM regulations in the US are very similar. Both require full and part time employees to be trained about the chemicals they use. And in both countries there is blatant disregard for these laws in many, many schools.

In addition to harming workers, use of dangerous chemicals by untrained workers inside schools could expose children as well.

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FATAL RAT-BITE FEVER STRIKES TWICE

MMWR, 53(51&52) 1/7/05, pp. 1198-1202 & BNA-OSHR, 35(2), 1/13/05, p. 34

Rat-bite fever is a rare, systemic illness caused by infection with *Streptobacillus moniliformis*. The disease has a case-fatality rate of 7% to 10% among untreated patients. Human infection can result from a bite or scratch from an infected rat, handling of an infected rat, or ingestion of food or water contaminated with infected rat excreta. The symptoms are fever, muscle and joint pain, vomiting, and headache occurring usually within 2-10 days of exposures and usually followed by a rash on the extremities. Only a few cases are seen in the US each year. Although rapidly fatal cases of rat bite fever have been seen in young children, two fatal cases in adults were recorded in 2003.

CASE REPORT #1. September 2003, a previously healthy Florida woman aged 52 years visited an emergency department with a 2-day history of headache, abdominal pain, diarrhea, lethargy, swollen lymph nodes, and muscle pain. She was admitted to intensive care where she was treated with antibiotics and received two blood transfusions. She died approximately 12 hours after admission.

The patient had been employed at a pet store. She was bitten on her right index finger by a pet rat in the store 2 days before the symptoms started. She self-treated the wound with antiseptic ointment immediately after being bitten.

CASE REPORT #2. November 2003, a previously healthy Washington state woman aged 19 was pronounced dead on arrival at a hospital. On autopsy, she was found to have rat bite fever.

The patient worked as a dog groomer and lived in an apartment with nine pet rats. One pet rat with respiratory symptoms had recently been prescribed oral doxycycline by a veterinarian. Doxycycline was subsequently used to treat a second ill rat. The patient had no known animal bites during the 2 weeks preceding her death.

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TULAREMIA ASSOCIATED WITH PET HAMSTER BITE

MMWR, 53(51&52) 1/7/05, pp. 1202-1203

In February, 2004, a 3-year-old boy in Denver, Colorado contracted tularemia associated with a hamster bite. During January and February, the boy was exposed to six hamsters that his family had purchased from a pet store in the Denver area. Each hamster reportedly died from diarrhea within 1 week of purchase. One hamster bit the child on the left ring finger shortly before it died. The boy improved after treatment with ciprofloxacin (Cipro).

Workers at the pet store where the hamsters were purchased reported an unusual number of deaths among hamsters, but the hamsters were all dead or sold by the time investigators arrived. However, one of two cats kept as store pets had a positive test for the tularemia organism. The cat did not appear ill to store employees. No other purchasers of hamsters developed the illness.

Tularemia is an acute plague-like illness caused by *Francisella tularensis* and transmitted by the bite of an infected tick or other blood sucking insect, by direct contact with infected animals, by eating inadequately cooked meat, or by drinking water that contains the organism. It was known the disease could be transmitted by wild hamsters in Russia, but the disease has not been associated previously with pet hamsters in the US. The *F. tularensis* organisms is considered a potential agency of biologic terrorism.

COMMENT. The rat bite fever and tularemia stories show that great care should be taken to avoid being bitten, scratched, or exposed to body fluids of animals, especially those that show signs of illness. Lymphocytic choriomeningitis, salmonella, hantavirus, and many other diseases can be transmitted by rodents and other pets. Schools that have class pets and museums that have discovery projects involving animals and children should be especially aware.

The Centers for Disease Control guidelines say that workers should wear gloves, practice regular hand washing, and avoid hand-to-mouth contact when handling rats or cleaning rat cages. If bitten by a rat, persons should promptly clean and disinfect the wound, seek medical attention, and report their exposure history.

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TULAREMIA AT BOSTON UNIVERSITY

The Chronicle of Higher Education, Silla Brush, 1/2/2005

At the same time last year that Boston University was seeking final approval for a federally financed laboratory to study infectious diseases, three biomedical researchers at the school were infected by the tularemia bacteria they worked with. The victims survived, but the incident occurred in a Biosafety Level 2 lab where precautions are supposed to prevent such incidents. The cases were reported to public authorities last year, but university officials did not release the information to the public until January, 2005.

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UMASS STAR STORE FIRE: KILN MAY BE CAUSE

Standard-Times, Joao Ferreira, www.southcoasttoday.com/daily/12-21-04

A ceramics kiln is believed to have caused a fire that destroyed part of a floor and ceiling on the north side of the University of Massachusetts-Dartmouth's "Star Store" on December 20th. The Star Store Campus of the College of Visual and Performing Arts building is located in New Bedford, MA. The fire began about 10:40pm. No one was injured. Thirty firefighters responded and the fire was quickly brought under control. Shortly before midnight the day of the fire, UMass officials arrived to inspect damages to the building while some students remained in the building's lobby. Deputy Fire Chief Paul Leger said he suspects that "heat from a kiln" caused the fire. The fire is still under investigation.

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RISKS POSED BY INDIUM IN FLAT-SCREEN TVs

BNA-OSHR, 35(1), 1/6/05, p. 7

An article in the January 2005 issue of the *European Respiratory Journal* suggests that the growing demand for liquid crystal or plasma displays for television screens, computer screens, and video monitors may be increasing occupational exposure to indium tin oxide (ITO). This is the principal chemical used to make transparent conductive films for flat-screen technology.

The article links the development of serious lung ailments in a previously healthy young Japanese male to a four-year workplace exposure to ITO. The researchers state that build-up of ITO particles in lung tissue was directly responsible for the patient's development of pulmonary fibrosis and emphysema. The journal article notes that a previous case of pulmonary fibrosis caused by inhaled ITO particles at the same metalworking factory resulted in the patient's death.

COMMENT. Indium is used in some art metal-working products and alloys. It is also likely that when flat screens are discarded, that artists will be exposed to indium when they break them apart for found art projects as they did with computer monitors and TVs.
=====

SOLVENTS/PREGNANCY ARTICLE UPDATE

E-mail, 1/18/05, dafna.knittel-keren@sickkids.ca

The December issue of *ACTS FACTS* covered two studies of pregnancy outcomes for women who worked in jobs which exposed them to moderate amounts of solvents. One of the jobs was listed as a "conservator." Several readers asked for more information about this study subject. I contacted study coordinator, Dafna Knittel-keren, who described this individual as an art restorer who conserved documents. Her chemical exposures were to toluene, acetone, methyl ethyl ketone, ethanol, ethyl acetate, and butanol.
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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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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

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April 2005

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Vol. 19, No. 04

EPA SEEKS \$171,050 FROM PLYMOUTH STATE UNIVERSITY

SOURCES: <http://www.epa.gov/region1/pr/2005/mar/sr050301.html>, EPA Office of Public Affairs, (617) 918-1865, 3/3/05 Press Release #sr050301 & Union Leader, Manchester NH, 3/3/05, Paula Tracy, reporter

The Environmental Protection Agency (EPA) slapped Plymouth State University with a \$171,050 administration fine. EPA said the school put students at risk by failing to follow hazardous waste rules.

The federal agency issued its claim of violation following a June 2003 inspection that found lab chemicals and art supplies not properly labeled or stored, said Bill Chin, enforcement counsel with the EPA's Boston office. According to the complaint, the university violated both state and federal hazardous waste requirements. Specifically, EPA claims the University failed to:

- make hazardous waste determinations;
- properly store hazardous waste;
- maintain spill and fire control equipment;
- post "no smoking" signs;
- post emergency phone numbers & emergency equipment locations;
- keep hazardous waste containers closed;
- mark hazardous waste containers with accumulation dates and other required information; and
- conduct inspections of hazardous waste storage areas.

The EPA claims there was a hazardous materials emergency during the EPA's June 10 inspection. A box fell and emitted an acrid smell, which forced the evacuation of a building and a cleanup, EPA says.

Michele Hutchins, a university spokesperson, said the inspection occurred when the building in which most of the science courses were taught was being renovated and materials were being moved back from a storage facility to the hall. EPA workers found unlabeled or improperly labeled materials in the hazardous materials room, which was open to construction workers. The room contained heavy metal solutions, broken mercury thermometers and gunpowder. This is the room where a cardboard box fell on the day of inspection and caused a hazardous material emergency.

The EPA found open containers of paint, cleaning chemicals and photographic lab materials at Draper and Maynard Art Building, which is the designated primary hazardous waste storage facility. There were no "no smoking" signs posted nor were there any emergency phone numbers in the event of contamination, EPA claimed.

Hutchins said the university will work through the administrative process with counsel to see if an agreement can be reached. Chin also said he hoped an agreement could be reached.

ENFORCEMENT. This action is the latest of many enforcement actions EPA's New England Office has filed against colleges and universities. EPA began targeting colleges and universities in 1999 after EPA inspectors noticed generally poor compliance during their visits to schools. The initiative has included enforcement actions against Boston University, the Massachusetts Institute of Technology and the University of Massachusetts-Amherst, as well as other colleges and universities in the region. In January 2000, the University of New Hampshire at Durham was fined \$49,000 and pledged in-kind projects to come up with a total fine of \$229,000 for violations of hazardous waste laws.

In a separate incident, Clarkson University in Potsdam, NY agreed to pay a \$45,000 penalty. EPA's Region 2 cited the school for unsafe handling and storage of hazardous waste. Clarkson also agreed to conduct self audits of its facilities and operations.

COMPLIANCE ASSISTANCE. In addition to enforcement activities, the initiative includes compliance assistance, including workshops for university environmental compliance personnel and a university compliance web page at: www.epa.gov/region01/assistance/univ/

EPA New England is also conducting a College and University Audit Initiative, in which colleges and universities voluntarily disclose and promptly correct violations before an EPA inspection occurs. By making such disclosures, participants may become eligible for significant penalty reductions or even penalty elimination. More than 175 university facilities in New England are participating in this program and more than 125 self-disclosures have been received and reviewed by EPA, to date. Plymouth State University has not participated in this project.

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NASCAR EVENTS MAY CAUSE BRAIN DAMAGE

Weekly Grist, grist@grist.org, 3/9/05 & The Daily Barometer,
<http://barometer.orst.edu/vnews/display.v/ART/2005/03/10/423085d261528>

The Weekly Grist, a familiar voice of Internet dissent, pointed out that when leaded gasoline was phased out in the U.S. decades ago, the racing industry (along with aviation) was exempted. EPA has been asking NASCAR to voluntarily switch to unleaded gasoline or develop an alternative since 1998. But NASCAR says leaded gas keeps engine valves lubricated. "We just have not been able to find a solution," said NASCAR spokesman Ramsey Poston.

NASCAR is the fastest-growing "sport" in America, with some 3.5 million spectators in a year attending races. An environmental group, called Clean Air Watch, says that while the levels of lead at a NASCAR track at any given time may be relatively low, repeat fans are getting repeatedly dosed -- and it all adds up.

A 2002 EPA report found that airborne lead particles from auto exhaust stay aloft for as long as 10 days and travel miles from their source. Clean Air Watch concludes that it's not just the millions of NASCAR fans that are at risk, it's the nearby NASCAR communities, too. Those in most danger are children, for whom lead presents the threat of permanently diminished mental capacity.

