ACTS FACTS

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

January 1998 Vol. 12, No. 01

ACTS wishes you a healthy, happy 1998

LEAD GLAZE ALERT FOR HEALTH CARE FACILITIES

Press Release. ACMI, Inc., Boston. w/ Institute Items. 39(4). Dec 1997

Recently, the Art & Creative Materials Institute, Inc. (ACMI) heard of several incidents in which ceramic glazes were ingested by nursing home patients in North Carolina. According to ACMI's Toxicologist, Dr. Woodhall Stopford, one of these incidents resulted in the death of a patient because the family refused treatment. To prevent such incidents, ACMI will be sending an alert on ceramic glazes to nursing home and state licensing boards.

This is the second time ACMI has issued an alert on nursing home use of lead glazes. The first was in 1992 when the Centers for Disease Control (CDC) on reported this problem as follows:*

> *During 1991, the American Association of Poison Control Centers received reports of 318 incidents of ceramic glaze ingestion in the United States.... From 1984 through 1990, the Fresno County (California) Regional Poison Control Center received reports of 75 persons who ingested lead-based ceramic glaze; of these, 34 (45.3%) occurred in extended-care facilities and for 32 (42.7%) persons, impaired mental status was known before ingestion. Nursing home patients who developed lead poisoning after ingesting lead-based glaze while participating in ceramic therapy include four persons (one of whom died of lead encephalopathy) ... and one person in Maryland.... In 1988, following a series of lead poisonings among patients who ingested ceramic glaze, Arizona banned the use of lead-based glaze in nursing homes.* p. 782

Now there is another ACMI alert because more poisonings and another death have occurred. In addition to the alert, ACTS thinks that three other actions should be taken: 1) glaze manufacturers should restrict sales of lead glazes to industrial and professional production users;** 2) Professional art therapy organizations should alert their members; and 3) formal study of art materials hazards should be required in art therapy training curricula.

* Morbidity and Mortality Weekly Report, CDC, October 23, 1992, 41(42), pp. 781-783This article also described the case of a patient who ingested a glaze labeled "lead-free" because it leached less than 0.06% lead by weight on an acid solubility test. This case added the human data needed to finally debunk the myth that acid-insoluble lead frits are safe.

** This strategy has already been used by Thompson Enamels. They sell only lead-free enamels to schools and hobbyists. Only industrial/professional users may purchase lead-containing materials.

RADIO REPORTER UNCOVERS ANOTHER FOG STUDY

CNN Radio's reporter, Dale A. Willman, produced a series of reports on the hazards of pyrotechnic and fog special effects at the Broadway Show, *Beauty and the Beast*. Included were comments by performers, musicians, special effects manufacturers, industrial hygienists, doctors, other experts, and Disney spokespersons. The series ran December 28-30 on all-news radio stations nationally.

Dale Willman's research for these short reports turned up one study this Editor had never seen. It was a two page summary of research done by Dr. Jacqueline M. Moline from the Mount Sinai-Irving J. Selikoff Center for Environmental and Occupational Medicine. Dr. Moline investigated the health complaints of 25 pit musicians at *Beauty and the Beast*. These musicians are exposed nightly to pyrotechnic emissions, glycol fog mists, and other air pollutants.

A questionnaire was used to determine which symptoms the musicians attributed to fumes and fog. The percentages of musicians that listed runny or stuffy noses, coughs, shortness of breath, tearing or strained eyes, and sore or dry throats ranged between 41 and 59 percent. These are very similar to the percentages claimed by performers in the other two major studies* and back up their results.

Dr. Moline's initial medical investigation on October 23, 1996 included physical examinations and spirometry (measurement of lung capacity) before and after a matinee performance. A follow up study three weeks later included repeat post-performance spirometry and physical examinations. Dr. Moline reported her findings as follows:

> *An analysis of the pulmonary function tests showed that there was a statistically significant decrease in forced vital capacity from pre- to post-performance. In addition, there was evidence of a decrease in measurement of small airway function...in 16 of 25 (64%) individuals. When current smokers were excluded (smoking is the most common cause of decrement in small airway function), 13 of 22 (59%) of musicians exhibited abnormalities in their small airway function. Of the fourteen musicians who were present on both screening days, 10 of 14 (71%) showed small airway dysfunction.*
>
> *The conditions for the musicians in the music pit at Beauty and the Beast are unhealthy. A large percentage of the musicians are suffering from symptoms related to the irritative effects of the work environment. Several musicians now require medical care and medication to threat their symptoms which have developed or worsened since taking part in this production.*

Clearly special effects are harming the musicians. The same also is surely true for the singers, dancers, and anyone else who is exposed repeatedly. However, the most distressing information in this report is the fact that it was sent to a union officer a year ago (1/17/97). Why then, has this report not been made available to all theatrical and entertainment unions, their members, and the public? ACTS is aware that additional studies of exposures at *Beauty and the Beast* are on-going, but Dr. Moline's current report is greatly needed to warn special effects-exposed workers nationwide and to convince designers and producers to reduce pyrotechnic and fog use.

* 1. Study begun in 1990 for Actors' Equity and the League of American Theaters and Producers. The report went through four versions. The Final Report was released in August 1994 (HETA 90-355-2449).

2. "Health effects of glycol based fog used in theatrical productions," Harry H. Herman, Jr., Report to Actor's Equity Association, July 1995.

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THREE BRANDS OF CANDLES RECALLED

CPSC. Press Release (PR) # 98-039 & PR # 98-040, Dec 10, & PR 98-044, Dec 15, 1997

1. **CANDLEHOLDER SETS: FIRE HAZARD.** In cooperation with the U.S. Consumer Product Safety Commission (CPSC), Roman Inc., of Roselle, Illinois, is recalling about 800 train candleholder sets. The candleholders can melt and ignite when exposed to a direct flame, presenting a fire hazard. One report was received of a candleholder melting and igniting a bathroom vanity.

The set includes one locomotive and two boxcars made of acrylic and the candle receptacle is brass. Each boxcar has brass plates on the sides which read, "MERRY CHRISTMAS." A tag is labeled in part, "Roman Inc...Made in Taiwan...Item 76530." Card, gift, hardware and specialty stores nationwide sold the sets from March 1996 through March 1997 for about $16. Refunds can be obtained at the store where purchased or call Roman Inc. at (800) 729-7662.

2. **CANDLE HOLDER: CAN OVERHEAT, SHATTER AND CAUSE FIRE.** In cooperation with CPSC, Godinger Silver Art Co. Ltd. of Ridgewood, N.Y., is recalling about 31,000 tree-shaped candle holders. The candle holders contain small glass pots that can overheat and shatter, presenting a fire hazard. Godinger has received two reports of the glass pots cracking while in use and releasing the burning wick and melting wax damaging a table surface in one incident and carpeting in another.

The circular, tree-shaped candle holders, measuring 14.5 inches high and 7.5 inches wide at the base, are made of silver-plated wire. The candle holders were packaged with four green and five red, small glass pots and with nine tea-light candles with the style number 1731 on their packaging. Major retail department and gift stores sold the items nationwide from October 1996 through December 1996 for about $25. For refund return them to the store where purchased or call Godinger at (800) 544-2209.

3. **CANDLE GENERATES HIGH FLAMES.** In cooperation with CPSC, Gump's By Mail Inc., of Weehawken, NJ, is recalling about 1,960 three-wick candles that can generate high flames that present a fire hazard. Gump's By Mail has received 14 reports of high flames resulting in 12 reports of minor property damage. The three-wick candle is contained in a porcelain blue and white Oriental-style bowl with a sticker on the bottom reading, "Andrea by Sadek...Made in Japan." The candle was sold by catalog from May 1996 to October 1997 for about $25. Call 800/338-2670 for refund or credit.

Consumers are urged in all three recalls to stop using the candles immediately. For further information contact CPSC's hotline at (800) 638-2772 or their web site at http://www.cpsc.gov.

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SUBSCRIPTION PRICE SNAFU

The subscription blank at the end of the December 1997 issue incorrectly listed old 1994 prices! Ouch. Sorry for any confusion.

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LOSE THE BELT, USE THE HARNESS

BNA-OSHR, 27(27), December 3, 1997, p. 996

Body belts are no longer acceptable as part of a personal fall arrest system for construction workers as of January 1, 1998. Research indicates that workers suspended in the old body belts receive internal injuries and cannot tolerate suspension long enough to allow for rescue.

Both full harnesses and locking snap hooks for the harnesses are now required. The new rules, issued August 9, 1994, were not effective until 1998 so that employers would not have to buy new equipment. Now the belts and old non-locking hooks from 1994 are worn out and should be replaced with the new fall arrest equipment.

These rules also apply to scene and set construction and any other theatrical or art activity involving building, renovating, or installing in which workers could fall more than six feet.

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BETTER BLEACH ADVICE

Linea Smith, OHN, Health Director for Branson, MO, was critical of FDA's suggestions for cutting board safety quoted in the last issue of ***ACTS FACTS***. The FDA recommends using bleach solution consisting of a teaspoon of bleach per quart of water and keeping a spray bottle of this mixture on the sink for ready use. Ms. Smith notes:

1. The bleach solution should be made up fresh. It loses its killing power rather quickly.

2. The spray must not be delivered in a fine mist. (Ms. Smith tried spraying bleach with a "I can't believe it's not Butter" spray container. Most of the fine mist it made didn't hit the target but ended up in the air she was inhaling.)

3. Pick the right spray container. Make sure the container is one which will not be corroded by bleach and has been washed clean if it was previously used to contain an incompatible chemical. For example, a Windex® bottle must be carefully rinsed since this cleaner contains ammonia which is incompatible with bleach.

4. Soaking rather than spraying would provide better contact with the boards.

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ACTS FACTS' SOURCES include the Federal Register (FR), the Bureau of National Affairs Occupational Safety & Health Reporter (BNA-OSHR), the Mortality and Morbidity Weekly Report (MMWR), and many health, art, and theater publications. Staff: Monona Rossol, Editor; Tobi Zausner, Nina Yahr, Diana Bryan Research.

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February 1998 Vol. 12, No. 02

LAWSUITS, LABELING AND LEAD GLAZES

Last year, two lawsuits were settled in which children were allegedly harmed by lead glazes used by their mothers. One suit was brought by Sherrell McClendon and her husband Richard Duggan on behalf of their three children, one of which allegedly was harmed *in utero*. They sued Duncan Ceramics, Mayco Colors and Allstate Insurance.[1] The case settled last summer for around $500,000.

The second suit was for harm that Ashley Rose Witt allegedly sustained *in utero*, and for harm to her mother, Patty Moore. The child's mother and father sued Duncan Enterprises, American Art Clay Co., Mayco Colors, C and R Products, and Robert R. Umhoefer, Inc., in Florida.[2] A settlement in December, 1997 provided $750,000 for the child and $115,000 for the mother.

ACID SOLUBILITY TESTS DEBUNKED. The injuries claimed in these suits occurred before 1991 when lead glazes were commonly tested for acid solubility. Lead glazes could even be labeled "lead free" if they did not release more than 0.06% on this acid leach test. Experts in the lawsuits testified that the acid test was shown to be faulty in 1992 when a nursing home patient's blood was tested after she swallowed some "lead free" glaze.[3] One expert, Dr. Woodhall Stopford, toxicologist for the Arts and Creative Materials Institute, referred to the incident in deposition as follows:

> *Dr. Stopford: And at that time one of the glazes that was being used was in the low soluble category and its ingestion was associated with an elevated blood lead level.*
>
> *Question: Say that to me again in layman's terms?*
> *Dr. Stopford: ....it appeared that the categorization between insoluble and soluble did not really have meaning from a toxicologic basis.*
>
> *Question: Did it have any meaning for the consumers?*
> *Dr. Stopford: Well, it's apparent that they would be at risk if they ingested either soluble or insoluble lead glazes.*
>
> *Question: A health risk?*
> *Dr. Stopford: So at the time we dropped the difference between soluble and insoluble lead.*[4]

These statements and similar testimony from the other lawsuit make it clear that manufacturers who still use acid tests to determine glaze toxicity risk their liability. Paint manufacturers also should not use a similar acid test, ASTM D-5517. Ceramicists need to be aware that labels on old bottles of glaze may be inaccurate.

DUST HAZARDS. Another issue raised in the lawsuits was the failure of labels to warn about glaze dust exposure. Liquid glazes are powders suspended in water. They revert to powder when they are applied to bisque ware or when splashes or drops of glaze dry on surfaces. The gum binders that hold the dry glaze powder to the surface of bisque do not prevent transfer of dust to the hands when the ware is handled. Some ceramicists create more dust by hand-smoothing glaze surfaces, incising designs, or other techniques.

No matter how carefully ceramicists work, glaze dust will end up on surfaces, clothing, or other undesirable places. Ceramicists often are unaware of the extent of their exposures because many glaze dust particles are too small to be seen by the naked eye. Exposure may be worsened by cleaning methods. Sweeping creates air borne dust. Household or shop vacuum cleaners exhaust fine glaze particles back into the air through their filters.

ACTS believes that in addition other required information, glaze labels must include: 1) warnings about dust exposure by inhalation, hand-to-mouth contact, and workplace contamination; and 2) warnings against using lead-bearing glazes at home, in public schools, or in any other location where OSHA workplace precautions for lead dust control are not in place. Both labels and product literature should stress that employers must comply with the provision of the OSHA Lead Standard if employees use lead glazes.