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OREGON STATE ISSUES ALERT ON CRACKED HALIDE LIGHTS

BNA-OSHR, 35(5), 2/3/05, pp. 97-98 & OR-OSHA Hazard Alert, 2/1/05, "Metal Halide Lights," www.orosha.org

Oregon's Occupational Safety and Health Administration (OR-OSHA) published an alert about the ultraviolet (UV) radiation hazard associated with broken metal halide lights after investigating an incident in which teachers were injured after being seated for several hours beneath a broken light fixture in a school gymnasium.

Teachers at Bryant Elementary in Lake Oswego, OR, had skin and eye inflammations after attending a training session for a few hours on November 18, 2004, in the school's gymnasium. Symptoms reported included burned and swollen eyes, temporary blindness, irritated skin that was similar to a sunburn, blurred vision, and headaches.

The protective glass covering one of the gym's ceiling-mounted metal halide lights had been broken after being struck by a volleyball the previous month, but the light continued to operate. As a result, staff members were exposed to a full day's radiation exposure in as little as eight minutes, according to testing reports in the OR-OSHA inspection narrative. The intensity of exposure depended on where the teacher was seated. Exposure for those seated directly beneath the bare arc-tube was about 60 times greater than the exposure of a person who was sitting in the gym's corner. The Agency suggests that employers:

- Educate workers about the hazard of UV light overexposure
- Regularly inspect overhead lights for cracks or breakage
- Use lamps that shut down automatically when breakage occurs
- Use an additional glass or plastic lens to filter UV rays.*

CASE CLOSED. The agency closed its investigation of the light breakage incident by sending a hazard letter to the school district on January 24. A concurrent investigation into the school's safety procedures ended in late December with a \$300 penalty after it was determined that the district had not held required monthly safety committee meetings since 2002. *EDITOR: Low fines like this are one reason that schools don't bother to follow the regulations.*

OTHER CASES. Injuries from metal halide lamps were studied by researchers from Vanderbilt University and reported in the April 2004 issue of the *Archives of Pediatrics & Adolescent Medicine*. The researchers looked at three outbreaks of eye injuries and UV-radiation burns in gymnasiums. "The safe occupational exposure limit in the high-risk area was 10-15 minutes, but exposures of 1-3 hours were reported," its abstract states.

* **NEW NEC STANDARD:** The 2005 National Electric Code Article 410.4(E) has adopted requirements for lights of indoor sports. It provides that mercury vapor or metal halide lights in the play and spectator areas which are subject to physical damage be of a type that protects the lamp with a glass or plastic lens. An additional external screen or cage which might prevent a ball from striking the light is permitted, but is not a substitute for the required lens.
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VINYL GLOVES MAY HAVE EXPOSED WEARERS TO LEAD

Case No.416310, Consent Judgement, 1/30/04, *Mateel Environmental Justice Foundation v. MidWest Quality Gloves, Inc., et. al.*, San Francisco Co Sup Crt
A CONSENT JUDGEMENT from San Francisco Superior Court resolves an environmental action group's suit against MidWest Quality Gloves under Proposition 65 for selling clothing and gloves made from lead-containing polyvinyl chloride (PVC) without Proposition 65 warning labels indicating wearers could be exposed to lead. The January 2003 judgement resolves all claims and does not constitute an admission of the allegations. It cannot be used as evidence of any wrongdoing, misconduct, culpability or liability on the part of MidWest Quality Gloves and its distributors.

THE SETTLEMENT. To settle all of the claims, MidWest paid \$17,500 to cover plaintiff's attorneys' fees and its costs. In addition, MidWest paid another "\$17,500 to the Center for Environmental Health for use toward reducing exposures to toxic chemicals and other pollutants and toward increasing consumer, worker and community awareness...."

INJUNCTIVE RELIEF - REFORMULATION. In addition, by November 2003, the PVC ordered by MidWest for the products covered by this agreement which are imported or purchased by MidWest for sale into California is required to meet the following criteria:

- (a) *the PVC shall have no lead as an intentionally added constituent;*
- (b) *A representative sample of the bulk PVC used to manufacture the Covered Products shall have been tested for lead and must have shown lead content by weight of less than 0.003% (30 parts per million "30 ppm")...*
- (c) *MidWest may comply with the above requirements by relying on information obtained from its suppliers of the Covered Products, and the PVC utilized in their manufacture, so long as such reliance is in good faith.*

COMMENT. ACTS hopes this is not a common problem and that artists can feel confident that their gloves are lead-free.

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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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May 2005

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Vol. 19, No. 05

FINAL DECISION ON FALL HAZARDS AT SF OPERA

Calif. Occup. Safety & Health Appeals Board, Docket Nos. 00-R1D1-3175 & 3176,
3/14/05, Marcy Saunders & Gerald O'Hara, Chairwoman Traeger dissenting.

A long standing dispute over the California Occupational Safety and Health Administration (CalOSHA) rules for fall protection on sets and risers at the San Francisco Opera has finally terminated in a close (two members to one) Appeals Board decision on March 14.

The story began in June 1999 when a Compliance Officer went to the Opera House to investigate a complaint concerning exposure to theatrical smoke effects. The Officer noticed that there were no railings on the open sides of the various platforms on the stage set. Since no employees were on stage, he issued a Notice in Lieu of Citation to the Opera alleging that the unguarded sides of the platforms presented a hazard subject to the guardrail requirements of section 3210(a). The only applicable exemption to this rule is #13 which excepts "the auditorium side of a stage, raised platforms, and other raised floor areas such as runways, ramps and side stages used for entertainment or presentation...."

Then in May 2000, another Compliance Officer was inspecting a building used by the Opera for rehearsal in which the set for "The Rake's Progress" was installed for performers to practice on. The Opera had used this set for many years and it was to be moved back to the Opera house for performances that year. The set had access stairs and ramps of heights over 30 inches without hand rails or guards. The sides and front of the set had no guardrails and in places performers were exposed to falls from 63 to 76 inches.

As a result, the Opera was cited on September 8, 2000 and given a \$5000 fine for a "willful" violation of 3210(a) since they had notice about this requirement in 1999. An additional \$185 fine was given for violations of the stair handrails rule (3214(a)). The Opera appealed and was heard by a Board Administrative Law Judge on November 15, 2001. The ALJ denied the Opera's appeal and upheld the citations and fines. Then on April 19, 2002, the Opera petitioned for reconsideration. Their petition was accepted and the three members of the Appeals Board considered two issues:

ISSUE 1. Were the elevated platforms and stairs on the Rake's Progress set excepted from the guarding requirements of sections 3210(a) and 3214(a) by Exception 13?

The decision says that Exception 13 was granted to enable the audience to receive full visual benefit of the presentation. But the people in attendance at the rehearsal were not within the class of viewers the exception is designed to accommodate. They upheld the violations of 3210(a) and 3214(a) and said:

Therefore, we construe Exception 13 to apply only to "the auditorium side of a stage, raised platforms, and other raised floor areas such as runways, ramps, and side stages" while they are being used to present an opera or other entertainment to an audience it was intended and prepared to entertain.

ISSUE 2. Was the violation of 3210(a) properly classed as willful?

The Board established that the Opera was notified as early as 1999 that the fall protection rules applied. But since the second Compliance Officer in 2000 did not specifically state that he was including the fall hazards from the front of the Rake's Progress platform, the Board determined that the Opera may have mistakenly thought that Exception 13 applied to the set even though there was no audience. The Board voided the wilful part of the citation reinstating only the \$185 fine.

COMMENT. The Opera avoided a \$5000 fine, but I'm sure their lawyers' fees were more. And while this dispute was over California's rules, federal OSHA rules are similar. A January 28, 1997 letter of interpretation from the Federal OSHA states that:

*Although OSHA recognizes it is not appropriate to put guardrails at the edge of stages, theatrical employees need to be protected from all occupational safety ... hazards. The fall protection standards for general industry (found in Subpart D of 29 CFR at 1910.21 through 1910.32) are the appropriate standards...**

GENERAL RULES. ACTS sent a copy of this newsletter to the Board of Appeals and asked them to comment on whether or not we have correctly interpreted this complex decision. Meanwhile, ACTS interprets the lessons we can learn from the CalOSHA citations & from the OSHA letter to include:

1. Guarding is not required on the house-side of the stage or elevated set elements, side stages, or platforms. The backs and sides of these elevated set elements, however, should be guarded.
2. All ramps and stairs of 4 risers or more or 30 inches or higher which are out of audience sightlines need standard handrails at all times (i.e., during performance and rehearsal).
3. All fall hazards should be guarded during rehearsals on sets.
4. Set designers must incorporate federal or state guarding regulations into their set designs.
5. Performers are considered general industry workers and the OSHA fall protection level of 4 feet usually applies. If the performers are amateurs, volunteers, students or other nonprofessionals, then general liability dictates guarding even lower fall hazards.
6. Temporary rails can be installed on sets and stages for non-performance situations, especially during rehearsals where missteps during practice are more likely. ACTS recommends that school theaters in particular have drop in rails even at the front of the stage which are removed for performances.

* http://www.osha-slc.gov/OshDoc/Interp_data/119970128.html
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"O" DOES IT RIGHT

Editorial

I don't talk about the jobs I do in this newsletter as a rule. But I am making an exception for the Theater at the Bellagio in Las Vegas. In February, I inspected this theater where "O" is playing. "O" is *Cirque du Soleil's* water show, in which swimmers, divers and acrobats do amazing things on and above a stage whose sections can be hydraulically lowered into a deep pool full of water.

The show was of special interest to me. As some readers may know, I began my theatrical life as an acrobat at age three. At about the age of 8, my acrobat sister and I shared the bill for a summer with Olympic diver, Sam Howard, who had taken his diving skills on the road as a midway act. We practiced with him.

So I was gratified to see that the acrobats, swimmers and divers were well-protected by *Cirque du Soleil*. Almost imperceptible wires supported performers when they were above the audience or the stage. When this was not possible, the hydraulics lowered the stage so that performers would fall safely into deep water. And when the acrobats were swinging out toward the wings, there were unobtrusive and artistically valid set elements that were actually nets. And most of the theatrical fog used in the show was a fine water mist rather than chemical products containing oils and glycols.

The theater itself originally had been designed with all the built-in OSHA violations seen in most theaters. For example, the overhead catwalks had no standard rails and the light poles were placed at 50 inches or higher above the walk. But *Cirque* and the Bellagio have systematically lowered the light poles to 42 inches to meet the requirements of an OSHA top rail. Then midrails and toe boards were added to bring these catwalks into OSHA compliance. You are about as safe on an "O" theater catwalk as you are at home.

In addition, the grid is set up so that it is possible to drop a lanyard attached to 5000 pound anchorage at any location in the theater. If performers or crew need to do tasks which put them at risk of falling over the stage or the audience, they can attach their harnesses to proper anchorage.

All new and renovated older theaters should be capable of providing similar protections. And I thank *Cirque du Soleil* and the Bellagio for providing clear demonstrations that:

- 1) theater and the OSHA regulations are compatible; and
- 2) performers and crew can be protected from falls without compromising the artistic attributes of the show.

As far as I'm concerned, "O" stands for OSHA.

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IF YOUR E-MAIL IS NOT ANSWERED.....

We try to answer every e-mail within a day or two. If you are not answered promptly, your message may have been deleted. This happens if your address contains a "suspect" word, if there is no subject, an irrelevant subject, or if an attachment must be opened. And sometimes, e-mails just go astray. Please try again.

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ARTIST WINS ACTS' AWARD FOR DUMBEST WORK

NY Times, Sunday, April 3, 2005, Art, p. 32

The *NY Times* headline reads "Congratulations All Around." The article covers various prizes given to artists worldwide. Summaries of each award is given. One is a pip. It reads:

Artes Mundi Prize

Host: National Museum and Gallery, Cardiff, Wales.

Established: 2004.

Amount: £40,000 (\$75,000).

Stated theme: "The human form, human condition and humanity."

Most recent winner: the printmaker Xu Bing, 2004. His inaugural winning entry, "Where does the dust collect itself?" involved blanketing the gallery floor with dust that the artist collected in New York in the aftermath of the Sept. 11 terrorist attacks.

Star juror: Issey Miyake, the designer.

PICTURE. A picture on the page shows Xu Bing with a thin rubber examining glove on his hand. He is blowing a cloud of World Trade Center dust from palm of the glove into the air!

COMMENT. This is one of the most ignorant and dangerous art projects I have seen. The Wales gallery will be contaminated with asbestos, lead, and a host of other toxic chemicals for a long time to come--as will the artist's lungs. Literally thousands of New Yorkers are still sick after exposure to this dust. And experts expect a rise in cancer rates in lower Manhattan in a few more years from asbestos and other carcinogens in the dust.

And where were the *NYTimes'* editors. This paper has covered the illnesses and political battles over clean up of this dust. Don't the editors of the Art Section read other sections of their own paper? This item should not have been covered without comment.

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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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WARREN McKENZIE DIAGNOSED WITH SILICOSIS

SOURCES: NPR broadcast, 4/26/05 & phone conversation w/ M. Rossol, 5/1/05
When Warren McKenzie, a world renowned potter, went back to work after a three month hiatus for surgery (repair of the rotor cuff in his shoulder), he found he could no longer work a full day. His doctors found that, over the years, he has lost about 50% of his lung capacity due to silicosis. "It's no one's fault but my own," said 81-year-old McKenzie in a phone interview on May 1. "I used to mix clay and glazes without protection in my studio."

ACTS also knows of two other pottery teachers with silicosis, but they were unwilling to go public with their illnesses.

OPERA SINGER WINS AGAIN ON FOG AND SMOKE ISSUE

SOURCE: Workers' Compensation Appeals Board, St. CA., Case #'s 0429008-0464184, signed 5/23/05, Pamela Dale vs. SF Opera Assoc., CIGA insurance et. al.
ACTS FACTS has repeatedly covered San Francisco Opera chorister Pamela Dale's struggles for justice after theatrical special effects used at the Opera caused her to develop asthma. In April and June of 2002, we covered her unfair termination by the Opera company and subsequent reinstatement with full back pay. Now Pamela has won a workers' compensation settlement for \$17,297 for a "permanent disability of 26%." She also was awarded the cost of future medical care "to cure or relieve the effects of the industrial injury to [her] lungs and voice."

Pamela Dale's attorney's fees will also be paid, but it is notable that she did most of the legal work and negotiating herself. When lawyers did not live up to her standards, she learned how to do her own legal research and to file and handle her own cases!

COMMENT. Pamela is the 2nd singer at the SF Opera to win a workers' compensation settlement for asthma caused by exposure to theatrical fog and smoke effects. And another similar case is pending. It is likely that there will be more cases now that these settlements have established that special effects can be linked to adult onset asthma in singers.

OSHA SAYS: ART MATERIALS REQUIRE MSDSs & TRAINING

SOURCES: BNA-OSHR 35(17), p. 386, 4-28-05; Letter of Interpretation, 4-14-05, www.osha.gov & 29 CFR 1910.1200

The Occupational Safety & Health Administration's (OSHA) hazard communication rule, 29 CFR 1910.1200(b)(6)(ix), says that consumer products are exempt if employers show that the products are used for the same purpose consumers would use them and the "duration and frequency of exposure...is not greater than the range of exposures that could reasonably be experienced by consumers..."

Since art materials are consumer products, Beverly Cohen, an Albany, NY, attorney, asked OSHA if a client of hers could consider art materials and household cleaning products exempt under this rule. Her client's workers create visual aids and presentation displays with commercial art products such as thinners, adhesives, and paints. The client also provides the workers with household cleaning products for cleaning their work areas.

OSHA replied on April 14, 2005 in a letter of interpretation signed by Jonathan Snare, OSHA's acting assistant secretary. Snare said that in the case of the paint thinners and paints, if workers are "routinely exposed to these hazardous chemicals, then they would be required to be afforded the chemical hazard information available though MSDSs and hazard communication training."

With household cleaning supplies, it is the employer's responsibility to determine the workers' exposures to ensure "that the frequency and duration of use of these products ... are not greater than that of normal consumer use," the agency said.

COMMENT. ACTS recommends that art businesses and schools always include cleaning supplies in their OSHA programs. One reason is the cleaners are used for a different purpose than they are used for in households. They are used for removing paint residue from artroom sinks and surfaces rather than for removing ordinary household dirt and grease. There even may be chemical reactions during such cleaning. For example, abrasive cleaners commonly contain wet or dry bleaches which can react with the ammonia released by chemicals (stabilizers) found in most acrylic paints.
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VENTED GRINDERS PROTECT TUCKPOINTERS FROM SILICA

SOURCES: "Protecting Tuckpointing Workers from Silica Dust: Draft Recommendation for a Ventilated Grinder," W.A.Heitbrink & S.Collingwood, Dep of Occup & Envir Health, College of Public Health, Univ of Iowa, January 2005.

Tuckpointing, that is, removing and replacing old masonry mortar, is one of the dustiest jobs in the construction industry and a source of silica exposure for workers. Now, a study done at the University of Iowa has shown that exposure levels to silica dust can be greatly reduced by using specially-equipped, hand-held grinders whose grinding discs are partially enclosed by a hood connected to an industrial vacuum cleaner.

The reduction in silica levels resulting from use of the special grinders is enough to enable workers to wear lighter and less expensive half mask air-purifying respirators rather than bulky air-powered or air-supplied respirators. The vacuum is also so light that it can be hung on the worker's shoulder for portability. The grinders' drawbacks include:

- 1) some types of vacuum cleaners clog quickly and filters must be frequently replaced; and
- 2) the equipment does not work well on uneven surfaces or on masonry missing a lot of mortar.

The full study of this equipment and the reduction in silica exposures is available on the website of the Center to Protect Workers' Rights at <http://www.cpwr.com/Whatsnew.cfmd>
=====

FINAL WORD ON ASBESTOS IN CRAYONS

In June and July of 2000, *ACTS FACTS* covered Andrew Schneider's investigation of crayon ingredients reported in the *Seattle Post Intelligencer*. Schneider found three brands of crayons that contained asbestos: Crayola, Prang, and Rose Art.¹ The asbestos was traced to RT Vanderbilt's talc added to harden the wax.

ACMI. The Arts and Creative Materials Institute (ACMI) certified all three brands of crayons as "nontoxic." Deborah Fanning, Executive Director of ACMI stated flatly that there is no asbestos in crayons because their toxicologist doesn't allow it. Dr. Woodhall Stopford, ACMI's toxicologist, suggested that the testing laboratories were "confused" and that what they were seeing wasn't really asbestos.²

IS IT ASBESTOS? For decades, RT Vanderbilt has maintained that what appears to be asbestos fibers in their talc are actually transitional fibers, needle-like fibers, cleavage fragments, talc fibers, and so on. To end the debate, I suggest readers refer to a few lines in the peer-reviewed National Toxicology Program's 10th Report on Carcinogen.³ On page III-21 it says:

.... In response to recent reports that asbestos was found in crayons, CPSC tested crayons from three manufacturers. Asbestos could be present in talc used as a binding agent in the crayons. CPSC found trace amounts of anthophyllite asbestos and larger amounts of transitional fibers in crayons from two of three manufacturers. No airborne fibers were detected during stimulated [sic. simulated] use. Although the risk was considered extremely low, manufacturers voluntarily agreed to reformulate to eliminate talc.

Clearly, the crayons did contain trace amounts of anthophyllite asbestos fibers and larger amounts of transitional fibers which many experts also consider hazardous. Tests during normal use showed no asbestos release because wax in the crayons keeps fibers from getting airborne. But crayons are used for projects which may release fibers such as ironing on T-shirts, making into candles and burning, etc. Old crayons also develop a white, dusty "bloom" on their surface which probably is talc migrating to the surface.

A trace of asbestos can be very significant when the talcs are used in dusty products such as ceramic clays, glazes, instant paper maches. For example, in 2004, a Brookfield, CT, school traced its failure to pass asbestos air quality tests to the presence of ceramic clays in their art department. The type of asbestos found in their clays also was anthophyllite.⁴ The amount and even the type of asbestos from talc-containing products can vary because the various Vanderbilt talc mines are not uniform in composition.

1. *Seattle Post Intelligencer*, A.Schneider & C.Smith, May 23,24,26,27,30, June 1, 2000

2. *Ibid.*, May 23, 2000.

3. 10th Report on Carcinogens, Carcinogen Profiles, US Dept of Health & Human Services, National Toxicology Program, 2002.

4. An Investigative Report of the Attorney General of Connecticut, Feb 10, 2004, found that the asbestos that caused Whisconier Middle school to fail its air tests was from the ceramic clay in the artroom. ACTS also has lab analyses and other documents from this school and plans to cover this story jointly with a parent involved in the investigation.

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SPRAY TANNING PRODUCTS

In the August, 2003 issue of *ACTS FACTS*, we covered misbranded spray tanning products that contain dihydroxyacetone (DHA), a chemical color additive which gives the skin the appearance of a tan. According to FDA's website: Use of DHA in cosmetics - "including sunless 'tanning' products - is restricted to external application." As such, it can be "applied only to external parts of the body and not to the lips or any body surface covered by mucous membrane." FDA suggests consumers consider the following questions when considering spray or airbrush tanning products:

- 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.¹

But now, these products are being sold on the Internet for home use. One of the Internet advertisements reads in part:

Salon Bronze gives you a safe, even natural-looking deep tan right at home! And remember, it contains DHA - safe for you to use! ORDER NOW!

Q. Is Salon Bronze Safe to use?

A. Yes. Salon Bronze contains DHA, which has been FDA approved for more than 30 years!

Q. Can I get an even looking Tan with Salon Bronze?

A. Yes, Salon Bronze provides an even natural-looking deep tan that can be applied virtually anywhere!²

COMMENT. DHA is not approved for application "virtually anywhere!" When used at home, exposure to DHA can be prolonged because the overspray can dry and remain in house dust indefinitely. ACTS opposes use of air brush consumer and theatrical cosmetics because they also contain "external-use" only ingredients.

1. <http://www.cfsan.fda.gov/~dms/cos-tan4.htm>

2. Ideavillage, John Valentin, 21 Law Drive, 2nd Floor, Fairfield NJ 07040, <http://www.asseenontvnetwork.com/vcc/ideavillage/salonebronze1999/124993/>, 973-808-7355, e-mail: admin@ideavillage.com

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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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July 2005

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Vol. 19, No. 07

SMITHSONIAN SAFETY ALERT: NEDERMAN® EXHAUST HOODS

e-mail 6-10-05

A Safety Alert of interest to all users of certain exhaust systems was sent through the Smithsonian Institute by Katherine Makos, CIH:

There have been two recent fire incidents within a conservation lab that involved Nederman® brand local exhaust capture "snorkel trunks." One incident narrowly averted personnel injury and resulted in melted plastic components falling onto a collection object being conserved. In each incident it appears that inappropriately rated replacement bulbs had been installed within the integrated light unit of the extractor arms. The higher wattage bulbs resulted in overheating and melting of the plastic light assembly insert in the Nederman® hood.