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1. Sherrell McClendon wife of/and Richard A. Duggan, Jr., individually and as natural tutors of the minors, Richard A. Duggan, III, Jordan E. Duggan, & Michelle L. Duggan, v. Duncan Ceramics D/B/A/ Duncan, Mayco, D/B/A Mayco Colors, & Allstate Insurance Company USDC No. 94-2183 (US Dist. Crt. Eastern Dist. of Louisiana)

2. Ashley Rose Witt, a minor, by and though her mother and natural guardian, Patty Moore and Ronald Witt vs Duncan Enterprises; American Art Clay, Co.; Mayco Colors, Inc.; C&R Products, Inc.; and Robert R. Umhoefer, Inc., Circuit Court, Sixth Judicial Circuit of Florida, Pinellas County, Civil Division, No. 92-5392-CI-20).

3. "Morbidity and Mortality Weekly Report," CDC, October 23, 1992 Vol. 41, No. 42 pp. 781-783

4. Deposition: 4-1-97 page 69, Ashley Rose Witt, etc.

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WHO PAYS FOR PERSONAL PROTECTIVE GEAR?

BNA-OSHR, 27(29), December 17, 1997, p. 1048

The OSHA personal protective equipment (PPE) rules (1910.132-134, 1926.28 & 103) state that such equipment must be "provided" by employers. In a 1995 policy directive, OSHA states that this means that employers are also obligated to "pay" for PPE. Then last year, an employer cited for failure to pay for their workers' PPE took their case to the OSH Review Commission. The Commission ruled on October 16 that employers are not responsible for paying for PPE.

On December 15, OSHA decided not to appeal that decision. Rather than litigate further, OSHA Administrator Charles N. Jeffress said that OSHA will "revise its policy directive to make clear that we expect employers to pay for protective equipment...." He also said, "We will proceed as quickly as possible to amend our standard so there will be no further question ... on the subject."

In short, employers now can require workers to pay for their own gloves, goggles, respirators, and other protective equipment until OSHA has a new rule in place. The length of time that this takes will depend on OSHA and whether industry challenges the rule.

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TEENAGE WORKERS IN THE ARTS

BNA-OSHR. 27(30). Dec. 24. 1997. p. 1060 & "Child Labor Research Needs." DHHS(NIOSH) Pub.No.97-143

A study released in December by the National Institute for Occupational Safety and Health (NIOSH) showed that 17 year old workers face a higher risk of being killed in motor vehicle crashes, homicides, or machinery-related accidents than adult workers. These findings back up many other studies showing that young people are at greater risk from accidents and illnesses including a recent study from North Carolina (***ACTS FACTS***, Feb., 1997).

Another NIOSH publication, "Child Labor Research Needs," identified potential teen risk factors for accidents and occupational diseases. Included were their smaller size, rapid growth rate, higher sleep requirements, susceptibility to illness, and lack of experience and training. All the studies only confirm what common sense dictates: **younger workers need more training, supervision and safety precautions than adult workers.**

HAZARDOUS TEEN JOBS. Since it is well-known that teens are at high risk for accidents and illnesses, employers must provide training and supervision for teenage workers and interns doing hazardous jobs. Such jobs include work with power tools and machinery, or work involving toxic chemicals such as paints, solvents, sprays, acids, ceramic clays and glazes. Teen theatrical workers need special training and supervision if they work with special effects, traps or pits, rigging, or setting of lights.

Teen jobs involving animals require special training in infection control. Salmonella from reptiles and Herpes B virus from primates (which recently caused a fatality) are just two of many examples of disease organisms transmitted by animals. One particularly hazardous job commonly done in natural history museums by teenagers is mammal preparation which involves sharp instruments and dead animals. This job is inappropriate for teens or adults unless scrupulous infection control procedures are in place.

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COMPANY CEO "ASSAULTS" WORKERS WITH LEAD

BNA-OSHR. 27(26). 11/26/97. p. 977 & Mass.v.Fiengold. MassSuperCt. No. CR-96-060-1-7. plea 11/19/97.

The State of Massachusetts won its first conviction on criminal charges for violating occupational safety laws. A chief officer of Consolidated Smelting and Refining Company, indicted a year ago, has pled guilty to assault and battery with a dangerous weapon for exposing workers to high levels of lead dust and other hazardous wastes. He received a one-year suspended prison term, a $40,000 fine, and must perform 300 hours of community service. The company must conduct a site assessment and was fined $2,500, the maximum allowed by law.

Small art and craft businesses that use lead should find this case relevant because this scrap metals company was a very small business. Only two workers were affected. One was a secretary who worked in a nearby office for a year and one-half and was ignored when she told the company that her blood-lead level was rising. The other was a smelting worker who also made deliveries for the company from 1993 to 1995.

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ONE TYPE OF ASBESTOS MAY BE MADE SAFE

Science News, Vol. 153, Jan 3, 1998, p. 5

Chrysotile is the type of asbestos used in almost all sprayed on fireproofing for structural metal beams. Now *Science News* reports that W.R. Grace & Company and the Energy Department's Brookhaven National Laboratory (BNL) have developed a foam that can be used to treat chrysotile fireproofing material without removing it.

According BNL chemist Leon Petrakis, the foam contains a tiny amount of fluoride ions and an acid which attacks the magnesium oxide in the fibers. Within 24 hours these chemicals penetrate between the tube-like chrysotile fibers transforming more than 99 percent of them. "What remains is a hard material--globs of minerals bound together," says Petrakis.

The developers claim the treated materials were nontoxic in animal tests.* Fire tests show the material retains its ability to protect metal building structures. But the *Science Magazine* article does not say how toxic the foam is to workers applying it. Toxicity is an issue since developers admit to the presence of an acid and small amounts of fluoride ion. It seems likely that this foam releases hydrofluoric acid in some form which dissolves the magnesium oxides out the glass-like silicate fibers. It will be interesting to see the product's MSDS when it is available.

W. R. Grace plans to begin marketing the foam in the next few months. Meanwhile, Petrakis' team continues to work on adapting the technology for other types of asbestos and their applications.

* It is important to see what tests were used. Asbestos also is "nontoxic" on the LD50 and LC50 tests.

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OSHA's 200 FORM SHOULD BE ON YOUR BULLETIN BOARD

Beginning February 1, employers with 11 or more workers should have posted summaries listing the total number of work-related injuries and illnesses for 1996. Employers are required to make copies of the summary available to employees who transfer between sites owned by the same company and to employees who do not report to a fixed site such as construction or film industry workers.

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ACTS FACTS' SOURCES include the Federal Register (FR), the Bureau of National Affairs Occupational Safety & Health Reporter (BNA-OSHR), the Mortality and Morbidity Weekly Report (MMWR), and many health, art, and theater publications. Staff: Monona Rossol, Editor; Tobi Zausner, Nina Yahr, Diana Bryan Research.

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March 1998 Vol. 12, No. 03

A DINOSAUR LEADS THE WAY TO SAFETY

Science News, Vol.152, No. 24, Dec 13, 1997, pp. 382-383 & correspondence

Last October, the biggest *Tyrannosaurus rex* fossil ever found, was purchased at auction by Chicago's Field Museum. Contributions from many sources, including Disney, McDonald's, the California State University system, and private individuals helped the Field Museum acquire the fossil for a reported $8.36 million. Now, in phase two of the project, the Field and Disney's Animal Kingdom in Orlando are each building laboratories in which the *T-Rex* will be prepared for research. The labs are designed so that the public will be able to closely observe preparators through glass as they carefully remove matrix (the stone surrounding the fossilized bones) and strengthen (consolidate) the bones with liquid polymers.

The work is expected to take over two years. During this time, the lab workers will be exposed to matrix dust and consolidants which contain solvents, plastic monomers and catalysts. For this reason, the new laboratories are being specially designed for safety.

Lab safety requires assessment of the risk posed by each chemical. The hazards of solvents and monomers are well-known. However, the hazards of the fine dust created by pulverizing and abrading the matrix traditionally have not been addressed. To do this, the stone must first be analyzed for crystalline and fibrous minerals such as silica and asbestos, and for toxic metals.

Liberty Mutual Analytical Laboratories, in Hopkinton, MA, conducted what probably is the first analyses ever done on matrix for a paleontology laboratory. There were two types of matrix in the *T-Rex* deposit. Liberty Mutual's chemists, Mien Peng and Anne Boone, found that neither contained fibrous minerals or toxic metals in significant amounts except iron (18% in sample #2) and perhaps manganese (0.44% in sample #2) which can cause neurological damage.

Iron oxide dusts inhaled in very large amounts can cause a lung disease known as siderosis. This is a relatively benign condition unless the iron oxide dusts are contaminated with silica. In this case, a lung-scarring disease called siderosilicosis can develop. Analysis revealed that both samples did indeed contain silica in the following forms:

Silica type	wt%: sample #1	sample #2	ACGIH TLV-TWA**
Quartz	7.6	9.6	0.1 mg/m^3
Cristobalite	1.2	0.8	0.05 "
Tridymite	0.52	<0.49 DL*	0.05 "

* DL = detection limit

** American Conference of Governmental Industrial Hygienist's Threshold Limit Values (work-place air quality standards) in milligrams per cubic meter.

The presence of silica in the matrix dictates the design of the ventilation systems and the choice of protective gear for the two labs. For example, respirators must be equipped with HEPA filters since ordinary dust masks are not allowed for dusts whose TLVs are 0.05 mg/m^3 or less. Special industrial ventilation systems have been planned by David Gordon, P.E. (Gordon Air Quality Consultants, Billerica, MA), Bill Simpson (Chief Preparator, vertebrate fossils, Field Museum), and Monona Rossol. Many other architects and designers at Disney and the Field museum also are working together to make these labs safe and comfortable.

MANY "FIRSTS" IN THIS PROJECT. This appears to be the first time that matrix has been analyzed for its toxic hazards and the first time that paleontology laboratories have been designed with complete knowledge of the hazards that the workers face.

The fossil was auctioned at Sothkeby's on October 4, 1997. On October 8, 1997, Monona Rossol presented what appears to be the first paper devoted solely to paleontology laboratory safety at the Society of Vertebrate Paleontology Meeting in Chicago. A draft copy of the 40 page paper is available from ACTS for $5.00.

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ABSTRACT

HAZCHEM ALERT 13(2) p. 20, Feb. 1998

DI(2-ETHYLHEXYL)PHTHALATE(CAS RN 117-81-7)(DEHP)a plasticizer used widely in building material, may cause asthma in home dwellers. A study showed inhalation exposure to DEHP as an aerosol adsorbed to particles is more important than inhalation in the vapor state. DEHP has been shown to cause inflammation of airways, which is a precursor for the development of asthma. (Environmental Health Perspectives, Vol 105, No. 9, pp. 972-978,1997) Editor's note: this is the cancer-causingplasticizer that was used for many years in polymer clays and has been replaced with very similar phthalates.

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CEO JAILED FOR LABELING VIOLATIONS

PRESS RELEASE # 98-059, CPSC, Jan 28, 1998

The U.S. Consumer Product Safety Commission (CPSC) announced that a distributor of alternative energy products, was sentenced by the U.S. District Court of Colorado to 700 days in jail (nearly two years). John D'Angelo, owner and president of Utility Free, Inc., pled guilty to 15 counts of improperly shipping hazardous substances, including a highly corrosive, clear electrolyte solution. (*US v Utility Free Inc., and John D'Angelo,* No. 97-CR-312).

In December 1993, 15-year-old Justin Pulliam mistook the solution for water because Mr. D'Angelo had shipped it in a reused plastic one-gallon milk container that lacked appropriate warnings. The teenager drank it and died two weeks later from severe internal injuries. Sale of the electrolyte violated two laws: 1) the Federal Hazardous Substances Act which prohibits the shipment of hazardous substances in reused food containers and without proper warning labels and 2) the Poison Prevention Packaging Act which requires child-resistant packaging for certain chemicals. In addition, Mr. D'Angelo shipped improperly labeled potassium hydroxide and lithium hydroxide in solid form. He continued to sell potassium hydroxide in plastic bags with twist-ties or resealable plastic bags even after CPSC told him that this violated federal law.

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RESPIRATORS--OSHA REWRITES THE RULE

63 FR 1151-1300, Jan 8, 1998

The Occupational Safety and Health Administration (OSHA) has rewritten their Respiratory Protection rules. Effective as of April 8, 1998, the new rules require:

* **A written program.**
* **A written hazard evaluation** for each type of job and the rationale for selecting particular respirators.
* **A medical evaluation** to determine workers' ability to wear the selected respirator.
* **Fit testing** by a qualified person using an approved method.
* **Formal documented training** covering use and limitations of the equipment, cleaning, disinfecting, maintenance, "fit checking" before each use, and other technical matters.
* **Periodic program evaluation.**
* **Use of filters that meet new standards.**

CHANGES FROM THE OLD RULE: The old rule required annual medical evaluation, fit testing, and training. Now OSHA assumes that the periodic program evaluation will detect changes in the employee's health or facial structure affecting fit, or will observe changes in materials or equipment which would trigger retesting.

The new rules also allow employers to hire either a doctor or a "medical professional" such as an occupational nurse to evaluate workers' health. The most complex changes in the law, however are the new respirator filter classifications.