The light package for extractor arms uses either a 12 or 24 volt halogen bulb rated for up to 20 watts. There are no warning labels to indicate the maximum wattage bulb to be used with the system. No light bulb rated greater than 20 watts should be used with these systems. Additionally, when replacing a bulb it is imperative that the clip holding it in place be secured properly, to ensure the bulb does not slide out.

Non-Nederman®-brand capture hoods may be susceptible to the same problem if improper bulbs are installed. The proper bulb type and rating should be verified with the respective manufacturer for any capture hood, prior to change out.

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MEDICAL CASE LIKELY TO BE PLOT FOR TV

MMWR, 54(21), 6-3-05, pp. 537-539

In May, the Centers for Disease Control and Prevention received a report of severe illness in four patients who had all received organ transplants from one person. The organ donor died of an apparent stroke and complications. An evaluation of the donor showed no evidence of transmittable infections or diseases.

Three of the four organ recipients then died. The fourth was seriously ill but recovered. The cause of illness in all four organ recipients was found to be lymphocytic choriomeningitis. LCMV is a rodent-borne virus which causes no symptoms in most healthy people. The virus is only a risk to people with suppressed immune systems, pregnant women, and other compromised individuals.

An investigation found that the organ donor had a pet hamster. The hamster was subsequently determined to be positive for the LCMV virus. The Editor bets this unpredictable and unexpected event will be fictionalized on one of the medical TV series.

DISEASES FROM ANIMALS IN PUBLIC SETTINGS

SOURCE: "Compendium of Measures To Prevent Disease Associated with Animals in Public Settings," *Morbidity and Mortality Weekly Report (MMWR)*, CDC, Vol., 54, No. RR-4, March 25, 2005

Zoonoses are diseases which can be transmitted from animals to humans. Of special concern are outbreaks in which substantial numbers of persons are exposed to zoonotic agents and become ill. Over 25 of these disease outbreaks occurred during 1990-2000 among visitors to animal exhibits such as fairs, farm tours, petting zoos, schools, pet stores, nature parks, zoological institutions. The following is a list of some of the most commonly transmitted diseases from the Centers for Disease Control and Prevention.

INTESTINAL DISEASES from bacteria and parasites are the most common. Documented outbreaks of *E-coli*, *Campylobacter*, *Salmonella*, and *Cryptosporidium* have been documented among visitors to fairs, farms, and petting zoos. In one Pennsylvania outbreak, 51 persons (median age 4 years) became ill after visiting a dairy farm. Eight children developed a potentially fatal kidney disease as a result.

RABIES. Human rabies deaths caused by animal contact in public exhibits have never been recorded, but multiple rabies exposures have occurred, requiring rabies vaccinations and medical follow up.

OTHER INFECTIONS from other bacteria, viruses, fungi, and parasites have also been recorded. Included are infections from animal bites, cat-scratch disease, lymphocytic choriomeningitis (next article), and rat-bite fever. Herpes B virus has been transmitted by monkeys. Ringworm in 23 persons were traced to a hand-reared zoo tiger cub. Multiple cases of monkey pox occurred among persons in contact with prairie dogs at a child care center and a pet store. Scabies (skin mite) infection has been transmitted by many animal species. And Tuberculosis was transmitted to 12 circus elephant handlers at an exotic animal farm in Illinois.

CDC GUIDELINES. There are no federal laws addressing transmission of animal pathogens at public venues. In 2001, the Centers for Disease Control and Prevention (CDC) issued guidelines to reduce the risk for intestinal pathogens from animals and for preventing transmission of *Salmonella* from reptiles. Now CDC has presented guidelines for animals in public settings. Included are recommendations for disease prevention education of operators, staff, and individual exhibitors. Signs and handouts should be used to transmit this information to visitors. Exhibits should provide hand washing facilities, cleaning procedures for animal waste, prohibitions against carrying food and beverages into the area, even including toys, pacifiers, "sippy cups" and baby bottles.

ANIMALS NOT RECOMMENDED for school settings include exotic animals (e.g., lions, tigers, ocelots, and bears), primates (e.g., monkeys and apes), rabies prone animals (e.g., bats, raccoons, skunks, foxes, and coyotes), wolf-dog hybrids, aggressive or unpredictable animals, stray animals with unknown health and vaccination history and venomous or toxin-producing spiders, insects, reptiles, and amphibians.

SCHOOL GUIDELINES

- Wash hands after contact with animals, animal products, or their environment.
- Supervise human-animal contact, particularly for children aged <5 years.
- Handle and house animals humanely.
- Display animals in enclosed cages or under appropriate restraint.
- Designate areas for animal contact.
- Do not allow animals to roam or fly free.
- Do not allow animals in areas where food or drink are consumed.
- Clean and disinfect all areas where animals have been present. This task should not be performed by children aged <5 years. Children aged ≥5 years should only perform this task while supervised by an adult, ideally when children aged <5 years are not present.
- Obtain a certificate of veterinary inspection for visiting animals.
- Administer rabies vaccine to mammals, as appropriate.
- Keep animals clean and free of intestinal parasites, fleas, ticks, mites, and lice.
- Consult with parents to determine special considerations needed for children who are immunocompromised, who have allergies, or who have asthma.

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TELEPHONE CORD & CABLE WIRES

SKY, (Delta Airlines), March 2005, pp. 52-53

The Delta magazine on a flight I took recently pictured crafts from around the world. Included were brightly colored baskets woven from thin plastic-coated telephone cable wire. These wires are used by crafts people the world over and in many school art projects. I commonly find these wires in elementary school artrooms, cupboards, or storerooms.

Many of the vinyl plastic coatings on these wires contain lead pigments and fillers. ACTS FACTS first reported on these wires in August, 1993, when lead-poisoning was found in a technician who would strip the ends of these brightly colored plastic-coated wires with his teeth and sometimes chew on the ends.* Then in August, 2003, ACTS FACTS reported on a study of old and new telephone cord wires. The researchers found that most of the wires contained lead and analyses showed that significant amounts of lead migrated to the surface of the wires.**

COMMENT. In addition to lead, some of the pigments may contain cadmium and other metals. Craft objects made from these wires should not be used unless they have been tested and shown not to release toxic metals. Craftspeople should only use wires that are free of toxic-metals. Children should not have access to these wires unless they have been tested and found free of toxic metals.

FOOTNOTES:

* MMWR, CDC, 42(24), June 25, 1993, pp. 465-467

** "Quantification of Lead in Telephone Cord:Use of X-Ray Photoelectron Spectroscopy Technique," Applied Occupational & Environmental Hygiene 18: 533-557, 2003

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MORE ON Cal-OSHA FALL PROTECTION RULES

SOURCE: *Cal-OSHA Reporter*, Vol. 32 No. 16, April 22, 2005

Confirmation that Cal-OSHA requires hand rails on stairs and guard rails on theatrical stages, platforms and ramps came in the form of an article published in the *Cal-OSHA reporter*. They quoted from an e-mail sent by Pamela Dale, who filed the original complaint, that the most recent decision is "a major win for employee safety." Dale pointed out employers are not exempt from guarding rule, that the exemption "does not apply to rehearsals or to stair-rails on or off stage, nor does it apply to unprotected sides of raised platforms that are not on the auditorium sides of the stage."

This means that the stairs-off or on stage--must be handrailed at all times. Platforms and ramps need to be guarded on all sides during rehearsals, but guards on the auditorium-side of the platforms can be removed during performance.

Monona Rossol was quoted in the same *Cal-OSHA Reporter* as saying: "The decision is as important as the federal OSHA letter of interpretation [in January 1997] on fall protection in theater productions. It is crucial that performers, designers, set builders, and production managers understand that all set elements must be guarded when there is no audience, and during performances the sides and backs of elevated platforms must be guarded."

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NONTOXIC PAINT REMOVING

Scenic_Artists_Forum@yahoo.com, 6-15-05

Scenic Artist Lisa Lazar at Glimmerglass Opera needed to remove black paint which was wasn't adhering uniformly to an aluminum edging strip. The edging was around a sky scene painted on wool serge and industrial carpet. These fabrics would be damaged by solvent paint removers or discolored by black sanding dusts.

Instead of chemicals or sanding, she tried covering the aluminum strip with gaffing tape,* burnished it down hard, and then pulled it off. "It took almost all the paint off the metal and left no mess at all," Lisa reports. The Crew at Glimmerglass now refers to the method as "Bikini Waxing" and has added it to their bag of tricks.

* A highly adhesive fabric-backed tape used in the entertainment industry

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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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EPA FINES MAINE COLLEGE OF ART \$107,165

<http://www.epa.gov/NE/pr/2005/jul/sr050702.html>, Press Release # sr050702
July 5, 2005

The Environmental Protection Agency is proposing a \$107,165 penalty against the Maine College of Art in Portland for violating numerous hazardous waste regulations that are part of the federal Resource Conservation and Recovery Act. According to a complaint and order filed today by EPA's New England office, Maine College of Art failed to properly determine if wastes were hazardous, thus putting the school's staff and students at risk.

"As a result of the school's violations, students and staff may have been unnecessarily exposed to hazardous waste, and wastes were improperly disposed of as non-regulated solid waste," said Robert W. Varney, regional administrator of EPA's New England office.

According to the complaint, waste glaze and related floor sweepings were put in the trash or washed down the sink, and acid pickling solution neutralized with marble was washed down the sink. In addition, cans of old waste paint, metal blasting debris and paint thinners and other solvents were managed improperly. Also, the college, which has 400 students, improperly stored and labeled fluorescent bulbs and computer monitors, EPA said.

As a result of the inspection at MCA in April 2004, EPA observed other hazardous waste management violations, such as improperly labeling containers, failing to obtain a site-specific hazardous waste generator identification number, failing to provide containment around containers in case of spills, and failing to keep containers of hazardous waste closed.

According to the complaint, Maine College of Art must comply with federal hazardous waste regulations and correct all violations. In addition, the college must comply with Maine hazardous waste regulations related to fluorescent bulbs and computer monitors, which are known as "universal wastes." The school must submit documents showing compliance.

This penalty action is among numerous enforcement actions EPA's New England Office has taken against universities and colleges across the region as part of its College and University Enforcement and Compliance Initiative. Launched in 1999, the initiative included inspections, extensive compliance assistance, including workshops geared for university environmental compliance personnel, and development of a university compliance web page, which can be visited at <http://www.epa.gov/region01/assistance/univ/>.

COMMENT. A few phrases in the press release quoted above need explanation.

1. "...waste glaze and related floor sweepings were put in the trash or washed down the sink..." It is vital to collect floor dust and wash water contaminated with ceramic glaze chemicals since so many regulated metals are in glazes. Clay is not a regulated waste unless it contains glaze colorants for special effects.

2. "...acid pickling solution neutralized with marble was washed down the sink." Here EPA is referring to acid neutralizing tanks which use marble chips to neutralize acids. However, neutralization has no effect on the regulated metals such as copper and zinc which are dissolved in pickling solutions or acid etching baths.

3. The "metal blasting debris" referred to is used abrasive blasting grit. The grit itself is usually unregulated substances such as glass beads or aluminum oxide. But the grit is contaminated with fine dust from the metals and substances they abrade and must be disposed of as toxic waste.

4. "The school must submit documents showing compliance." Even a small school of 400 students must have a person on staff who is trained to comply with EPA rules and do the paper work. The school also needs someone who is capable of doing the recordkeeping and training for the OSHA regulations. This Editor knows of many art schools that do not follow OSHA and EPA rules.

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MORE MAINE: EPA SETTLES WITH COMMUNITY COLLEGES

<http://www.epa.gov>, Press Release # sr050704, July 12, 2005

The Maine Community College System has agreed to pay \$126,600 to settle claims by the US Environmental Protection Agency that it violated regulations on the storage and handling of hazardous materials at Southern Maine Technical College in Portland, and at Eastern Maine Community College in Bangor.

During inspection of Eastern Maine Community College, EPA inspectors found containers of waste picric acid that had formed heat and shock sensitive crystals. These crystals are more explosive than an equivalent amount of TNT. EPA inspectors secured the area and contacted Maine's Department of Environmental Protection's Emergency Response Unit. They removed and detonated these chemicals on-site. The explosive power of the detonated wastes was estimated to equal several sticks of dynamite.

EPA's inspectors also identified multiple violations of the federal RCRA and Maine Hazardous Waste Management Rules. "The problems at these two campuses were severe and put students and staff at risk," said Robert W. Varney, regional administrator for EPA's New England office. This penalty action also was one of numerous enforcement actions EPA has taken against universities and colleges. ACTS is aware of many schools who are in compliance today only because they were cited under these actions. It's a good thing.

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BERKELEY REP WAREHOUSE BURNS

San Francisco Chronicle, Leslie Fulbright, www.sfgate.com, 6/30/05

A three-alarm fire in Berkeley on June 29th destroyed a warehouse used by the Berkeley Repertory Theatre to build stage sets. The building also served as the rehearsal studio for the Creedence Clearwater Revival band in the 1960's. "It had a lot of sentimental value," said Terence Keane, spokesman for the Berkeley Repertory Theatre, referring to its Creedence connection.

Because the warehouse was filled with paint, chemicals and other carpentry materials, a lot of popping could be heard during the fire, but there were no explosions, Berkeley Deputy Fire Chief David Orth said. There was water damage, and possibly smoke damage to the buildings on each side of the warehouse.

Keane said the Berkeley Repertory Theatre had rented the 7,500-square-foot warehouse for 15 years and used it to build more than 100 sets for shows. The theater was currently building sets for "our Town" when the fire occurred, Keane said, adding that the upcoming season starts in September. "We're going to be scrambling," Keane said. "We already get by by the skin of our teeth." Keane said the theater was insured. There was no one working in the warehouse at the time of the fire, Keane said.

Berkeley Rep Scenic artist, Lisa Lazar, was working at Glimmerglass Opera in Cooperstown, NY when the fire happened. "We've lost everything, all our tools, all our stage mechanics stuff, all our computers," Lazar said. "Many people's personal projects have been destroyed" and a set that was just finished for another theater company now must be rebuilt "in eight days," Lazar said.

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BETTER BULLETS

BNA-OSHR, 35(10), 3/10/05 p. 215, 69 FR 12105-12112, 3/15/04, & Environ Health Persp., 113:729-734

In order to reduce accident and illness rates, the Department of Homeland Securities federal law enforcement training academy in Georgia is now using ammunition that is both frangible and "green." Frangible bullets are designed to fragment on impact so that there is no danger of ricochet during training exercises and target practice. "Green" means the ammunition is no longer made out of lead so that trainees' lead exposure is kept to a minimum.

COMMENT. All shooting ranges should consider lead-free bullets. These bullets are usually made of various alloys of bismuth, tin, tungsten, iron, nickel, copper, and other substances. The bullets have been tested for safety in hunting water fowl. They caused no significant toxic effects when ingested or implanted in muscle tissue of the animals (mimicking being shot). They also did not harm the environment as lead does.

However, a recent test of weapons grade tungsten being used as a replacement for depleted uranium in the battlefield produced aggressive metastatic tumors when surgically implanted into the muscles of rats. This may cause some rethinking on use of tungsten.

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ROSE ART TO PAY \$300,000 PENALTY TO CPSC

Release #05-208, CPSC Hotline: (800) 638-2772, June 27, 2005

The U.S. Consumer Product Safety Commission (CPSC) ... announced a provisional settlement with a toy and art materials manufacturer for failing to report important product safety information to the Commission. The settlement will impose a \$300,000 penalty against Rose Art Industries Inc., of Livingston, N.J., for failing to inform the government in a timely manner about a defect in soap making kits that led to injuries to young children.

Between August 1997 and December 2001, Rose Art made and sold about 125,000 Glamour Gear Soap Making Kits nationwide. The kits, which are intended for children eight years of age and older, include bars of soap, molds and a plastic cup to melt soap chunks. A defect in the plastic cup, which is used to heat the soap in a microwave, can cause it to deform or develop a hole in the bottom and pose a serious burn hazard to children.

Between January 1998 and January 2002, Rose Art received 10 reports of children who were burned by hot soap while removing the plastic cup from the microwave. The majority of the children suffered second and third degree burns. The firm did not inform CPSC about the defect, injuries and the resulting civil litigation against the company until February 2002.

In March 2002, CPSC and Rose Art announced a recall of the soap kits. Consumers can log on to www.cpsc.gov/cpsc/pub/prerel/prhtml02/02121.html for information about receiving a refund.

According to federal law, manufacturers, distributors, and retailers are required to report to CPSC immediately (within 24 hours) after obtaining information which reasonably supports the conclusion that a product contains a defect which could create a substantial risk of injury to the public, presents an unreasonable risk of serious injury or death, or violates a federal safety standard. In agreeing to settle the matter, Rose Art Industries denies that the soap kits were defective and that it violated the reporting requirements of the Consumer Product Safety Act.

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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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ANOTHER POTTER WITH SILICOSIS COMES FORWARD

Editorial

The news that potter Warren MacKenzie has silicosis brought reports of other cases. One was a university professor who is not willing to discuss his disease at this time. For several years I have been aware of two other teachers who do not want their silicosis known.

Then I got an e-mail from potter Kitty Alcott who wrote: "I would like to thank you for writing the article on Warren MacKenzie. Like Mr. MacKenzie, I was diagnosed with silicosis." She went on:

My mother was a working potter before I was born in 1955. While growing up I played in the studio every chance I could. As a teen I worked summers and evenings helping the family ceramic business. Later, I entered college and received a BA in Ceramic Arts. It took a few years to become established, but I eventually supported myself as a working potter making decorative functional pottery.

A year and a half ago I started having problems with a severe lung infection. A CT scan showed fibroid tumors and scarring that caused the bells and whistles to start. A PET scan and 18 months of visiting a pulmonary specialist resulted in the diagnosis that, as a potter, I had dreaded for years. I was told to stop working in clay, get completely away from any contact with my studio, and hope that the disease would slow once I had. We are now in the waiting stage.

Kitty is only 50 years old and her career is over. She is concerned about other potters who think this only "happens to someone else." Unlike the three silent male teachers with silicosis, Kitty generously said "...help yourself to my letter. Spread the word to as many parents and people [as] you can reach."

She also wanted potters to know that her "parents ran a clean studio and other students and potters I've worked with always teased me about being so clean. According to my Dr., it's the very small particles of silica that you can't see that are the problem."

Kitty is concerned that doctors don't understand the potter's world or occupational illnesses very well. It was Kitty who explained to her doctor that she also needs monitoring for asbestos lung diseases because "...we used asbestos to build kilns in college." Her concern is very real. There are several substances used in kilns and clays that contain asbestos. I am currently retained in the case of a potter who died of an asbestos cancer (mesothelioma).

ACTS thanks Warren MacKenzie and Kitty Alcott for stepping up to help inform others. We encourage more potters to consider asking their doctors to refer them to an occupational clinic for an evaluation of their lungs. We implore potters to spend the money for professionally designed local exhaust ventilation systems for dusty processes and to wet mop or HEPA vacuum the studio daily. Pottery can be done safely for a lifetime with proper precautions.

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FUNGAL GROWTH IN AIR-CONDITIONING DUCTS

"Antifungal Treatments and their effect on Fibrous Glass Lining, Chin S. Yang, Ph.D., Paul J. Ellringer, P.E., CIH, *ASHRAE Journal*, April 2004, pp. 35-40

Fungal contamination in heating, ventilating and air conditioning (HVAC) systems is often caused by a combination of design and operation problems. Porous materials such as fiber glass duct lining have been identified as a major source of fungal contamination. The lining is added to square duct for noise control and thermo-insulation. Three factors affect whether the interior surfaces of duct work will be contaminated with fungi:

- Accumulated dirt becomes nutrients for the fungi.
- Interior surfaces such as fiber glass can serve as shelter and habitats which encourage fungal growth.
- High relative humidity levels which occur when outdoor air dew points are above the cooling coil discharge air temperature (typically 61 ° F). Air discharged under these conditions usually has a relative humidity level of 90% or higher.

SIX CONTROL METHODS STUDIED. Attempts were made to control fungal populations of the interior surfaces of six air handling units in three buildings using six methods:

1. Removal of fiber glass lining down to bare galvanized steel;
2. Cleaning and sanitizing of interior fiber glass lining;
3. Cleaning and treating with a paint encapsulant;
4. Cleaning and treating with a biocide coating containing soluble copper 8-quinolinolate;
5. Cleaning and treating with a biocide coating containing zinc oxide, borates, and 3-iodo-2-propynyl butyl carbamate; and
6. Cleaning and coating with a biocide coating containing antimony trioxide and decabromodiphenyl oxide.

CONCLUSIONS. Only two of the six methods controlled fungal growth for up to 10 years: 1) the coating containing zinc oxide, borates, and 2-iodo-2-propynyl butyl carbamate; and 2) removing the fiber glass down to the bare galvanized steel surface (steel coated with zinc). The study's authors found it interesting that the successful coating and the bare ductwork surface both contain zinc oxide.

COMMENT. Clearly, leaving ducts unlined is the simplest, least toxic, and best method. If the ducts are round, they usually do not need insulation for control of noise. And if insulation is needed for control of water condensation, it can be on the outside of the ducts. Unlined ducts also can easily be cleaned.

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LISTINGS FROM THE REPORT ON CARCINOGENS

SOURCE: *11th Report on Carcinogens*, US DH&HS, NTP, 2004, released 1/05
The National Toxicology Program (NTP) has released its latest *Report on Carcinogens*. NTP lists substances for which it feels there is sufficient evidence of carcinogenicity as either "K" (known human carcinogens) or "R" (reasonably anticipated to be human carcinogens). Seventeen new substances were added including:

LEAD & LEAD COMPOUNDS. Two lead compounds, lead phosphate and lead acetate have been listed as "R" carcinogens since the early 1980s. It seemed incredible that only these two lead compounds were considered carcinogens when it was obvious that it was lead itself that was causing the effect. Now finally, there is enough limited data from human and animal studies on the effects of many lead compounds to list them all. This means that material safety data sheets (MSDSs) for lead paints and glazes should have all been changed to indicate this new status for lead.