NEW RESPIRATOR FILTER STANDARDS. The new National Institute for Occupational Safety and Health (NIOSH) respirator certification standards, effective July 10, 1998, apply only to particulate filters for dusts, mists and fumes. The standards for organic vapors (OV), acid gases (AG), formaldehyde (F), and ammonia (NH3) cartridges are unchanged. The new filters come in three series.

* **N series filters** for environments free of oil-based mists or particulates. They have a time-use limit of eight hours.
* **R series filters** can be used for both non-oil- and oil-containing particles for only eight hours.
* **P series filters** may be used in either a non-oil- or oil-containing atmospheres with no time-use restrictions.

Each series of filters comes in three efficiency levels: 95%, 99% and 99.97% when tested against "fume-sized" particles. For example, the R series of filters would be labeled R95, R99, and R100. The best particulate filter of all would be a P100.

If all this is confusing, ACTS is distributing a data sheet written for the United Scenic Artists, Local 829 (IBPAT) which explains the new respirator regulations. Send SASE for a free copy.

==========

FIREWORKS CO: "WILLFUL" CITATIONS FOR FATALITIES

BNA-OSHR, 27(31), Jan 7, 1998, p. 1116-7

OSHA issues "willful" violations when it alleges a company has intentionally disregarded or operated with indifference to job safety and health regulations. A Midwestern fireworks display company was given three willful citations and a $145,000 proposed penalty for alleged violations of federal regulation in connection with an explosion resulting in the death of three workers aboard a river barge on July 3, 1997.

The company, Fireworks Partners, Inc., employed a crew which launched fireworks from a barge on the Mississippi River near Alton, Ill. The three willful violations--at $49,000 per citation--were issued for dangerous storage, handling and ignition of pyrotechnic shells; failure to use protective eye, face, and head equipment; and failure to wear life jackets.

OSHA also issued two citations alleging serious violations of standards governing fireworks storage, placement of mortars, lighting procedures, and training. Fireworks Partners Inc., has 15 working days to contest the citations and penalties.

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FIRE IN HOBBY SHOP LEAVES OVER 100 PEOPLE HOMELESS

Gannett Suburban Newspapers 2/11/98 & 2/12/98

A smoky fire spreading five floors from the basement of a hobby shop in downtown White Plains, New York, left over 100 people homeless on February 2. The blaze started at about 11 am. But the time it was under control at 2:40pm, broken glass, model trains and model airplanes littered the sidewalk in front of the hobby store. By the next day, investigators determined faulty wiring in the hobby store basement was the cause.

Deputy White Plains Fire Chief Richard Lyman estimated the building sustained at least $300,000 in damage. "It was a difficult fire because we had limited access and a high combustible content--the basement was filled with plastic models and model paint."

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ACTS FACTS' SOURCES include the Federal Register (FR), a compilation of all the regulations and public notices issued by all federal agencies, the Bureau of National Affairs Occupational Safety & Health Reporter (BNA-OSHR), the Mortality and Morbidity Weekly Report (MMWR), and many health, art, and theater publications.

M. Rossol, Editor; Tobi Zausner, Nina Yahr, Diana Bryan research.

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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

April 1998 Vol. 12, No. 04

MUSICIAN'S UNION GETS ACTION ON FOG AND NOISE HAZARDS

Editorial

March 14, a strike by Local 802, American Federation of Musicians, was averted when the League of American Theaters and Producers granted them a 21% salary increase over the next five years and some important safety concessions. Included in the safety package are demonstration projects at two Broadway theaters to provide: 1) ventilation systems to keep air in the pit free of special effects chemicals, and 2) special sound damping equipment to protect musician's hearing. The League also will comply with OSHA right to know provisions. Congrats, Local 802.

STATUS REPORT: LEAD/CADMIUM RULES FOR CERAMICS & GLASS

Ceramic Industry, 147(13), Dec 1997, p. 8, Jan 1998, p. 20 & Feb 1998, p. 24 (James A. Calderwood)
http://www.ceramics.com/sgcd/ & correspondence

LEAD-GLAZED CERAMICS: A BRIEF HISTORY. For years, the Food and Drug Administration's level for lead leaching from cups, mugs and pitchers was 0.5 parts per million (ppm). In 1989, FDA proposed lowering the pitcher standard to 0.1 ppm. FDA abandoned this plan when industry representatives insisted that this level would put many manufacturers out of business. Unmoved by this argument, California adopted the 0.1 ppm standard for hollowware, cups, mugs, and pitchers by declaring lead a toxic substance under their Safe Drinking Water and Toxic Enforcement Act. This Act, known as "Proposition 65," requires warning labels on products that contain chemicals believed to cause cancer or reproductive harm. Sales usually decrease when products must carry Prop 65 notices.

PROP 65 ENFORCEMENT. Besides State enforcement, private parties may sue for noncompliance. Persons bringing such suits do not have to have been harmed by the product or even to have ever acquired it. Private parties notify the State Attorney General and other local government attorneys of their intent. The State then has 60 days to decide if it will take over litigation. If the Attorney General takes the case, the private party assumes a supporting role. If the State does not sue, the private party may proceed alone.

In 1991, the Environmental Defense Fund instituted a Prop 65 action against a number of ceramic dinnerware manufacturers over the presence of lead. The Attorney General took over that action, and the involved parties entered a settlement agreement that set up a number of product labeling and warning requirements. This lawsuit and the distaste for warning are clearly the reasons that almost all U.S. dinnerware now meets the California 0.1 ppm lead standard.

HISTORY OF GLASSWARE DECORATION. For years, the top 20 millimeters (0.79 inch) of the outside surfaces of glasses were unregulated except for a voluntary standard for lead and cadmium leaching. When these standard were published in the *Federal Register* in 1987, they were endorsed by FDA, EPA and the Consumer Product Safety Commission (CPSC). The standards were revised in 1996 to a maximum level of 25 ppm for lead and 1.75 ppm for cadmium.

In 1997, the FDA, in concert with the CPSC and the EPA, announced they are withdrawing acceptance of the voluntary standards for lead and cadmium in lip and rim area. Instead, lead and cadmium from this area would be regulated as unauthorized food additives. FDA informed industry representatives that it intended to ban the addition of lead and cadmium to the lip and rim area without any allowance for minimum leaching levels until their use was approved through a food additive petition. This essentially would ban lead and cadmium glass decorations because it was unlikely that FDA would approve such a petition.

INDUSTRY RESPONDS. Although there are other glass colorants they could use, glass makers looked for a way to continue using cadmium and lead. At this time, the Senate and House of Representatives were preparing to completely overhaul the Food, Drug, and Cosmetic Act through the new Food and Drug Administration Modernization Act. Glass and ceramic industry representatives talked to Congressman Ron Klink (D-Pa), a member of the committee examining the FDA reform legislation. Together they developed a special amendment to the Act which derails the FDA's plans.

Congressman Klink's amendment is Section 308. It prevents the FDA from using the food additive regulations to ban lead and cadmium from the lip and rim area of glass and ceramicware unless FDA first publishes a notice of its intent in the *Federal Register* and formally addresses industry's objections. And instead of putting the onus on industry to prove the additives are safe, Section 308 places on FDA the burden of developing data to prove there is a health problem before it could proceed. Although lead and cadmium are obvious hazards, development of such data and defending it against industry's comments could take years. Even then, a ban could not take effect until at least one year after publication.

Section 308 also disallows any action by FDA on lead- and cadmium-decorated glass or ceramic ware that has less than 60 millimeters of decorating area below the lip and rim and that is not designed for the children's market until January 1, 2003. After that date, the FDA may only act through the same formal regulatory process that requires publication in the *Federal Register* and a year long wait until the ban could become effective. Section 308 provisions may keep FDA from ever setting glassware rules.

ENTER CALIFORNIA AGAIN? Effective May 1, 1998, California will impose consumer warning requirements through Prop 65 on products containing cadmium. The new requirements, like the previous ones on lead, are expected to effect many ceramic manufacturers. But if Prop 65 were applied to glassware, lead and cadmium leaching of glass decoration also could be addressed. Just a thought.

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DIARYLIDE DATA MISSING?

63 FR 5740-2, February 4, 1998 (SNUR:CAS 78245-94-0)

Some interesting data was found hidden in an EPA significant new use rule (SNUR). A SNUR requires companies planning to manufacture, import, or process a particular substance for any new use to notify EPA at least 90 days before commencing. This allows EPA time to evaluate the hazards of the use and even prohibit it if necessary. The SNUR-restricted substance was identified as:

2,2'-['dichloro[1,1'-biphenyl]-4,4'-diyl)bisazobis N-2,3-dihydro-2-oxo-1H-benximdazol-5-yl)-3-oxo-butanamide

This appears to be a new diarylide pigment which contains a 3,3'-dichloro-benzidine (DCB) chemical unit in its structure. Similar DCB-containing pigments are known to release their cancer-causing DCB unit at temperatures above 200 degrees centigrade. And without data to the contrary, EPA must assume they also release DCB into the environment. EPA says:

> *The [pigment industry] commenter stated that diarylide pigments containing DCB have been extensively tested for breakdown in living organisms and found to remain intact, that diarylide pigments do not bioaccumulate or bioconcentrate in organisms, and that there is no evidence for the biodegradation of diarylide pigments over a period of months. However, the commenter submitted no data to support the contention concerning the biodegradation of diaryl pigments.* 63 FR 5740

Could this be yet another group of pigments for which industry has no acceptable data* to back their safety claims? If so, this casts doubt on the safety of some commonly used DCB artist's pigments:

C.I. #	COLOUR INDEX NAME	COMMON NAME
21096	C.I. Pigment Yellow 55	Diarylide Yellow
21104	C.I. Pigment Yellow 170	Diarylide yellow
21108	C.I. Pigment Yellow 83	Diarylide yellow
21110	C.I. Pigment Orange 13	Pyrazolone orange
21120	C.I. Pigment Red 38	Pyrazolone Red

Other DCB-containing pigments which may be used on occasion in art materials by C.I. number and abbreviated name include:

21090 PY 12	21094 PY 188	21100 PY 13	21103 PY 176	21107 PY 124	21111 PY 152
21091 PY 63	21095 PY 14	21101 PY 126	21105 PY 17	21107:1 PY 87	21115 PO 34
21092 PY 114	21098 PY 174	21102 PY 127	21106 PY 171	21109 PY 172	21130 PO 15

Another SNUR published in the *Federal Register* on October 7, 1996 (61 FR 52287, amended 63 FR 673-4) placed similar restrictions on 149 benzidine compounds and dyes. Could the diarylides be next?

* Ed: I found references to old studies of PY 12 and PY 83 which may or may not stand up to EPA scrutiny.

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ABSTRACT

HAZCHEM ALERT 12(11) p. 102, Nov. 1997

BENZIDINE-BASED LEATHER DYES may contribute to mortality in a cohort of workers employed at a chrome tannery between 1955-1988. All causes of mortality were similar to that of the general populations. The most remarkable excess was for bladder cancer. An excess of colorectal cancer was also found, based on an increased risk of both colon and rectal cancer. (Occup Environ Med 54(8), 588-591 (1997); Chemical Abstracts 127:224529h, 1997)

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DARTMOUTH'S "SPIN" ON DIMETHYL MERCURY DEATH

ACTS FACTS. 11(7) July, 1997; many references; & Chem. & Eng. News. Aug 29, 1997. pp. 9-10

Karen E. Wetterhahn, a brilliant and beloved professor of chemistry at Dartmouth College, died at age 48 from mercury poisoning. One day last August she spilled between one and a few drops of dimethylmercury on her latex gloves. Unknown to her, it permeated the gloves and absorbed through her skin. She began experiencing increasing difficulty with balance, speech, vision, and hearing. She was diagnosed with mercury poisoning in January. Doctors managed to reduce her mercury levels, but her neurological functions could not be restored. She died June 8, 1997.

ACTS FACTS reported this story last July, noting that OSHA was going to investigate the death. Now they have done so and proposed a paltry $13,500 fine for Dartmouth's failure to train workers about protective equipment, especially about glove permeability. The citation says that "laboratory workers were using disposable latex or vinyl medical examination type gloves when handling organic chemicals and solvents." These gloves are only barriers for blood and other water borne materials. They are readily permeated by most solvents and organic chemicals.

A spokeswoman for Dartmouth said safety efforts would increase now that they know more "about how this material behaves and also about the absolute safety limits of disposable gloves." This is an amazing statement considering that skin absorption of organic mercury compounds has been known for over 30 years. And glove manufacturers have supplied permeability data for their products for about 20 years.

Worse, since 1987, OSHA has required all employers including schools to formally train their personnel about hazards such as this. And the 1990 OSHA Laboratory Standard required laboratories to write a chemical hygiene plan to formally address all hazards including skin absorption and glove permeability.

In a packed college chapel, Dr. Wetterhahn was eulogized as a modern-day Madame Curie who had sacrificed her life to her cause. It is outrageous that, in fact, she died from ignorance of well-known safety hazards and from Dartmouth's failure to provide required OSHA training and proper protective equipment.