COBALT SULFATE. Sufficient evidence for carcinogenicity is found in animal studies on this single cobalt compound. However, human studies of exposure to cobalt metal also consistently reported an increased risk of lung cancer, but these workers were also exposed to other agents and some studies were of only a small number of workers. ACTS predicts that when more data is available, cobalt metal and all its compounds will be listed just as lead and lead compounds are now listed.

NAPHTHALENE. There is now sufficient animal data for NTP to list naphthalene as reasonably anticipated to be a human carcinogen. Naphthalene is one of two chemicals used as an insect repellent, in mothballs and as a toilet bowl deodorant. The other chemical is para dichlorobenzene (PDB) which has been listed as a carcinogen by NTP since 1987. In the past, users such as museum conservators switched from PDB to naphthalene to avoid using a carcinogen. Now both chemicals are listed as carcinogens and both have the same workplace air quality standard* making them equally toxic. There currently is no safer alternative for naphthalene.

* Both naphthalene and PDB have American Conference of Governmental Industrial Hygienists eight-hour threshold limit values (TLV-TWAs) of 10 parts per million.

1-AMINO-2,4-DIBROMOANTHRAQUINONE. This chemical is used in the manufacture of almost all anthraquinone dyes. Some dyes may degrade to release it as well. Evidence for carcinogenicity is based primarily on animal studies, but there is some epidemiological evidence from occupational exposure to anthraquinone dyes in a New Jersey dye and resin manufacturing plant. Other R-listed anthraquinones are: 2-aminanthraquinone, 1-amino-2-methylanthraquinone, 1,8-dihydroxyanthraquinone, & disperse blue 1. ACTS recommends considering all anthraquinones as carcinogens.

DYE CHEMICALS. Two more chemicals used in dye manufacture, diazoaminobenzene and 4,4'-thiodianiline, have been added to the *11th Report on Carcinogens*. Many other dye-related chemicals have been listed for years. And in 2002, the NTP's *10th Report on*

Carcinogens listed all the dyes that are metabolized to release two carcinogens: 3,3-dichlorobenzidine and 3,3-dimethoxybenzidine.

Hopefully, NTP is moving toward the European position that it is only necessary to show that a chemical metabolizes or degrades to release a known carcinogen to declare it a carcinogen. In addition, the NTP's text on the Dyes that Metabolize to 3,3-dichlorobenzidine and 3,3-dimethoxybenzidine uses the words: "dyes and pigments." This should mean that art pigments that metabolize to release these known carcinogens are included as carcinogens.
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MAYO CLINIC STUDY FINDS MANGANESE DAMAGE IN WELDERS

BNA-OSHR, 35(24), 6-16-05, pp. 558-559

A case series analysis of eight welders found several brain and nervous system syndromes associated with manganese fumes and inadequate ventilation, the Mayo Clinic in Rochester, MN, announced on June 8. The analysis, published in the June 28 issue of *Neurology*, examined medical records from eight patients referred to the clinic between 1990 and 2005 for various nervous system complaints, the clinic said. All of the patients had MRI scans showing an area of increased T1 signal intensity in the basal ganglia region of the brain--an uncommon finding indicating widespread neurological impairment. This is also a biological indicator of manganese accumulation.

The patients were all males who had worked in welding from one to 25 years before experiencing symptoms. The initial symptoms varied, Mayo said, but eventually multiple symptoms included cognitive impairment, headaches, tremor, and balance problems. The analysis linked four syndromes to manganese fumes generated by welding: Parkinsons syndrome; multifocal myocionus; vestibular-auditory dysfunction; and mild cognitive impairment. Only Parkinsonism had previously been linked to welding, said Keith Josephs, a neurologist who spearheaded the analysis.

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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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ACTS FACTS

THE MONTHLY NEWSLETTER FROM
ARTS, CRAFTS AND THEATER SAFETY (ACTS)

181 THOMPSON ST., # 23,

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PHONE 212/777-0062

October 2005

Vol. 19, No. 10

9/11 MISTAKES REPEATED IN NEW ORLEANS

Editorial

When the tragedy of 9/11 occurred, there was a system in place for handling environmental disasters. The system was called the National Contingency Plan. Under the NCP, the Environmental Protection Agency was assigned to be the lead agency, coordinating the activities of all the other agencies to provide protection for the public and the site workers. However, EPA chose not to take the lead. Instead, they let other agencies fight over jurisdictions. As a result, federal and state safety officials stood by and watched people work without respirators. And the Mayor of New York encouraged individuals to clean up the toxic dust from their homes and businesses themselves. Today, the numbers of sick workers and firefighters is still high and EPA has been served with lawsuits.

To find out how things went wrong, the 9/11 Commission was formed. This commission looked into the failure of various agencies to protect the public and to make recommendations to prevent these problems in the future. Central to the Commission's recommendations was the establishment of the new federal Department of Homeland Security (DHS). President Bush did not want to accept the recommendations of the 9/11 commission. Only after much lobbying and public pressure did the administration agree to set up the DHS.

After the DHS was formed, briefings for safety and security personnel were held around the country. I attended one of these full day events on March 17, 2004 sponsored by the Metropolitan section of the American Industrial Hygiene Association. We were told by DHS personnel that the DHS had on call experts in various kinds of disasters. We were told that when the next disaster occurs, the DHS would appoint the expert who was most experienced in that particular event (volcanic, flood, hurricane, etc.) to take the lead and coordinate the efforts of all local, state and federal agencies, including the Federal Emergency Management Agency (FEMA). In this way, all the agencies would be coordinated centrally.

When the New Orleans disaster occurred, however, the DHS, like EPA, did not take charge. They gave much of the responsibility to FEMA. FEMA was not equipped to direct all the resources and deferred many decisions to local authorities just as was done on 9/11.

The public blames FEMA and various local officials for the poor responses to the disaster when their anger should be directed at the administrator of the DHS who didn't do his job. And now Bush has said he thinks we need to reorganize relief procedures and appoint a single entity who would direct all of the disaster activities. Does this sound familiar to anyone?

STUDIES LINK LONG WORKING HOURS TO ACCIDENTS

BNA-OSHR, 35(34), 8-25-05, P. 761-762 & 35(36), 9-15-05, p. 813-814

A number of studies recently have supported the common sense conclusion that long working hours increase the risk of accidents and injuries. Two more were reported recently:

● A study published in the September issue of the *Journal of Occupational and Environmental Medicine* called "The Impact of Overtime and Long Work Hours on Occupational Injuries and Illnesses: New Evidence From The United States," examined more than 110,000 job records of American workers over a 13-year span, covering a large variety of jobs. The report said, "Our findings are consistent with the hypothesis that long working hours indirectly precipitate workplace accidents through a causal process, for instance by increasing fatigue or stress in affected workers." The studies major finding included:

- * Working overtime was associated with a 61% higher injury rate when compared with jobs that did not involve overtime.
- * Overtime schedules had the greatest relative risk of occupational injury or illness, followed by schedules of 12 or more hours per day and those of 60 or more hours per week. Working at least 12 hours a day was associated with a 37% increased hazard rate; working at least 60 hours per week was associated with a 23% increased hazard rate.
- * The risk of injury was found to increase with the increasing length of the work schedule.
- * Data analyses showed that the increased risks are not merely the result of the demanding work schedules being concentrated in riskier occupations or industries.

● Another study published in the *Journal of the American Medical Association* on September 7, reported that working long hours on busy hospital schedules can have the same effect on residents' and interns' ability to drive as moderate alcohol consumption.

The study, "Neurobehavioral Performance of Residents After Heavy Night Call vs After Alcohol Ingestion," tested 34 pediatric doctors in training at Rhode Island hospital consisting of 18 women and 16 men averaging 28.7 years of age. For about 22 months, participants were tested on a driving simulator after light call (4 week clinical rotations averaging 44 hours per week), light call with the equivalent of three or four cocktails, and heavy call (90 hours per week until 2003, when nationally implemented policies lowered them to no more than 80 hours per week).

The simulator tests showed that participants crashed approximately as many times as when coming off heavy call as they did when coming off light duty when moderately intoxicated. Heavy call residents were also less able to stay in their lane or on the road. And heavy call residents' speed variability was 30% higher while reaction time, attention lapses, and omission errors were similar.

=====

LAWSUIT SEEKS CANCER SCREENING FOR WORKERS

BNA-OSHR, 35(34), 8-25-05, P. 761-762

A class action lawsuit brought on behalf of past and present employees of the Rohm & Haas Company seeks medical monitoring for 6,000 employees allegedly at an increased risk for brain cancer. The suit filed August 15 (*Brendley v. Rohm & Haas Co.*, Pa. C.P., Docket No. 050801918, 8/15/05), alleges that workers at Rohm & Haas's Spring House facility were exposed to "chemicals, solvents, agricides, biocides, and other toxic and carcinogenic substances."

The lawsuit was brought by William Brendley, who spent 33 years working at Rohm & Haas before retiring in 1996. Brendley spent most of his career at the Spring House facility, first as a chemist, then in several supervisory positions. The suit alleges that at least 12 employees at this facility have been diagnosed with a rare malignant brain cancer (glioblastoma multiforme), and several others of been diagnosed with other forms of brain cancer. According to Brendley's lawsuit, the workplace exposures are due to Rohm & Haas's negligence, including failure to:

- * operate and maintain a safe workplace;
- * provide employees with proper safeguards for regular handling of toxic and carcinogenic substances;
- * provide proper training for handling toxic and deadly chemicals;
- * provide adequate equipment for handling hazardous chemicals;
- * provide proper notice and information about the toxic health effects of the substances routinely handled at the facility;
- * comply with state and federal workplace safety regulations and statues; and
- * provide adequate warnings about the hazardous effects of the substance routinely handled throughout the research facility.

COMPANY DISPUTES STUDIES. Rohm & Haas maintains that its own ongoing studies of employee brain cancers found no statistically significant correlation with any risk factor, and found no single agent that could be linked to the cancers.

COMPANY STUDIES FLAWED? The class action, however, dismisses the company's studies as "two slow-moving studies ostensibly to learn more about those employees who have deadly brain cancers" while doing "nothing to assist its other employees in determining whether they may also have brain cancer." The lawsuit maintains that even Rohm & Haas's flawed study found that "the rate of malignant brain cancer among Spring House employees is at least twice the rate in the general population in the United States."

COMMENT: *ACTS FACTS* is covering this story because Rohm & Haas is a primary manufacturer of acrylic emulsions used in many brands of paints including artist's acrylic paints. In addition, the rare cancer involved in the story may be a marker cancer for certain chemicals as yet unknown. Eighty-seven cases of workers diagnosed with glioblastoma multiforme also are the basis for lawsuits filed by workers against Pratt & Whitney in April 2003.

=====

UPDATE ON SMITHSONIAN NEDERMAN® EXHAUST HOOD ALERT

e-mail 6-10-05, 9-14-05, makosk@SI.EDU

The July ACTS FACTS reported on two fire incidents in conservation labs at the Smithsonian related to Nederman® brand flexible duct local exhaust hoods. The fires occurred when replacement light bulbs of higher wattage were installed to replace the original 20 watt 12 or 24 volt halogen bulbs. There were no warnings on the equipment to indicate that bulbs of higher wattage could melt the plastic light assembly package. An alert was sent out to the conservation community by ACTS FACTS, the American Institute for Conservation, and Kathryn Makos in the Smithsonian's Office of Safety and Environmental Management.