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May 1998 Vol. 12, No. 05

UPDATE: ARTISTS' CONDO IS SUPERFUND SITE

EPA Orders GE to Demolish Mercury Contaminated Condo in... Date:98-04-03 13:06:54 EST, AOL News

In August, 1996, ***ACTS FACTS*** covered the story of a group of artists and architects who bought a five-story factory in Hoboken, New Jersey in 1993. The new owners converted the building into homes and studios. Then mercury contamination was found. The building's occupants were forced to evacuate and relocate in January 1996.

Mercury vapor lamps were manufactured in the building by General Electric Company (GE) from about 1919 to 1948. The U.S. Environmental Protection Agency (EPA) has ordered GE to clean up the mercury-contaminated property which is now a federal Superfund site. The cleanup order includes demolition of the condominium building, proper disposal of the resulting debris, excavation and disposal of contaminated soil, and other site cleanup activities. The cost will be roughly $4 million. The directives are contained in a Superfund Unilateral Order that EPA issued to GE (4/3/98).

EPA Regional Administrator Jeanne M. Fox said, *We are taking this legal action because we have been unable to reach an amicable cleanup agreement with GE. The contamination forced hard-working artists and their families out of their homes. We expect those responsible for creating the problem to take responsibility for their past actions.*

MOLDY LIBRARIES

Abbey Newsletter, Vol. 21, # 5-6, 1998 (7)

In August of 1997, four years after it won an award for renovation of its 1904 building, the Tottenville Branch Library in New York was shut down because of an invasion of *Stachybotrys chartarum* mold. The mold was discovered when air quality tests were run at the suggestion of the doctor of a staff member with a persistent bronchial condition. When results were known, the library was closed and a consultant, Tiffany-Bader Environmental, Inc., was hired to assess the situation and make recommendations for cleanup.

Two more branches of New York public libraries were closed October 24 when smaller amounts of *Stachybotrys* were found in them, but they were reopened within six weeks.

Stachybotrys chartarum is a mold that flourishes under very damp conditions and is known to produce a toxin which causes serious and permanent nervous system damage. This same mold allegedly sickened and even disabled some workers in the New Contemporary Museum of Art in New York (***ACTS FACTS***, May 1994). The Centers for Disease Control now blames this mold for a possible 66 deaths from acute pulmonary hemorrhage/hemosiderosis among infants from January 1993-December 1995 in one area of Cleveland (***ACTS FACTS***, March 1997).

FERTILIZERS AS CERAMIC GLAZE INGREDIENTS

http://www.seattletimes.com/news/local/html98/fert_032698.html: July 3 & 4, Aug 7, Sept. 17, 1997 & March 26, 1998. Seattle Times staff reporter Duff Wilson: Clay Times, July/Aug, 1997, pp. 13-14.

Some ceramicists use fertilizer as a glaze ingredient. They think it is safe because the list of ingredients on fertilizer bags includes no highly hazardous chemicals. However, *Seattle Times* Staff Reporter, Duff Wilson, revealed in a series of reports on the fertilizer industry that only nutrients are listed. Worse, the unlisted non-nutrients can include very toxic substances.

Hazardous substances are found in some fertilizers because toxic wastes that have fertilizing qualities legally can be labeled as fertilizer. Among the substances found in some recycled fertilizers are cadmium, lead, arsenic, radionuclides and dioxins at levels some scientists say may pose a threat to human health. Wilson also points out that while the amount of dioxin in a concrete highway barrier is limited, there is no dioxin limit for fertilizer. While there is a limit on the amount of lead in consumer paints (0.06%), there is no limit for lead in fertilizer.

Lead, in particular, was found in many fertilizers. Even when it was present in amounts as high as 3% by weight, it was never disclosed on the bag. Attempts to change this have been futile. For example, 3 years ago in Congress, a section of the proposed Lead Exposure Reduction Act would have banned fertilizers with more than 0.1% lead. Fertilizer industry lobbyists fought and won removal of this section.

The wastes used in fertilizers come from metal smelting, mining, cement kilns, burning of medical and municipal wastes, wood-product slurries, electronic manufacturers, the chemical industry, and other industries. The Environmental Working Group reported that 606 companies in 44 states sent more than 270 million pounds of toxic wastes to farms and fertilizer companies in the six years from 1990 to 1996. The steel industry provided nearly 30 percent of the wastes sent to farm and fertilizer companies.

Nucor Steel of Norfolk, Neb., led the way with 26 million pounds of hazardous ash collected from a pollution-control device and sent to a nearby fertilizer factory owned by Frit Industries. Frit took in more heavy-metal waste than any other fertilizer company.

Unlike many other industrialized nations, the U.S. has no federal regulation for wastes used in fertilizers. Instead, we have some inconsistent state laws. For example, if a trucker picks up a load of toxic ash from a metal-processing plant in California, he must hang a "hazardous waste" sign on his rig. If he wheels that ash up Interstate 5, he can legally take off the hazardous-waste sign through Oregon and Washington. But when he gets to British Columbia, he'll be turned back at the border. Canada and many European countries have strict limits on toxic metals found in industrial byproducts, including those used for fertilizer.

There are now proposals in the works for regulating the industry and for fully labeling fertilizers. But until these laws are in effect, U.S. fertilizers should never be used as glaze ingredients. And maybe not in your garden either!

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ABSTRACTS: SOLVENTS/ALCOHOL AFFECT COLOR VISION

HAZCHEM ALERT 13(2) p. 17, Feb. 1998

The following abstracts provide an artistic reason to avoid solvent exposure: color vision is altered, especially the perception of blues and yellows. Those who drink alcohol in addition develop even greater color vision defects as measured on the Bowman's "color confusion index." (Perhaps this explains certain artist's work!)

ORGANIC SOLVENT occupational exposure leads to blue-yellow color vision deficiency in workers exposed to low concentrations. Color vision was examined in 24 workers exposed to mixtures of solvents and in 24 control subjects. Exposure to mixtures was below the threshold-limitvalues. Color vision ability was assessed using the Ishihara plates (to screen for congenial dyschromatopsia), the Farnsworth panel D-15 test, the Lanthony desaturated panel D-15 test, and the Standard Pseudoisochromatic Plates part 2 (SPP2 test). The comparatively less sensitive Farnsworth panel D-15 test failed to show any difference between the groups, but the Lanthony Panel D-15 desaturated test as well as the SPP2 test showed a significant impairment in the exposed group. Errors were of the blue-yellow type. (Int Arch Occup Environ Health 1997;70(6):407-412;Medline 98103162)

SOLVENTS AND ALCOHOL occupational exposure leads to acquired dyschromatopsia in combined exposure to these materials. A total of 138 individuals exposed to solvents (toluene, CAS RN 108-88-3; xylene, CAS RN 1330-20-7;trichloroethylene, CAS RN 79-01-6;tetrachloroethylene, CAS RN 127-18-4) were examined using Lanthony's D-15 test and compared with 100 nonexposed controls. The extent of color vision loss was quantitatively assessed based on Bowman's color confusion index (CCI). A cumulative exposure index was calculated from the hours of exposure per day and the years of exposure. In 30 persons who were exposed to trichloroethylene and tetrachloroethylene, urinary trichloroacetic acid was assessed as a parameter of exposure. Individuals who consumed more than 250 grams of alcohol/week and were simultaneously exposed to solvents showed a significantly elevated CCI. The combination of alcohol intake and occupational exposure to solvents discloses the risk of acquired subclinical color vision defects. (Int Arch Occup Env Health 1997;70(6):403-406;Medline 98103161)

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ETHYLENE GLYCOL & KEROSENE IN RECALLED PRODUCTS

CPSC Press Release # 98-093, and # 98-092, April 8, 1998

• In cooperation with the U.S. Consumer Product Safety Commission, Warner Bros. Stores Inc., of Burbank, Calif., is recalling about 2,500 Tweety Water Timer Game Key Rings. The key rings contain ethylene glycol commonly found in antifreeze, that could leak and poison young children if swallowed. The Tweety Water Timer Games Key Ring is a rectangular-shaped clear plastic container with three compartments containing a blue liquid, pictures of Tweety, and a yellow wheel which turns went the key ring is tipped. The key rings were sold nationwide from April 1996 through April 1997 for about $5. For more information call 800/795-9277, ext. 43288.

• Atico International USA of Fort Lauderdale, FL., is recalling about 329,000 Halloween Floating Eyeballs and about 100,000 Smiley Face Floating Balls which contain kerosene. If the balls crack or break, kerosene leaks out and could poison young children if swallowed. The smaller of these balls also present a serious choking hazard to young children. The Smiley Faces and the Eyeballs (which resemble bloodshot eyes) float inside a clear outer ball filled with kerosene and are labeled "MADE IN TAIWAN." The balls were sold nationwide by retail chain stores from June 1995 through October 1997 for about $ 1. For more information call 800/645-3876.

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GUIDANCE ON LEAD IN CONSUMER PRODUCTS

FR 63 3310-11, Jan 22, 1998

Art and craft product retailers, distributors, importers, and manufacturers should get a copy of the Consumer Product Safety Commission's (CPSC) guidance statement for consumer products that may contain lead. The document makes it clear that CPSC holds liable those dealing in the lead products. It states that: *any firm that purchases a product for resale is responsible for determining whether that product contains lead and, if so, whether it is a 'hazardous substance,'* that is, if it will expose people to lead under reasonably foreseeable conditions of handling or use.

Deciding which products are "hazardous substances" requires case-by-case assessment of *the total amount of lead contained in a product, the bioavailability of the lead, the accessibility of the lead to children, the age and foreseeable behavior of the children exposed to the product, the foreseeable duration of the exposure, and the marketing, patterns of use, and life cycle of the product.* Such an assessment is too costly for small businesses. As an alternative, the CPSC recommends that, prior to the acquisition or distribution of lead-containing products, *importers, distributors, and retailers obtain information and data such as analyses of chemical composition or accessibility from manufacturers.*

Relying on manufacturers or experts to certify that the product is lead-safe helps, but will not protect retailers from liability. Small retailers may find it wiser to avoid lead products than to risk an expensive product recall. Examples of products that have been recalled recently as lead hazards are crayons, figurines used as game pieces, children's jewelry, and vinyl miniblinds.

By regulation, the CPSC already bans (1) paint and other surface coatings that contain more than 0.06% lead, (2) toys and other articles intended for use by children that bear lead-containing surface coatings, and (3) furniture articles for consumer use that bear lead-containing paint. But this guidance document makes it clear that all types of lead-bearing products require evaluation.

For further information, contact Laura Washburn, CPSC Office of Compliance, 301/504-0400, ext. 1452. Or send a self-addressed stamped envelope and ACTS will provide a copy of the announcement.

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June 1998 Vol. 12, No. 06

ANALYTICAL LAB WILL TEST GLAZES AND GLASS

Dr. Roland Hale, Director of the Alfred Analytical Laboratory is offering potters low-cost glaze leach tests for lead, cadmium, and many other metals. The lab will use the standard acid method (ASTM C 738) to leach the glaze and will analyze the leachate by Atomic Absorption Spectroscopy for the metals specified by the potter.

The leaching procedure will cost $10.00. Each metal will cost an additional fee with most common metals costing around $10.00. This means that a single pot tested for two metals should cost about $30. A pot tested for a single metal would cost about $20. There will be an additional charge to ship back the ware if the client wishes (most ware should not be damaged by being in contact with acetic acid during the leaching).

If potters have questions about which metals should be monitored, ACTS or Dr. Hale will look at your general formula and help decide. Usually, one toxic flux and/or one colorant is chosen.

* Toxic fluxes might include: barium, lithium, boron, lead.
* Toxic colorants might include: cadmium, chromium, cobalt, copper, manganese, nickel, silver (lustres), uranium, vanadium.

Test results can be compared with the maximum contaminant levels for drinking water to determine whether the pot poses a hazard to consumers. Alfred Analytical does a great deal of water testing and is very familiar with these standards.

Dr. Hale also plans to work with pottery clients and with ACTS to compile a data base of test results in hopes of developing a method of predicting which glazes will be safe before testing. For complete price lists and procedures, Dr. Hale can be reached at:

Alfred Analytical Laboratory*
Ceramic Corridor @ Alfred University
200 N. Main
Alfred, NY 14802 607/587-8377

GLASS. Alfred Analytical Lab also does complete acid digestion and analysis of glass materials. These analyses should be undertaken by glass importers, distributors, and glassworkers whenever material safety data sheets or complete formulas are not available for glass, especially for colored frits, granules, or cane.

* Note: As always, ACTS accepts no donations or fees from Alfred Analytical Laboratory so that potters may be assured that our recommendation of this lab is not influenced by financial gain.

ARTIST'S DEATH TRIGGERS CLASS ACTION LAWSUIT

Chemical H & S, 5(2), ACS, Mar/Apr 1998, p. 31 (their source: Minnesota Star Tribune, Oct 25, 1997)
BNA-OSHR, 27(46) April 22, 1998, p. 1641

Minneapolis artist, Santos Fernandez was found dead in his warehouse studio this past August. An investigation determined that the cause of the artist's death was methyl bromide poisoning. This deadly gas traveled though underground conduits to his building from a soybean mill that was being fumigated 160 feet away.

Two firefighters and a police officer who spent three hours in the warehouse studio investigating the case also showed signs of methyl bromide poisoning. On March 30, these emergency workers joined six other Minnesotans who worked at or near the grain mill in a class action against ADM Milling company and its fumigator, Industrial Fumigants, Inc. The suit alleges they were illegally exposed to methyl bromide (*Benson v. Industrial Fumigants Inc.*, Minn DistCt, No. 98-4889, class action filed 3/30/98).

In addition to the three emergency workers, the Plaintiffs include two workers at a nearby hydroelectric plant, the owner of a pneumatic lift company located in the ADM warehouse, Santos Fernandez who rented studio space in the warehouse, an emergency service technician, and a former ADM employee.

Class Could Number 200. The Plaintiffs attorney, Teresa K. Patton, said more ADM workers likely will join the class, which could number at least 200. Patton seeks to represent all individuals illegally exposed to methyl bromide applied at the mill since 1978.

Former ADM employee Steve Vierling alleged he was exposed to methyl bromide many times between 1977 and 1996. He contends he was hospitalized with severe symptoms and experienced such disorientation and amnesia that he failed to recognize his brothers and sisters, and that he was in a coma for eight hours. Vierling alleges that he did not receive proper medical treatment because the defendants did not tell him he had methyl bromide poisoning.

The power workers allege they were exposed through their work at the St. Anthony Hydroelectric Plant, which is connected to the mill via an under ground tunnel. They contend they suffer from migraine headaches, fatigue, loss of consciousness, extreme mood swings, and forgetfulness. The emergency workers contend they suffer from nausea, headaches, and fatigue.

The suit, filed in Minnesota District Court for Hennepin County, alleged that ADM Milling Co. and the mill's previous owner, Pillsbury Co., had improperly and negligently fumigated for years. Since methyl bromide is an odorless gas, an odorant must be added to provide warning. The suit alleges the gas was applied without an odorant, that the defendants failed to seal off the fumigation area causing the release of the gas, and that they failed to inform state authorities, their own workers, or those working near the mill about the fumigation.

The plaintiffs seek compensatory and punitive damages. Santos Fernandez' heirs also filed a separate wrongful death action.

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FEW WA STATE GLASS/CERAMIC MAKERS FOLLOW LEAD LAWS

"Employees Exposed to Lead in Washington State Nonconstruction Workplaces: A starting Point for Hazard Surveillance." Nancy A. Nelson, Joel D. Kaufman, Am. Ind. Hyg. Assoc. J., 59:269-277 (1998)

Washington state employers in non-construction businesses were surveyed in 1995 to (1) determine the number of employees working in lead-using businesses, (2) characterize processes and tasks where exposures occur, and (3) determine the number of employers familiar with the lead standard, lead health effects, and how exposures can be controlled. A total of 1822 employers likely to use lead were identified and sent questionnaires. Most (89.5%) of the employers returned the mail questionnaire. Of these, 789 employers confirmed they used lead.

Of the confirmed lead-using employers, 45% stated they were aware there was an Occupational Safety and Health Administration standard for lead, 21% had done the mandatory air sampling for lead, 17% had done blood-lead screening. The lead-using activities reported most often were soldering, auto repair, scrap metal handling, sanding, cutting or welding surfaces coated with leaded materials, painting with leaded paints, and radiator repair. Of most interest to ACTS, however, are data from 46 of the employers and their 790 workers in the glass and pottery industries.

Of the those using lead, only 42.3 % of the glass manufacturers and 9.1 % of the pottery manufacturers even knew there was a Lead Standard. Required blood tests were done by only 18.5 % of the glass makers and none of the pottery and ceramic manufacturers.

KNOWLEDGE OF THE WASHINGTON STATE OSHA (WISHA) LEAD STANDARD AMONG LEAD-USING EMPLOYERS

Industry	% aware of standard	% air sampling	% blood-lead screening
Glass manufacture	42.3	15.4	18.5
Pottery/Ceramic mfg	9.1	16.7	0

Air-sampling is required of all lead-using industries. Failure to do so indicates that employers are not complying with even the first requirement of the lead standard. About 84 % of the employers in glass and ceramic manufacture in Washington State are non-compliant. This appallingly irresponsible use of lead is probably occurring throughout the U.S. in the ceramic and glass industries.

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MERCUROCHROME, CALOMEL NO LONGER LEGAL

63 FR 19799-19802, April 22, 1998

Since 1980, FDA has instituted progressively restrictive rules on mercury-containing over-the-counter (OTC) drug products. Now in the absence of any comments or data from manufacturers supporting the use of these products, FDA has declared all mercury-containing drugs for OTC products as "not generally recognized as safe and effective" or "misbranded." Effective October 19, 1998, the new rule outlaws well-known products such as mercurochrome (merbromin), calomel (mercurous chloride), and thimerosal for all OTC first aid antiseptics, diaper rash products, and vaginal contraceptives.

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SNIPPETS FROM THE BUREAU OF NATIONAL AFFAIRS

BNA-OSHR, 27(40), Mar 11, 1998, pp. 1460-1.

A Wisconsin jury awarded $1 million to a worker alleging systemic allergy to latex gloves. The case will be appealed but is worth watching (*Green v. Smith & Nephew AHP Inc.*, Wis CirCt; 94-CV-4199, verdict 2/15/98.

BNA-OSHR, 27(40), Mar 11, 1998, p. 1461.

An electrical engineer exposed to manganese sulfate monohydrate dust while working as an independent contractor got worker's compensation for his injuries and now has also obtained on a summary judgement in US District Court for the District of Kansas the right to sue the employer for negligence as well. (*Ascanio v. Allied Signal Inc.*, DC Kan, No. 97-2147-JWL, 1/28/98)

BNA-OSHR, 27(35) Feb 4, 98, p. 1340

A contested OSHA citation resulted from personal observations of Joseph Dear in 1997 when he was head of OSHA. He was staying at a hotel in Orlando, FL., when from his room he saw employees working across the street without fall protection. He called a local OSHA compliance officer. Instead of going immediately onto the site, the officer obtained permission from the hotel to go onto the roof, where he videotaped workers for 50 minutes while they worked about 80 feet above ground without safety cables.

The employer claimed that the videotaping of his worksite violated his rights. The U.S. Court of Appeals for the Fourth Circuit ruled January 28 that the taping did not violate either the Fourth Amendment's privacy right protections or the OSH Act (*L.R. Willson and Sons Inc. v. OSHRC*, CA 4, No. 97-1492, 1/28/98).

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BACKYARD BUG BLASTER: BUMMER!

Yahoo TimeStamp: 896126520, May 25, 4:02pm EDT, Bug zappers spread bacteria

When house flies are zapped by electronic traps, bacteria are blasted into the air, according to Dr. James Urban, biology professor at Kansas State University. Bacteria inside the insects are destroyed, but millions of bacteria on the surface of the bugs are scattered into the air when zappers cause insects to explode.

According to Urban's research, a zapper can hurl bacteria as far as 6 feet. "And if that zapper is near a fan or an air conditioning vent, who knows how far those bacteria will travel," Urban added. Zappers may spread more disease than they prevent.

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ACTS FACTS' SOURCES include the Federal Register (FR), the Bureau of National Affairs Occupational Safety & Health Reporter (BNA-OSHR), the Mortality and Morbidity Weekly Report (MMWR), and many health, art, and theater publications. Monona Rossol, Editor; Tobi Zausner, Nina Yahr, Diana Bryan, Research; John Fairlie, OES.

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181 THOMPSON ST., # 23, NEW YORK, NY 10012-2586 PHONE 212/777-0062

July 1998 Vol. 12, No. 07

CIRCUS PERFORMER HURT

Art Hazards News, Vol. 21, No. 2, 1998, p. 8

Acrobat Jacques Mbembo, a performer with Ringling Brothers and Barnum & Bailey Circus, sustained second and third degree burns over his entire body during a performance on April 13, 1998.

A member of a Gabonese Troupe called the Circus of the Equator, Mbembo and his troupe wear costumes made from leopard skins and real grass skirts. They were jumping a burning rope when Mbembo's skirt caught fire. Reportedly, Mbembo dropped to the ground, but was unable to extinguish the flames. The other members of the troupe kept performing while Mbembo ran out of the center ring still aflame.

Allegedly, a fire extinguisher was not readily available offstage as required. There was general confusion for several moments until an assistant ringmaster located an extinguisher and doused the flames. Lessons learned from this accident include:

1. The "show must go on" myth must be debunked. There is no evidence that addressing serious emergencies on stage will destroy show business or cause audiences to panic. Performers and crew must feel free to assist stricken performers immediately and without concern for the performance. Mr. Mbembo's burns clearly were exacerbated by having to run off stage for help.
2. Circuses, like all entertainment venues, must have written emergency plans and training in emergency and evacuation procedures as required by OSHA and by fire codes. Emergency protocols must not restrict safety measures to off-stage areas.
3. When fire is used on stage, all costumes and props must be made of fire retardant materials or treated with fire retardants.
4. A fire watcher with extinguisher in hand must be in the wings or just off-stage while fire is being used in performance.
5. All personnel must be trained in incipient fire fighting and use of extinguishers as OSHA requires.
6. Checklists for maintenance and placement of safety equipment must be gone over before each performance and dress rehearsal.

Editor's comment: This story was particularly upsetting to me. As a child acrobat, I worked as a midway performer and/or variety act in circuses, carnivals, state fairs, and similar venues. As an adult, I performed in musicals in the John Ringing Theater and The Circus World Museum in Wisconsin. I feel that no performance is important enough to risk the kind of accident Mr. Mbembo had--especiallynot in order to follow a tradition that dates back to a time when life was cheap.

POISON PIGEON POOP

Occup. Health & Safety, John P. Springston, May 1998, pp. 86-89

An article by John P. Springston on the effects of biological materials on indoor air quality included a catalog of diseases known to be associated with pigeons and pigeon waste. These were:

* Allergenic Hypersensitivity pneumonitis or "Pigeon breeders disease." Frequently misdiagnosed as pneumonia, some forms of this disease can lead to permanent impairment. Once sensitized, a person may react to extremely low or even unmeasurable concentrations of dust containing pigeon material.

* *Cryptococcus neoformans* (a yeast) may cause mild pulmonary infections or skin lesions in healthy people or encephalitis in immune deficient individuals. This disease affects 6% of all HIV-infected persons. Untreated, the fatality rate is high.

* *Histoplasma capsulatum* (a fungus) grows in soil near droppings. Symptoms occur 3 to 18 days after exposure. Its severity can range from asymptomatic to a flu-like respiratory illness. A small percentage of people develop a form of the disease that resembles tuberculosis which can worsen over months and years. The rarest form of the disease is histoplasmosis, a potentially fatal infection.

* *Aspergillus fumigatus* (a fungus) is especially dangerous to immune deficient people. Healthy people exposed to it can develop allergic aspergillosis, a severe hypersensitivity lung condition.

* *Chlamydia psittaci* a bacterium) causes a disease called "Psittacosis." Its severity can range from asymptomatic to a severe and fatal pneumonia.

* Other fungi and bacteria found in feathers, droppings and/or dead birds include *Paecilomyces, Mucor, Rhizopus* and *Bacillus*.

Clearly, waste materials we see every day can harbor deadly micro-organisms. Good hygiene and precautions can prevent exposure.

==========

EPA PROPOSES HOUSING LEAD LEVELS

63 FR 30302-30355, June 3, 1998

The EPA has proposed levels at which lead-based paint dust and soil found in or near occupied housing should be considered hazardous:

* Lead dust levels that equal or exceed 50 micrograms/square foot ($\mu g/ft^2$) on uncarpeted floors and 250 $\mu g/ft^2$ on window sills.

* Soil whose lead content equals or exceeds 2,000 parts/million (ppm) based on a yard-wide average soil-lead concentration.

EPA also proposed a soil-lead level of concern of 400 ppm. At this level the public should be informed of the risk. And EPA defined paint in poor condition to be more than 10 ft^2 of deteriorated paint on exterior areas, more than 2 ft^2 of deteriorated paint on interior area, or deteriorated paint over more than 10% of the total surface area of exterior or interior areas.

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STUDY TIES MISCARRIAGES TO LOW LEVELS OF SPRAY PAINTS

NIOSH - HETA 93-1036-2686, U.S. Department of Agriculture, U.S. Forest Service, Wash. DC

A study of U.S. Forest Service workers issued May 5, reports an increased risk of miscarriage associated with exposure to specific tree-marking paints. Also found was an increased risk for birth defects when both parents were Foresters.

The study, *Epidemiologic Study of Adverse Reproductive Outcomes among Women in the U.S. Forest Service,*(HHE No. 93-1035), was conducted by NIOSH in response to a 1993 request by Forest Service management and employees. NIOSH said, 6,080 women completed the study's questionnaires, which asked about their duties and reproductive history from January 1986 to January 1996. NIOSH found that the increased risk of miscarriage was associated with exposure to two specific tree marking paints--paints that contained lead and organic solvents. This is relevant to artists because:

* The paints were primarily aerosol spray can products similar to those used by many artists.
* Material safety data sheets on the paints only listed petroleum distillates like those often found in artists materials.
* The spray paints were used outdoors. Many artists assume this will not result in significant exposures.
* Exposure to the spray was brief (e.g. painting a dot and two lines on trunks of those trees scheduled for removal).
* Monitoring of air during work and the body fluids of Foresters indicated that lead and individual solvent chemicals were well below any levels currently considered to be of concern.