Nederman's Regional Manager, James Iovan, has responded to the Smithsonian. His letter says in part:

As you know, I recently received a copy of the July 2005 ACTS FACTS Newsletter which included a Smithsonian Safety Alert. The subject of the alert was an incident involving the Nederman local exhaust extractor arms and the optional integral light package. It is understood that a user recently replaced a light bulb in one of the extractor arm light packages with a bulb that was not rated for use with the equipment. We at Nederman would like to apologize for the inconvenience that this has caused. Fortunately no one was injured as a result of this.

Upon receipt of the newsletter, we took immediate steps to rectify this issue and we have begun placing warning labels on all extractor arm hoods that can facilitate a light package... It would be very much appreciated if you could circulate this information among your peers in the conservation community... Nederman places a tremendous value on our reputation in the conservation community and appreciates the opportunity to provide equipment to the community to improve the health and safety of your workers.....

Conservators and artists that use this equipment should download and printout a warning label and attach it to the hood. (Do not attach the label to the lens as the adhesive may melt.) To do this, contact: [//www.nedermanusa.com/gofer.php?&target=originalarm.html](http://www.nedermanusa.com/gofer.php?&target=originalarm.html).

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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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Vol. 19, No. 11

\$908,000 IN FINES PROPOSED FOR PUERTO RICO UNIVERSITY

<http://www.epa.gov/region02/news/2005/05111.htm>

The US Environmental Protection Agency (EPA) has cited the University of Puerto Rico (UPR) in Mayaguez for violating federal laws governing the handling of hazardous waste, discharges into waterways, and emissions of hazardous pollutants into the air. EPA proposed nearly \$1 million in penalties for these violations.

UPR previously had agreed to comply with EPA's Audit Policy whereby universities self-disclose possible violations. EPA usually grants relief from financial penalties for self-disclosed violations, but it was determined that UPR was not eligible for full relief because they were not correcting all their violations. As a result, EPA conducted an inspection of the campus with the Puerto Rico Environmental Quality Board. In July, for example, EPA supervised the removal and controlled on-site neutralization of several containers of solidified picric acid, an extremely shock-sensitive material that inspectors found in the school's chemical warehouse. EPA also issued orders putting the school on schedules to fix the problems as soon as possible.

EPA Region II has inspected 58 colleges and universities and has issued administrative complaints with penalties totaling more than \$2.6 million over the past four years against 20 colleges and universities in New Jersey, New York and Puerto Rico. The Colleges and Universities Initiative is an ongoing program with additional university investigations anticipated.

COMMENT. This Editor knows of several schools that are in EPA's self-audit program that are not correcting their violations in a timely manner. Schools must remember that they are not immune from fines unless they keep on schedule for their corrections.

MORE SMALL PARTICLES GO THRU FILTERS THAN BIG ONES

BNA-OSHR, 35(40), 10-13-05, p. 902; 35(41), 10-20-05, 927-929

NIOSH TESTS. The National Institute for Occupational Safety and Health (NIOSH) tests air purifying respirator filters for efficiency with particles that are 300 nanometers (0.3 microns) in size because these are believed to be the most penetrating size. It was assumed that particles smaller than 300 nanometers which are small enough to pass through the filters' pores are trapped instead by the electrostatic mechanisms in the filter media.

Particle penetration is also affected by air flow through the filter. The NIOSH tests are done at an average air flow of 85 liters per minute (L/m). But studies show that during strenuous work, peak inhalation flow rates can exceed 400 L/m for short periods and average air flows much higher than 85 L/m are common.

FILTER CLASSES. There are three classes of particulate filters: the N, R, and P series. The N respirators are tested with particles of sodium chloride (salt), and the R and P respirators are tested with particles of a plasticizer called dioctylphthalate or DOP. Each filter also has a number indicating the percentage of the 300 nanometer particles that may penetrate the filter under test conditions. For example, the N95 should capture 95% of the particles. And the N100, R100, and P100s, which are high efficiency particulate air (HEPA) filters, should only allow less than 0.03% of the particles through (i.e., 99.97% capture).

NANOPARTICLES & VIRUSES. The NIOSH tests assume that 1) all particles behave just like salt and DOP particles, and 2) particles smaller than 300 nanometers (nanoparticles) are trapped by electrostatic forces. These assumptions are being challenged as industries produce smaller nanoparticles and as tiny viruses such as SARS and avian flu threaten us. Viruses are typically 20-300 nanometers in diameter. Nanoparticles are substances that are either ground fine or grown on a microscopic level to sizes far smaller than 300 nanometers. They also often are made of unusual substances and in unusual shapes.

SYMPOSIUM NEWS. In October, the Second International Symposium on Nanotechnology and Occupational Health was held in Minneapolis. One of the papers by Sergey Grinshpun from the University of Cincinnati showed that particles between 40 and 60 nanometers seemed to have a higher penetration than the 300 nanometer particles. And at a flow rate of 85 L/m, Grinshpun found that N95 filters let more than 5% of the particles through the filter.

Grinshpun also tested two N95 surgical masks which also failed to meet standards with penetration rates of between 20.5% and 84.5%. Grinshpun's conclusion is that the "N95 certified respirators may not necessarily provide a proper protection against virus[es]."

Another study presented by Paul Gardner of the U.S. Army Edgewood Chemical Biological Center looked at the penetration of N95 and P100 respirators under different air flow conditions. The study looked at the penetration of nanoparticles sized between 20 and 100 nanometers as well as larger particles at cyclic (breathing) flow rates of 40, 85, 115, and 135 liters per minute with peak flows up to 430 L/m, Gardner said. Constant flow rates of 85, 270, and 360 liters per minute were also evaluated, he said

Particle penetration was found to increase with both cyclic and constant flow rates, Gardner said. The most penetrating particle size was usually between 100 and 200 nanometers for the P100 filters, and 50 to 100 nanometers for the N95 filters, he added. The filters met the penetration requirements for all particle sizes tested at 85 liters per minute, Gardner said, but at higher flow rates both the P100 filters and the N95 filters failed to meet the NIOSH test standard.

SUMMARY. These studies are preliminary, but appears that air-purifying respirators are not fully protective against viruses and nanoparticles especially during hard work. More testing is planned by NIOSH and by the American Society for Testing and Materials.

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LESSONS FROM NORTHWESTERN UNIVERSITY'S MERCURY SPILL

www.suntimes.com/output/news/cst-nws-merc14.html, 9/14/05, Staff, Dave Newbart
The following is quoted from a newspaper report of a six pound mercury spill at Northeastern Illinois University. It says:

The spill was discovered by a student worker in mid-June in a storage room.... Although officials can't say for sure where the mercury came from or when it spilled, they believe an old manometer or barometer from the science department leaked in the storage area or broke when it was being moved, said Ralph Zia, director of buildings and grounds.

School officials attempted to clean up the spill using a special kit, but after a week they realized there was too much mercury to contain. A private hazardous waste removal specialist removed six pounds of mercury along with six 55-gallon drums of contaminated material. The cleanup, which was finished in early July, cost \$44,000.

But the school did not notify the National Response Center of the spill, as required by law. "Anything over one pound should be reported," Maggie Carson, an Illinois Environmental Protection Agency (IL-EPA) spokeswoman, said Tuesday.

In a letter sent to the campus newspaper, student body president Evelyn Nazario-Rose said she was "absolutely appalled that the mercury spill situation was not taken more seriously by university officials." She worried that student workers could have been exposed to mercury vapors.

Zia said he was unaware of the reporting requirement, but pointed to an investigation by the Illinois Department of Labor that found no safety or health hazards during the spill or cleanup. Zia said the school will pay closer attention to what is moved, particularly if it could contain mercury.

This quote illustrates the following problems at the school:

1. If Zia, the Director of Buildings and Grounds, was unaware of EPA reporting requirements it means the University failed to train him. As the person in charge of environmental events such as this spill, he should have had the required EPA training.
2. The school officials who tried to clean up the spill also did not know the EPA rules or how to deal with the spill.
3. Not only should Zia and school officials know the EPA's rules, every chemist in that department should have known them. The school's Laboratory Standard Chemical Hygiene Plan is defective.
4. The report that the Department of Labor (ILDOL) "found no safety or health hazards during the spill and cleanup" is false. The ILDOL couldn't know if there were any hazards during the spill because it occurred at an unknown time before they were involved and they did not monitor the first attempt to clean up the spill.
5. The outrage of the student body president is the only hopeful fact. Students often are more motivated than the administrators, officers, faculty or state officials to follow environmental rules.

NYC MAYOR SIGNS BILL TO RAISE FINES FOR LOCKED EXITS

BNA-OSHR, 35(40), 10-13-05, p. 902

A New York City Council bill increasing penalties for employers that lock or obstruct workplace exits was signed into law on October 3 by Mayor Michael R. Bloomberg (R).

The bill (Intro. No. 629-B, 2005) was passed unanimously in September by the overwhelmingly Democratic-controlled council. It would increase misdemeanor penalties under the city Fire Code from \$500 to \$5,000 per worker for a first offense, rising to up to \$10,000 for a second offense, up to \$15,000 for a third, and up to \$20,000 for a fourth or any subsequent offenses. Employers could also be subject to prison terms of six to nine months under the bill, which would bar employers from creating an "imminent hazard to persons or property as a result of obstruction of an exit or unlawful change of an exit."

The bill also requires the city Fire Department to conduct unannounced workplace compliance inspections and extends whistleblower protections to employees who report unsafe work conditions, the Mayor said.

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POPULAR TORONTO ARTIST DIES

Toronto Star, 10-19-05, www.thestar.com/

Cuban expatriate and up-and-coming Toronto artist, Pedro Alderete, was putting the finishing touches on his largest and most public piece of work to date--a five-part mural on the outside of a million-square-foot building in Toronto's Downsview Park. It was Monday, October 17. He was working alone on a section of the mural that included a portrait of his 5-year-old daughter. Somehow the artist got caught between an hydraulic platform and the warehouse-style door he was painting. Emergency workers who rushed to the scene were unable to revive him. He was only 44 years old.

COMMENT. We will be looking for more information about the cause of this deeply disturbing accident. But one thing is certain: artists should not work alone with dangerous equipment. Instead, the industrial "buddy system" should be employed.

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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 Pearl, Brian Lee; Staff: John Fairlie, OES.

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Vol. 19, No. 12

WEST VIRGINIA UNIVERSITY'S ASBESTOS SETTLEMENT

<http://chronicle.com/daily/2005/11/2005112803n.htm>

Tuesday, November 22, West Virginia University settled a lawsuit brought by about 5000 past and present employees seeking medical monitoring for potential asbestos-related health problems as a result of working in University buildings containing asbestos.

Filed in 2000, the suit covers only employees who have worked on the campus in Morgantown since 1986. The university admitted no liability or fault for its handling of asbestos, but agreed to provide medical surveillance over the next 20 year for employees who have worked with asbestos or are already participating in a government-provided surveillance programs, and for employees in certain buildings who have served as maintenance workers, service workers, or specialists in a variety of building trades. Other employees may also qualify if an outside specialist determines that they need further medical examination. The University will also pay \$1-million to cover the plaintiffs' legal fees.

Asbestos was used on campus in insulation, floor tiles, roof tiles, and other building materials. It can lead to a variety of fatal lung diseases, including cancer.

A judge of the Circuit Court of Kanawha County will hold a final hearing on December 22 to approve the proposed settlement and to hear any objections to it from employees involved

COMMENT. This settlement provides early detection for those employees who develop diseases like lung cancer and mesothelioma. Lung cancer can be cured if intervention is early enough. Mesothelioma is always fatal, but early detection can extend life.

ACTS knows of many university teachers who also have been exposed to asbestos. Until the mid 1980s, teachers used many asbestos products such as gloves, castable refractories, instant (powdered) papier maches, and more. Some theater teachers have removed the asbestos wiring from scores of theatrical lights. Ceramics teachers have dismantled and/or repaired old kilns lined with asbestos. This settlement should include asbestos-exposed faculty members.

ERROR IN NOVEMBER ACTS FACTS HEADLINE

Sharp-eyed readers noted that while the article on page three was clearly about Northeastern University, the headline read: "LESSONS FROM NORTHWESTERN UNIVERSITY'S MERCURY SPILL." We apologize to readers and to Northwestern for the error. It happens.

LESSONS FROM A MOVIE LOCATION FIRE

NFPAJ, Nov/Dec, 2005, p. 49

The National Fire Protection Association Journal recently compiled descriptions of the costliest fires in the US in various states and industries in 2003. One of these fires occurred during the filming of a movie and it has some lessons for our entertainment and film industry readers. The NFPA's description read:

PUBLIC ASSEMBLY PROPERTIES - Arizona

Dollar Loss: \$8,000,000

Month: December

Time 7:33 pm

Property characteristics and Operating Status: *This two-story convention center was of protected non-combustible construction. ... The center was fully operating at the time of the fire.*

Fire Protection Systems: *There was a smoke detection system present that operated and alerted the occupants. ... There was a wet-pipe sprinkler system present. The system did activate with over 30 heads flowing water.*

Fire Development: *Heat from a halogen light ignited walnut dust used in filming a collapse scene in a mine for a movie. The fire ignited polyurethane beams and walls of a cave and extended to the cave roof. A covering over the movie set prevented water from the sprinkler from reaching the seat of the fire but the sprinkler flow did prevent the fire's spread beyond the set.*

Contributing Factors and Other Details: *Original reports were that one worker was missing. A primary search was initiated but the worker was located unharmed. Visibility was zero as firefighters attempted an initial fire attack. Firefighters were warned initially of loose rattlesnakes at the movie set. The snakes were corralled by an animal handler and posed no threat to the firefighters.*

COMMENTS. One problem in the film industry (and in theater) is that decisions about special effects and fire safety are often left to people who are considered experts only on the basis of having worked many years in the industry. Instead, technical and chemical knowledge must be used to make these decisions. If those in charge had done their research they would have known the following:

Organic dusts from any type of tree or plant are flammable when suspended in air. If the dust is in an enclosed space like the cave on this set, it also could have exploded. Organic dusts must never be used around hot lights, electrical equipment, any source of static electric discharge, sparks, or flames.

Toxicity. The NFPA description does not make clear whether the dust is from walnut wood or from walnut shells or hulls. Lets look at the hazards of both the wood and the hulls.

Wood. The American Conference of Governmental Industrial Hygienists (ACGIH) has assigned a 1 milligram/cubic meter (mg/m³) threshold limit value (TLV)¹ to walnut dust. This very low TLV is set to avoid adverse effects on pulmonary function when it is inhaled. In addition, ACGIH lists walnut a suspected human carcinogen based on studies of workers exposed to the dust.

For an airborne material to look like a thick, swirling dust in a camera shot, it must greatly exceed a concentration of 1 mg/m³. This means that the special effects coordinators on this movie asked workers and performers to risk significant overexposure depending on the length of time it took to film this scene.

Hulls. If the dust was from walnut hulls, it contained many toxic chemicals including one called Juglone. Juglone is used as a hair dye and wood stain called Colour Index Natural Brown 7. This dye is so toxic that it has been used to immobilize and catch fish and it causes sedation and colic in animals. It has been used in folk medicine to treat fungal infections. It works because juglone is related to phenols which are highly toxic to both fungi and people. Although never studied for cancer effects, juglone is a "quinone," a class of chemicals associated with cancer in animals.

Substitutes for organic dusts. Other dusts can be used for mine-cave in effects. But some of these also can be hazardous. Metal dusts such as aluminum and bronze powders are so flammable and explosive in the air that they are used as fireworks ingredients.

Mineral dusts can be used for special effects, but they must be chosen carefully because many cause permanent lung damage. ACTS FACTS (May, 2002) covered the fibrotic (scar tissue) lung damage and development of asthma in a camera worker exposed to a fullers earth² mineral during a special effect. Other minerals that cause lung damage include clays, talc, and sand (silica).

The least toxic of the mineral dusts include plaster and calcium carbonate. But even these dusts have been assigned a nuisance dust TLV of 10 mg/m³ to avoid lung damage. So exposure even to these safer dusts must be controlled and limited.

Sprinkler systems. Set designers and builders must consider how various set elements will effect the flow of water from overhead fire suppression pipes. The fire ratings of all set materials should also be considered. Extra extinguishers (non-water types)³ and fire watchers should be used in any area in which it is determined that water from the sprinklers cannot reach.

Polyurethane. The fact that polyurethane was used to create the cave means that deadly isocyanates and cyanide gas were in the thick smoke that was noted. Only firefighters wearing supplied air respiratory protection should be near burning urethane.

Fire and evacuation procedures should have been discussed in daily safety meetings so that the slapstick problems of supposedly missing workers and loose rattlesnakes would not have slowed down the firefighters response.

-
1. TLVs are air quality levels set to protect most healthy adult workers.
 2. Fullers earth is any powder that could be used to "full" cloth, i.e., to remove oil and dirt. Many, many minerals are called fullers earth. The material safety data sheet must be consulted to know what is in any particular fullers earth. The mineral that disabled the camera worker was attapulгите.
 3. Water extinguishers are usually dangerous to use on fires involving electrical equipment due to the risk of electrical shock to the user. There is a new water-mist extinguisher for electrical fires designed to avoid the damage that dry chemical extinguisher powders cause to electrical equipment. This extinguisher, however, would not be very effective for the combustibles found on this set.
- =====

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January

BRUCE WILLIS SUES STUDIO & SPECIAL EFFECTS MAN
"GREEN" SOLVENT LINKED TO NERVE DAMAGE

1-bromopropane

WELDING HAZARDS DISSERTATION PUBLISHED

Association between metal fume fever & asthma found

HANTAVIRUS KILLS GRAD STUDENT IN WEST VIRGINIA

Trapping rodents for school project

February

MAINE SCHOOLS STOCKPILED HAZARDOUS CHEMICALS

Stockpiling, EPA gets involved

MEDIUM-DENSITY FIBER BOARD (MDF) DUST STUDIED

ACGIH SUED AGAIN

1-bromopropane, silica, copper, diesel exhaust TLVs disputed

CARBON BLACK APPROVED FOR COSMETICS

March

TORONTO DISTRICT SCHOOL BOARD FINED C\$187,500

The incident: bleach & cleaner mixed by worker

FATAL RAT-BITE FEVER STRIKES TWICE

Pet rats are source of two fatal cases

TULAREMIA ASSOCIATED WITH PET HAMSTER BITE

TULAREMIA AT BOSTON UNIVERSITY

Three researchers infected in laboratory

UMASS STAR STORE FIRE: KILN MAY BE CAUSE

RISKS POSED BY INDIUM IN FLAT-SCREEN TVs

SOLVENTS/PREGNANCY ARTICLE UPDATE

Info about conservator participant in the study

April

EPA SEEKS \$171,050 FROM PLYMOUTH STATE UNIVERSITY

Many violations, Other schools cited, Compliance assistance

NASCAR EVENTS MAY CAUSE BRAIN DAMAGE (Lead gasoline)

OREGON STATE ISSUES ALERT ON CRACKED HALIDE LIGHTS

VINYL GLOVES MAY HAVE EXPOSED WEARERS TO LEAD

Consent judgement, Settlement, Injunctive relief-Reformulation

May

FINAL DECISION ON FALL HAZARDS AT SF OPERA

Sides, backs, fronts of platforms must be guarded during rehearsal

Stairs on and off set must be railed

"O" DOES IT RIGHT - Cirque du Soleil's O Theater is OSHA-compliant

ARTIST WINS ACTS' AWARD FOR DUMBEST WORK

WTC dust scatters all over gallery in Wales wins award

June

WARREN MacKENZIE DIAGNOSED WITH SILICOSIS

OPERA SINGER WINS AGAIN ON FOG AND SMOKE ISSUE

Pamela Dale awarded \$17,050 and medical care for 26% disability from exposure to theatrical fog effects

OSHA SAYS: ART MATERIALS REQUIRE MSDS & TRAINING

Letter of Interpretation: 4-14-05

VENTED GRINDERS PROTECT TUCKPOINTERS FROM SILICA

FINAL WORD ON ASBESTOS IN CRAYONS

Quote from 10th Report on Carcinogens, "trace" & transition fibers

SPRAY TANNING PRODUCTS - home sprays and FDA warnings

July

SMITHSONIAN SAFETY ALERT: NEDERMAN® EXHAUST HOODS

MEDICAL CASE LIKELY TO BE PLOT FOR TV

transplant recipients die from disease donor got from pet hamster

DISEASES FROM ANIMALS IN PUBLIC SETTINGS (MMWR)

intestinal diseases, rabies, others, CDC guidelines

TELEPHONE CORD & CABLE WIRES lead content

MORE ON Cal-OSHA FALL PROTECTION RULES
NONTOXIC PAINT REMOVING (Bikini wax method)

August

EPA FINES MAINE COLLEGE OF ART \$107,165

MORE MAINE: EPA SETTLES WITH COMMUNITY COLLEGES

BERKELEY REP WAREHOUSE BURNS

BETTER BULLETS - Homeland Security uses frangible/lead-free bullets

ROSE ART TO PAY \$300,000 PENALTY TO CPSC - soap-making kits

September

ANOTHER POTTER WITH SILICOSES COMES FORWARD

FUNGAL GROWTH IN AIR-CONDITIONING DUCT

unlined round galvanized ducts resist mold best

LISTINGS FROM THE NTP *REPORT ON CARCINOGENS*

lead & lead compounds, cobalt sulfate, naphthalene, 1-amino-2,4-dibromoanthraquinone, dye chemicals

MAYO CLINIC STUDY FINDS MANGANESE DAMAGE IN WELDERS

October

9/11 MISTAKES REPEATED IN NEW ORLEANS

STUDIES LINK LONG WORKING HOURS TO ACCIDENTS

LAWSUIT SEEKS CANCER SCREENING FOR WORKERS

rare brain cancer cluster found at Rohm & Haas facility

UPDATE ON SMITHSONIAN NEDERMAN® EXHAUST HOOD ALERT

November

\$908,000 IN FINES PROPOSED FOR PUERTO RICO UNIVERSITY

MORE SMALL PARTICLES GO THRU FILTERS THAN BIG ONES

NIOSH tests, Filter classes, Nanoparticles, Symposium news, Summary

LESSONS FROM NORTHEASTERN UNIVERSITY'S MERCURY

SPILL

NYC MAYOR SIGNS BILL OR RAISE FINES FOR LOCKED EXITS

POPULAR TORONTO ARTIST DIES

December

W. VIRGINIA UNIVERSITY'S ASBESTOS SETTLEMENT

ERROR IN NOVEMBER ACTS FACTS HEADLINE

LESSONS FROM A MOVIE LOCATION FIRE

Organic dusts, walnut dust, toxicity, special effects, etc.

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