The only differences between the use of paints by artists and the Foresters was that most of the Foresters also used DEET insect repellant and some may have been exposed to other pesticides and herbicides. However, the increase in miscarriages appeared to be most clearly associated with exposure to the paints.

The Forest Service no longer buys the solvent-containing paints and NIOSH recommends that stockpiles of the old paints be discarded. The study reinforces ACTS commitment to council women and men who are planning families to avoid even very low level exposure to solvents and lead whenever possible.

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ABSTRACT

HAZCHEM ALERT 13(2) p. 20, Feb. 1998

ORGANIC SOLVENT effects on the childbearing function of [Russian] women painters (epidemiological and hygienic studies) are detailed. Female painters appeared to have a significantly higher incidence of pregnancy complications, spontaneous abortions, and stillbirths. The painters' children were characterized by a higher occurrence of respiratory, cardiovascular and skin diseases. Mothers exposed to organic solvents at work had children with congenital abnormalities of cardiovascular and central nervous systems, multiple defects, and chromosomal aberrations that were absent or less frequent in a control group. In Russian. (Med Tr Prom Ekol (3), 20-24(1997); Chemical Abstracts 127:297859a, 1997)

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NEW DATA SHEETS AVAILABLE

Some new data sheets have been added to our list this past year. New publication are marked with a dot rather than an asterisk.

* All About Wax (4 pp)
* Anthraquinone Dyes & Pigments (3 pp)
• Artist's Oil Painting (3 pp)
* Art Painting Data Sheet (5 pp)
• Azo & Benzidine Dye Regulations (6 pp)
• Barium Glaze Hazards (5 pp)
* Biological Hazards (12 pp)
* Carbon Monoxide Detectors (4 pp)**
* Ceramic Ware Hazards (7 pp)
* CPSC 1992 Safety Alert (2 pp)
* D-Limonene:The Citrus Solvent (3 pp)
* Dyes and Pigments (8 pp)
* Fiber Arts (*Shuttle Spindle & Dyepot* reprint, 1991-2(11 pp)
• Labels: Reading Between the Lies (6 pp)
• Lead-ContainingArt/Theater Materials (2 pp)
• Mold in Costume Storage Areas (2 pp)
* Oven-Cured Polymer Clays (4 pp)
* Reproductive Hazards (4 pp)
• Respiratory Protection: New rules (4 pp)**
• Selecting Children's Art Materials (4 pp)
* Solvents (9 pp)**
• Stained Glass Hazards/Precautions (3 pp)
* Teaching Art Safely (7 pp)
* Teaching Art & Theater Safely (7 pp)
• Teaching Preschool Art Safely (5 pp)
* Urethane Resin Systems (3 pp)**
* Threshold Limit Values (2 pp)**
* Understanding the MSDS (4 pp)
* Ventilation for Art Buildings (6 pp)
* Ventilation for Theaters & Shops (6 pp)**

** Provided Courtesy of United Scenic Artists, Local 829 (IBPAT)

Newsletter subscribers may obtain one of the new data sheet free by sending a self-addressed stamped envelope. Copies of other data sheets and back issues of ACTS FACTS cost $.25/page. The number of pages follow each title (e.g. 5 pp = $1.25).

ORDERING INFORMATION: Orders under $50 must be prepaid to **ACTS** in U.S. Dollars (drawn on a U.S. Bank). Purchase orders for amounts over $50 will be accepted. We also have a few copies left of:

FIRST STEPS, a video tape and booklet introduction to art hazards suitable for middle school to beginning college, produced by **Artsafe** at the University of Melbourne, Australia. $ 175.00 (Note: $ 150.00 of this sum goes to support **Artsafe**). New York residents add sales tax of 8.25 % ($ 14.44).

KEEPING CLAY WORK SAFE & LEGAL, 90-pages, published by NCECA, $15.00 + $3.00 post.

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August 1998 Vol. 12, No. 08

ALERT: BUY YOUR CO DETECTORS NOW!

Underwriter's Laboratory (UL) has changed the standard for all household carbon monoxide (CO) detectors. Detectors sold after October, 1998, will not display readings below 30 or 35 ppm. This is unfortunate for consumers with certain chronic heart, blood, and respiratory diseases who are especially susceptible to CO.

The EPA identified people with angina (ischemic heart disease) as those at greatest risk from CO. To protect the general population and those with angina, EPA set the national ambient air quality standard for CO at:

9 ppm,* averaged for 8 hours; and
35 ppm,* averaged for 1 hour.

* ppm = parts/million. Limits not to be exceeded more than one time per year.

New detectors will not record CO levels under 35 ppm and the alarms are set for:

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

Clearly, CO detectors alarm in time to save life, but not health!

A UL representative said two reasons for the change were: 1) people kept asking fire companies to respond to low levels of CO, and 2) readings below 30 ppm weren't very accurate. However, product literature already states that low levels are not life-threatening. Fire companies and 911 services could simply tell consumers to call their gas companies or other services during business hours.

As for accuracy, the UL representative said that readings below 30 ppm may be in error by 30% or more. If true, this only requires that consumers understand that a reading of 5 ppm would be $\pm$ 2 ppm, 10 ppm would be $\pm$3 ppm, 20 ppm $\pm$5 ppm, and so on. Even with these error levels, consumers could monitor the range in which CO is present in their air and note any changes occurring in levels.

After October consumers will no longer have access to low-cost monitors that detect CO at levels that affect the health of high risk individuals. Many stores are out of the old monitors already.

BOOK ON SAFER PRINTMAKING

Non-Toxic Intaglio Printmaking by Keith Howard is now available. Although printmaking never can be made completely "non-toxic," the book has many good ideas for safer methods and materials. The 260 page book has 400 illustrations and can be ordered from Printmaking Resources, 9209 - 111 Av., Grande Prairie, ALB T8V 3L7, Canada.

LAWSUIT ALERTS UK SCHOOLS TO ASBESTOS HAZARDS

BNA-OSHR, 28(5), July 1, 1998, p. 146

LONDON--the widow of a university lecturer who died from asbestos-related mesothelioma recently received damages of $249,120 in an out of court settlement from London's Imperial College of Science, Technology and Medicine. The college has denied liability for Lewis's death. Action was being taken through the courts when the out-of-court settlement was reached.

James Lewis died in May 1993 at the age of 62, five years after he retired early. His widow brought suit, alleging that her husband's death was caused by his exposure to asbestos while employed as a lecturer in the college's mechanical engineering department from 1958 to 1988. The college specialized in science and technology and many of the laboratories used asbestos, notably Sindanyo®, an asbestos board similar to U.S. made Transite®. Lewis reportedly did not handle asbestos himself, but he regularly worked in the workshops and was exposed to fibers released into the air.

Pauline Chandler, lawyer for Lewis' widow and partner in the national law firm Thompsons, said the number of other teachers with similar problems was not known because of the disease's 30- to 40-year latency. She said, however, that other cases involving asbestos "are currently being pursued against Imperial College."

Teachers world wide should be aware of the many sources of asbestos in schools in the past. Included are asbestos wool as a filter medium, asbestos mats and wire gauzes for Bunsen burners, gloves, ceramic and enameling kiln insulation, impurities in certain ceramic clay and glaze ingredients, dust from W.R. Grace Montana-mined vermiculite, old instant papier mache' mixes, and many more.

==========

SUBSTITUTES FOR LEAD BIRD SHOT

63 FR 40074-40080, July 27, 1998

Steel and bismuth/tin shot are approved by the Fish and Wildlife Service as nontoxic for hunting of migratory birds. Now temporary approval is proposed for a tungsten/polymer (Nylon 6) shot and tungsten/iron shot. All four products were developed to reduce the long term damage lead causes to wildlife and the environment.

==========

TWINKIE-MAKER FINED $910,000 FOR ASBESTOS VIOLATIONS

BNA-OSHR, 28(7), July 15, 1998, p. 181

An Illinois manufacturer of bakery snacks including "Twinkies" has been hit with $910,000 in fines and citations for 13 willful violations of OSHA asbestos standard (29 CFR 1910.1001). The citations, issued against the Interstate Brands Corporation, on July 8 were prompted by a January 1998 incident in which three workers were directed to remove insulation from a boiler at the company's Schiller Park, IL plant. The employees were not told that the insulation was predominantly asbestos and were provided virtually no protection during the removal, according to OSHA.

"There is no excuse for any employer exposing unprotected and unknowing workers to this hazardous substance," Labor Secretary Alexis M. Herman said in a statement.

==========

BRICK AND CLAY KILN EMISSIONS REGULATED

Ceramic Industry (from the Brick & Clay Record), July 1998, pp.46-54, 57-62

Early in 1998, the Environmental Protection Agency (EPA) sent out extensive questionnaires to every structural clay plant in the U.S. Some plant operators already knew of EPA's concerns because state laws required them to install scrubbers on their kiln stacks. But for many plant operators, this questionnaire was the first indication that EPA was interested in their kiln emissions.

CENTIGRADE	FAHRENHEIT	EMISSIONS
100-200	212-392	physical water (not hazardous)
200	392	oxidation of carbon-based organics begins
300-500	572-932	carbon dioxide from organics & carbonates
380-800	716-1472	sulfur dioxide from sulfides e.g. pyrite

The table above shows the source of the major volume of emissions. However, other chemicals are emitted throughout the firing from 100-1200 C° (212-2200 F°). Some of these emissions also are among the 188 EPA-regulated "hazardous air pollutants" known as HAPs.

HAP emissions of particular concern to EPA are sulfur dioxide (SO_2), hydrofluoric acid (HF), hydrochloric acid (HCl), and particulate matter that are repeatedly documented in emissions from brick and clay kilns. These occur when decomposition releases gases from carbonates, sulfates, fluorides, chlorides, and many other impurities found in clays.

When kilns are fired with wood, gas, or oil, the emissions also contain HAP chemicals from the fuel such as particulates and carbon monoxide. These emissions are greatly increased if the firing cycle includes periods of "reduction" in which excess fuel is used to create a smoky atmosphere. Firing glazed ware may also release metal fumes and other HAPs. Salt glazing release additional HCl and sometimes chlorine gas. Soda ash and sodium carbonate firing may release caustic sodium compounds such as sodium hydroxide.

While small ceramic hobby and craft kilns are not going to be regulated by EPA anytime soon, local regulations already may apply. In many states, fuel-fired kilns require a permit and emissions are limited. Wood firing is specifically restricted in some areas of the country where air pollution is a problem.

==========

WOOD STAINED PAPER TOWELS TOTAL STORE

NFPA Journal, July/August 1998, pp. 21-22

Fire destroyed a 7,200 square foot California hardware store when paper towels soaked with a wood stain spontaneously ignited. The structure, whose estimated value was $225,000, and its contents valued at $300,000 were a total loss. There were no injuries.

The day before the fire, a store employee was showing an organic-based wood stain to a customer when he accidentally spilled some. He cleaned the spill with paper towels which he threw into a 32-gallon plastic trash receptacle filled with other paper trash. Under these conditions, all products containing setting oils such as linseed, tung, and poppy seed oil can spontaneously ignite.

==========

THEATRICAL SCENE SHOP CITED BY OSHA

BNA-OSHR, 28(6), July 8, 1998, pp. 170

Mystic Scenic Studios Inc., Dedham, MA, is contesting a serious citation and a $3,000 penalty for the alleged violations of three items, including failure to establish written standard operating procedures governing the selection and use of respirators (1910 .134(b)(1)); failure to use locking and/or fastening devices on the exit door which do not prevent free escape from inside the building (1910.37(b)(4)); and for employee(s) exposure to an airborne concentration of methylene bisphenyl isocyanate (MDI) listed in Table Z-1 in excess of 0.20 milligrams per cubic meter of air (mg/m3) as a ceiling concentration (1910.1000(a)(1)).

To put it more clearly, it is alleged that the employer:

* did not have a proper respiratory protection program;
* had locks on exit doors that prevented rapid escape; and
* over-exposed employees to MDI, one of the most toxic of the foam urethane diisocyanates.

These violations are often found in scene shops. This Editor personally knows of three scenic artists that were disabled totally or in part by exposure to MDI since 1995.

==========

FIREWORKS IGNITE BARGE

NFPA Journal, July/August 1998, pp. 21-22

Shortly after a public fireworks display began from a heavy steel barge anchored off the coast of Massachusetts, a rocket exploded in the air prematurely, showering the barge and cardboard boxes containing reserve fireworks with sparks. Numerous fireworks detonated, burning all 10 people aboard the barge. Emergency responders had to rescue the workers, including three who jumped into the ocean to escape.

The state fire marshall later cited several violations on board the barge. Contributing factors were the improper storage of reserve fireworks and inadequate spacing between fireworks for separate displays. ACTS believes we need a uniform nationwide program for educating and licensing of pyrotechnicians who are responsible for both outdoor and indoor theatrical pyrotechnic displays.

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UPDATE: MUSICIAN'S UNION ADDRESSES FOG & NOISE HAZARDS

Editorial

Last March, a strike almost closed all Broadway theaters. Instead, the League of American Theaters and Producers granted the American Federation of Musician's Local 802 a salary increase and some important safety concessions (***ACTS FACTS***, April). The safety items included demonstration projects at selected theaters to reduce the musicians exposures to special effects chemicals and to hearing-damaging sound. This issue covers the sound abatement project. Next month we will report on special effects control systems.

PART I: NOISE ABATEMENT Industrial noise has long been known to cause hearing damage. In the 1980's, studies confirmed that loud music also causes hearing loss in symphonic orchestra musicians.[1,2,3,4] Broadway pit musicians are at greater risk than symphony players because they are crowded into small enclosed pits. Most pits have hard walls, floors, and a partial ceiling created by an overhanging stage lip. Sounds in the pit emanate from both traditional and electronic instruments and from loud-speakers which are often placed in or near the pit. The musicians are subjected to direct sound from instruments and speakers, to sounds from interaction between these sources, and to sounds reflecting from the hard-surfaces surrounding them.

In the past, open-cell polymer (plastic) foam material was used to dampen the sound. Foam is easy to install and takes up little space in the pit. However, foam creates additional problems because it absorbs high frequencies while having little or no effect on low frequencies. This creates a "dead" acoustic environment in which musicians often compensate by playing louder.

Instead, a balanced absorption at all frequencies is needed. But this is not easy. For instance, good capture of low frequency sounds can be obtained by use of large air spaces to match the long wavelengths of these sounds. But large absorption treatments cannot be used in an orchestra pit where space is at a premium.

It is, however, possible to match absorbers tuned to capture specific frequency ranges. To provide such a solution, Local 802 engaged Mark Ramsay, an acoustic designer with Baran Design Associates,[5] to modify the pit at the St. James Theater. Ramsay analyzed the space in the pit and the sounds produced by the musicians. He then tailor-made acoustic treatments. He used acoustic foam under lip of the stage and along the pit's inside walls he placed two types of tuned diffusers: absorbing diffusers and captive air space diffusers.

Placement of the musicians and better use of the lightweight partitions used to isolate loud sound sources (percussion, amplifiers, brass) also were integrated into the pit treatments. Sound level meters show the musicians now experience sound at levels below those known to damage hearing. Bill Moriarity, President of Local 802, pronounced the effort a success. "The St. James is one of the few Broadway houses where musicians are playing without ear protection," he said.

Local 802 expects that these systems will be installed in many other Broadway theaters. ACTS would like the systems installed as a matter of course in all theaters where pit musicians work.

---

1. Axelsson A. and Lindgren F., "Hearing in Classical Musicians." Acta Otolaryngol Suppl., 377:3-74 (1981)

2. Jansson E., et al, "Sound Levels Recorded Within the Symphony Orchestra and Risk Criteria for Hearing Loss." Scand Audio., 12(3):215-21 (1983)

3. Karlsson K., et al, "The Hearing of Symphony Orchestra Musicians." Scand Audio. 12(4):257-64 (1983)

4. Westmore, G.A., and Eversden, I.D., "Noise Induced Hearing Loss and Orchestral Musicians." Arch Otolaryngol, 107(12):761-4 (1981).

5. Baran Design Associates, 88 Hallberg Ave., Bergenfield, NJ 07621. 201/384-8155.

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SACRED SAFETY STRATEGY

C&EN, August 17,1998, p.27 (full article: 20-32)

The largest petrochemical company in India is called "Reliance" and its largest facility is in Hazira. H.S. Kohli, President of Hazira Works, is committed to the U.S. concepts of Responsible Care policies and has been taking steps toward implementation.

One measure that is already in place is the "safety prayer." Kholi's idea, it demands that every day, before their shift begins, employees in every department at Hazira Works assemble by work group and "pray" for an accident-free shift. The prayer is like a safety pledge, and each department is free to use the phrasing it prefers. The "prayer" is always followed by a briefing of a few minutes exhorting staff to work in a safe manner. That'll do it.

==========

WOODWORKING INDUSTRY'S OSHA VIOLATIONS TABULATED

Melanie Winters, Staff writer, Woodshop News, August 1998, p. T18

Compilation of OSHA data shows they issued more than $664,322 in penalties to the woodworking industry from October 1996 through September 1997. There were 2,197 violations on 266 inspections of millwork, cabinetry, furniture, and store fixture manufacturers.

Small companies with one to nine employees fared better than larger firms in both the average penalty per violation and the average number of violations per inspection. Among small shops, millwork companies on average paid the largest penalties per violation, but manufacturers of kitchen cabinets and residential furniture had the most violations per inspection.

The two most frequently cited violations were for woodworking machinery requirements, such as blade guards and the location of operating controls, and hazard communication including container labeling, material safety data sheets and employee training. The standard on spray finishing with flammable/combustible materials was also frequently cited.

==========

CANADA AND THE U.S. FAIL TO BAN USE OF MMT

Chemical & Engineering News, Bette Hileman, July 27, 1998, p. 13, 59 FR 42227-42261, August 17, 1994, 60 FR 36414, July 17, 1995

In July, 1998, Canada lost its battle to ban the gasoline additive, methylcyclopentadienyl manganese tricarbonyl (MMT). The U.S. Environmental Protection Administration (EPA) lost the same battle in 1995. Use of MMT is considered hazardous by the EPA, the Friends of the Earth, Physicians for Social Responsibility, and many other groups. Nevertheless, Ethyl Corporation, the only company that makes MMT, won the right to sell the additive in both countries.

ETHYL IN THE U.S. MMT was sometimes added to gasoline in the U.S. until it was banned under the 1977 amendments to the Clean Air Act. Then in 1991, Ethyl Corporation requested a waiver from EPA to permit the sale of MMT and in 1993 they applied to EPA for permission to sell MMT for gasoline for the general public.

In July, 1994, EPA administrator Carol M. Browner denied the application. Browner determined that although MMT met EPA requirements regarding emission control devices, there was reasonable concern about potential adverse effects on public health from emissions of manganese particulates from vehicles using MMT.

Ethyl took EPA to court. The U.S. Court of Appeals for the District of Columbia Circuit decided that Browner is not allowed to consider factors other than those related to MMT's effect on emission control devices. Browner was compelled to grant Ethyl's fuel additive application effective July 11, 1995. Apparently MMT still hasn't been added to U.S. gasoline, according to the American Automobile Manufacturers Association (AAMA), but Ethyl is free to add it whenever they choose.

ETHYL IN CANADA. For 19 years, MMT was used in Canada. Then in 1997, it was banned on the basis that it interferes with automobile onboard diagnostic systems. Ethyl filed a $250 million suit under the North American Free Trade Agreement (NAFTA) seeking to have the ban overturned. Advised by its lawyers that it would lose the suit, Canada settled on July 20, 1998 and withdrew the ban.

The settlement requires Canada to pay Ethyl $13 million for lost profits. In a press release Ethyl said that "This decision by the Canadian government supports current scientific information that MMT does not impair the proper function of automobile emissions controls" and that "MMT poses no risk to human health."

Not all agree. Both the Canadian Vehicle Manufacturers' Association and American Automobile Manufacturers Association automakers still claim that MMT interferes with emission-control systems and leads to higher emissions. Studies in Canada and the U.S. are proceeding on the impact of MMT on tailpipe emissions and on health. If the studies indicate there is a problem, the Canadian Government says it may try again to ban MMT under its Environmental Protection Act.

ARTISTS MATERIALS often contain manganese. Risk of overexposure to manganese from these materials increases as manganese levels in the environment increase from use of MMT. Interestingly, ***ACTS FACTS*** has reported on manganese health effects in two potters who were from Canada and Australia--two countries that permit use of MMT.

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LEAD GAS ADDITIVES TO BE SOLD IN THIRD WORLD

Chemical & Engineering News, August 3, 1998, pp. 11-12

Ethyl Corporation, distributes MMT and lead gasoline additives such as tetraethyl lead. Now London-based Octel Corporation will take over the marketing of Ethyl's lead additives in all world markets except North America and the European Union. Government bans have virtually eliminated use of lead additives in North America and the European Union because of health effects.

Ethyl and Octel say they "believe significant cost savings can be realized through more efficient marketing, sales, and distribution" of lead additives in the rest of the world. Ethyl will continue to provide bulk distribution and Octel will continue to produce the lead compounds as they have been doing under an existing agreement.

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FAKE BLOOD BATH

LA Times, The Court Files, Ann W. O'Neill, Sunday April 19,1998, pp. B1,B6.

Extras who broke out in an ugly rash of pimples after being soaked in fake blood while filming Wesley Snipes' latest film called "Blade," are suing New Line Cinema who produced the film and Reel Creations Incorporated, the makers of the stage blood.

Carol Yvonne Smith, Resa Michelle Hall and Cleveland Williams contend in their Los Angeles Superior Court suit that the faux gore they were doused with a year ago during a bloody vampire disco scene caused chronic rashes that have sharply limited their opportunities for future employment. The glop was sprayed on them from above, and they sometimes stood in it up to their ankles, according to their lawyers, Al Gopin and Peter Levine. The suit seeks unspecified damages for negligence, product liability, battery, and fraud.

The suit charges that the stage blood was used more than once contrary to manufacturer's instructions. According to the court papers, the extras had been told they would be able to shower between scenes to wash off the bloody goo, but instead were forced to wear it for at least eight hours. "These people are suffering permanent skin blemishes," Gopin said. For somebody in their business, it's a curse."

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ACTS FACTS' SOURCES include the Federal Register (FR), the Bureau of National Affairs Occupational Safety & Health Reporter (BNA-OSHR), the Mortality and Morbidity Weekly Report (MMWR), and many health, art, and theater publications. Monona Rossol, Editor; Tobi Zausner, Nina Yahr, Diana Bryan, research; John Fairlie, OES.

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October 1998 Vol. 12, No. 10

PART II: MUSICIAN'S UNION ADDRESSES FOG & NOISE HAZARDS

Monona Rossol

In the previous issue, the American Federation of Musician's (AFM) project to reduce noise in the pit was discussed. This issue will address progress on a ventilation system to keep the pit free from special effects chemicals from fog, smoke, haze and pyrotechnics.

VENTILATION FOR THE PIT. During the AFM contract negotiations, I referred the musicians to David Gordon, CIH, P.E., an industrial ventilation engineer with whom I have worked off an on for a decade. David demonstrated a system to ventilate orchestra pits which would combine a very quietly generated "curtain" of air over the top with enough air supplied inside the pit to provide positive pressure. Fog and smoke coming over the lip of the stage is whisked over the top of the pit and into the audience.

The first prototype system was put in place and tested at *Beauty and the Beast* at the Palace Theater. Installation was not as simple as expected. For example, there were old ventilation ducts leading from the pit and under the audience that were supposed to be closed off and inactive. It was soon discovered that these ducts were drawing enough air to create negative pressure which caused the fog in the audience to change directions and head back into the pit.

There were also problems with air currents around the conductor who stands in front of the orchestra and whose head and shoulders are above the air current. And it was found pyro smoke does not go over the lip of the stage. Instead, it rises and disperses through the theater. Soon its odor is detectible almost everywhere. The odor was noted by the pit musicians about 3 minutes after the effect was set off and may have been carried in the air supplied to the pit.

Many alterations in the pit, in pre-existing ventilation systems, and in the operation of the theater's air conditioning system were needed to get the system to work. According to Bill Moriarity, President of Local 802, "There is still some work remaining on the system at the Palace Theater. We are convinced, however, that the air curtain system installed there has made an important reduction in the amount of smoke and fog that enters the pit."

Work has started on a second system for *Les Miserables* at the Imperial Theater. David Gordon thinks this pit will be far easier to vent since the complex problems at the Palace are not present and the opening at the top of the pit is narrower and easier to cover with an air curtain.

SCHOOL VENTILATION AND POTTERY ACTIVITIES STUDIED

NIOSH HETA 97-0189-2668, Valley High School, West Des Moines, IA.

In 1997, Valley View High School in West Des Moines, IA asked the National Institute for Occupational Safety and Health (NIOSH) to assess indoor air quality and measure exposures to crystalline silica in the art rooms. Max Kiefer, CIH, surveyed the school. He found that the primary source of air quality problems were poor maintenance of the general ventilation system and some industrial art activities in another room.

Pottery activities in the art room were not found to be a significant source of airborne silica. The reason lies in the school's housekeeping policies described as follows:

> *... Students in each class were required to clean their work area, including tables and chairs, using wet mops and cloths before leaving. All clay scraps are removed and stored in a reclaim area. During the lunch break, a janitorial service also cleans the room. Student and faculty work practices, including only working with moist clay and using pre-mixed clay and glazes, are effective measures to control dust. Students were instructed to moisten the potters wheel prior to use to reduce dust from dried clays. In the glaze room..., a process to reclaim clay has been established using a screw-type mixer [pug mill]; students conduct reclaim activities using only moistened clay.* p. 6.

Even with all these precautions, air monitoring showed that one instructor was exposed to respirable silica at about 0.03 milligrams per cubic meter (mg/m3). Respirable silica at a level of 0.03 mg/m3 also was measured over the wedging table. These levels are under the NIOSH Recommended Exposure Limit (REL) of 0.05 mg/m3, but they show that without the dust control procedures, the REL could easily be reached or exceeded.

One short coming in the study is Keifer's recommendation regarding air flow in the two pottery glaze hoods. He suggested that they:

> *Balance the local exhaust hoods in the glaze room to a uniform 125 lfm [linear feet per minute] average face velocity. This should be sufficient to control contaminants generated in the hood during the application of glaze.* p. 12.

Yet clearly, 125 lfm is not sufficient for spray application. It is necessary to read the entire 24 page report to find the single sentence that provides the reason for this recommendation.

> *... Water-based, lead-free glazes are applied using an aerosol spray in the glaze hoods. Art faculty indicated that this practice will be replaced with a new procedure that eliminates spraying (dipping).* p. 6.

The report should clearly state that once airflow is reduced, the hoods are not suitable for spray application. Further, posting of this prohibition near the booths should be recommended. Otherwise, subsequent teachers and students are likely to see hoods that look like spray booths and assume it would be safe to spray glazes.

The study has other limitations, but ACTS suggests teachers and potters obtain a copy of HETA 97-0189-2668 from NIOSH Publications Office, 4676 Columbia Parkway, Cincinnati, OH 45226-1998.

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LIPSTICK: A SIGNIFICANT SOURCE OF BARIUM?

Red lipstick: a source of barium to humans and the environment. Rastogi, S.C.;. Pritzl, G. (Ministry of Environment and Energy, National Environmental Research Institute, Roskilde, DK-4000 Den.). Bull. Environ. Contam. Toxicol. **1998**, 60(4), 506-610 (Eng), Springer-Verlag New York Inc.

Everyone in the world is exposed to barium daily from environmental sources. Depending on the geographical area, intake of barium is estimated to be 300-1700 micrograms per person per day. At the high end of this spectrum is it suspected that people risk adverse health effects such as high blood pressure. Now Danish researchers have found that daily barium intake estimates should be revised to include an additional barium source up to 60 micrograms per person per day which can be ingested from lipstick.

Researchers determined how much barium could be extracted with 0.07% hydrochloric acid (similar to gastric juice) from 47 popular lipsticks from 26 manufacturers from Germany, Denmark, France, England, Belgium, Italy, Ireland, Austria, Switzerland, Sweden, and the USA. In 28% of the lipsticks it was less than 250 parts per million (ppm), another 28% released 250-500 ppm, 8% released 500-1000 ppm barium, and 11% contained more than 1000 ppm including one whose content was 2104 ppm. If 50% of such lipsticks are ingested, researchers say they constitute a significant barium exposure.

The colorant in 93% of the samples was C.I. 15850 (Pigment Red 57). Other pigments included 15985, 15880:1, 19140/19140:1, 45380, 45405, and 45410:1. These pigments are monazo, tartrazine, eosine, and phloxine pigments which do not contain barium. It is assumed that they are barium salts of these pigments or that they were "laked." Laking combines organic colorants with an inorganic base or carrier such as barium sulfate. This process is thought to result in only insoluble barium. However, it is clear that barium is acid soluble in the lipsticks studied.

Editor's comment. The acid solubility test used probably underestimates the amount of bioavailable barium. And another source of barium that should be studied is use of barium-glazed ceramic ware.

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ABSTRACTS

HAZCHEM ALERT 13(8) p. 72, Aug. 1998

ARSENIC, ANTIMONY, and other element multiple exposure during art glass manufacturing were studied. Raw materials used during art glass production include silica sand, borax, carbonates, calcium nitrate, sodium nitrate, potassium nitrate, and oxides of many elements, some rare earths. Arsenic, the main carcinogen in glass production, reaches high air concentrations and is generally above most established threshold limit values. Antimony may replace arsenic in these contaminating atmospheres. This article discussed monitoring and detection methods for arsenic and antimony in occupational settings. (Am J Ind Med 34(1), 65-72 (1998); Chemical Abstracts 129:57982h, 1998)

This is one of dozens of papers on art glass manufacture from many different countries. Arsenic is always reported because it is used not only as a glass colorant/opacifier, but as a "fining" agent, to remove bubbles and improve clarity. Artists who heat or grind art or stained glass need to remember that many, many toxic metals including arsenic may be present in the dust and fumes.

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ASTM PENCIL PROJECT: PROGRESS OR PANDERING?

ASTM Standardization News. September 1998, pp. 9-10

Many architectural and fine art drawings are made with colored pencils. Artists who want to create works of archival quality need to know how well the pencil lines resist fading (are lightfast) and art conservators need to know the identity of the pigments in order to provide proper treatments. Currently, pencil manufacturers consider the pigments in their colors to be trade secrets and each manufacturer uses their own unstandardized methods to test lightfastness.

To address these problems, the National Center for Preservation Technology and Training provided the American Society for Testing and Materials Institute for Standards Research (ASTM-ISR) with $30,000 in federal funds to identify the pigments in colored pencils. In partnership with the Colored Pencil Society of America, the Williamstown Art Conservation Center (Williamstown, MA), will analyze and identify the organic pigments in about 50 pencils from six well-known fine art colored pencil makers. The analytical data will be used by Subcommittee D01.57 on Artists' Paints and Related Materials to develop an ASTM lightfast standard for colored pencils similar to the ones already established for artists' paints.

EDITORIAL COMMENT. The problem with this project is that the identity of the manufacturer of each of the pencils will be withheld from the lab at the Williamstown Center and from any final reports produced by ASTM-ISR. At no time will the lab, the Committee, or the consumer be able to tie the colored pencils in the report to their makers. As a member of the D01.57 committee, I understand that this probably was the price of cooperation from the pencil makers. But as a consumer advocate, I deplore using $30,000 in federal funds to analyze pigments which could be identified for free if pencil makers simply 'fessed up.

Although the final standard probably will include a provision for identifying the pigments, ASTM standards are voluntary. Neither the standard nor the research are likely to provide the actual identity of the colors to artists, architects, and conservators any time in the near future.

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November 1998 Vol. 12, No. 11

NY ART FRAMERS FINED UNDER METHYLENE CHLORIDE RULE

BNA-OSHR, 28(18), October 7, 1998, p. 597

Two New York City firms specializing in framing of art prints were cited by the Occupational Safety and Health Administration (OSHA) for violation of the methylene chloride standard. The two firms, operating separately in the same building in Queens, allegedly used an adhesive containing approximately 90 percent methylene chloride.

After a six month investigation, OSHA announced its actions on September 29. On behalf of the Union of Needletrades, Industrial, and Textile Employees (UNITE), OSHA proposes penalties of $125,100 against Workpros Inc., which contracts labor to Crystal Art galleries. The other company, Cardone Inc., was hit with a proposed fine of $41,750.

Both employers were cited for a range of alleged violations, but the bulk of the charges concerned use of methylene chloride. OSHA published the new standard for methylene chloride in January 1997. It lowered the permissible exposure limit from 500 parts per million to 25 ppm to protect workers from various effects including cancer and nervous system, liver, and heart damage. In September, OSHA published a final rule extending compliance deadlines for certain industries in response to litigation by the United Auto Workers union and an industry alliance.

Workpros plans to question OSHA's decision to extend these compliance deadlines to only certain industries and will claim "many mitigating circumstances" at an upcoming informal hearing, Crystal Art operations manager Lou Siciliano said. He maintains that the supplier of the adhesive never informed them of the stricter OSHA standard and never updated its material safety data sheet. "As soon as OSHA pointed out the problem, we took immediate steps to abate it," Siciliano said, adding that the company found a substitute adhesive and no longer uses methylene chloride.

UNITE Local 155 filed a complaint against Workpros in April on behalf of some 120 workers at the Crystal Art factory. The union claims that methylene chloride was detected at levels five times the OSHA limit. "The company runs like a modern-day sweatshop," said Local 155 manager-secretary Joseph Lombardo in a statement.

OSHA RESPIRATORY PROTECTION GUIDE AVAILABLE

OSHA developed a guide to help small businesses comply with its new respiratory protection rules. Call your nearest OSHA office and ask for the *Small Entity Compliance Guide* for respiratory protection.

DRYER LINT TELLS TOXIC TALES

Environmental Science & Technology, Aug. 15, 1998: reported in Science News, Vol. 154, Oct 3, 1998

Analyzing laundry dryer lint may be an easy way to screen homes for elevated lead levels, according to a new study. Peter G. Mahaffy of the King's University College in Edmonton, Alberta, and his colleagues tested dryer lint in an effort to determine the exposure of radiator repair workers and their family members. The work began after a Edmonton Board of Health investigation in 1994 found a lead-using radiator mechanic's child had an elevated blood lead.

Researchers compared dryer lint from the homes of auto and truck radiator-shop employees to dryer lint from homes with no known sources of lead exposure and to a public laundry. Dryer lint from the homes of the radiator-shop employees showed much higher amounts of lead than the other samples. "The highest level measured was 70 to 80 times" that of the others, Mahaffy says.

X-ray fluorescence spectroscopy showed that the lead flecks in the lint were composed of lead and tin (elements of solder) which confirmed that the lead on the mechanics' clothes was from solder. "It was a nice piece of detective work," Mahaffy says. Examining dryer lint may be a safer way to check on a lead worker's children than subjecting them to blood lead tests and shin bone X rays.

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HUNDREDS OF CHILDREN ILL FROM ZOO WATER SPRINKLER

MMWR, 47(40) Oct. 16, 1998, pp. 856-860

Tests confirmed that a Minnesota Zoo water fountain infected 369 children with the *Cryptosporidium* parasite in July of 1997. The fountain, originally designed as a decorative display, was allowed to become a popular attraction for children to cool off on hot summer days. Children would stand over the jets of water and soak their entire bodies. Apparently small amounts of water entered the mouths of the children. Consumption of foods while in the fountain area also may have contributed to ingestion of the water.

Built in 1994, the fountain's water was sprayed through 14 nozzles that were submerged beneath metal grates. The water drained back through the grates, passed through a sand filter, was chlorinated, and sprayed again. The water was replaced every Monday, Wednesday, and Friday. However, oocysts of the *Cryptosporidium* parasite are resistant to chlorine at levels used in recreational water and sand filter media is not effective in removing the 4-6 micron oocysts.

The children's symptoms included diarrhea, abdominal cramps, vomiting, fever and bloody stools. The median duration of the illness was 7 days and six children were hospitalized. In a public statement, the Minnesota Department of Health stated that these infected children should not visit swimming beaches, swimming and wading pools, and other recreational water facilities until at least two weeks after recovery from diarrheal symptoms. It only takes one infected person to contaminate recirculating water.

For good health in fountains and pools in which the water is recirculated, people with incontinence or diarrhea should be excluded, diapered children should not be allowed in the area, and everyone should shower before entering the water.

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HAZARDS FOUND IN A HALON FIRE SUPPRESSION SYSTEM

C&EN, July 20, page 14, Letters to Editor: Aug. 31, page 2 & Oct. 5, 1998, p. 6.

An article in *Chemical and Engineering News* titled "Ralph Lauren donates $13 million for historic preservation" reported on a Smithsonian Institution exhibit of the original Star Spangled Banner, the flag flown at Fort McHenry during the 1814 British bombardment. The description of the fire protection system planned for the exhibit sparked two letters to the editor which contained vital information for Halon fire suppression system users.

The first letter was from Mr. Bill Gardiner from Austin Texas, and the second was from Richard G. Gann, Chief of the Fire Science Division of the National Institute of Standards & Technology. The points made in these letters were:

* To comply with environmental ozone protection regulations, Halon 1301 in this system was replaced with Heptafluoropropane or HCF-227ea (also called FM (Fire Master) 200).
* The concentration of HFC-227ea needed to put out a fire is considerably higher than the needed concentration of Halon 1301.
* HCF-227ea, like all HFCs, produces hydrofluoric acid (HF) when it is released onto a fire.
* Data from both government and industry room fire tests show that the HF concentrations typically produced by HFC-227ea are commonly in excess of 0.1% by volume, an order of magnitude larger than that which is produced by Halon 1301.

"This not only poses a chemical threat to the contents of the museum, but also an immediate toxic threat to the survival of the visitors and staff," Gann wrote. "Thus, while people would not need to be evacuated rapidly in the case of an accidental discharge of the suppressant, they most certainly should get out immediately in the event of a fire, probably even before the agent is discharged."

Museums with Halon systems need to plan fire evacuation with these facts in mind. They also should keep up with a research project of the Department of Defense called the Next Generation of Suppression Technology Program (NGP). Information on the program will be available soon at the NGP web site (www.dtic.mil/ngp/).

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NATIONAL PARK SERVICE ASKS HELP IN REDUCING ACCIDENTS

BNA-OSHR 28(19), October 14, 1998, p. 621

On October 6, OSHA signed an agreement with the National Park Service (NPS) to help reduce injuries and illnesses at 10 national park sites. In recent years, the NPS has logged the highest accident rates in all of the Department of Interior bureaus.

The agreement between OSHA and the NPS requires mandatory training at all levels, from supervisors to workers as part of the safety agenda. Sites named in the agreement include: Cape Cod National Seashore (MA); Fire Island National Seashore (NY); National Capital Parks Central (Wash.,DC); Rock Creek Park (Wash.,DC); Cape Hatteras (NC); Isle Royal Dunes National Lakeshore (MI); Sleeping Bear Dunes National Lakeshore (MI); Padres Island National Park (TX); Golden Gate National Recreation Area (CA); & Yosemite National Park (CA).

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TWO RESTORATION FIRMS CITED FOR SCAFFOLD VIOLATIONS

BNA-OSHR, 28(17), Sept 30, 1998, p. 588

Building Restoration Specialties, Inc., Denver CO, is contesting a serious citation and a $4,000 penalty for the alleged violations of four items, including failure of the employer to have each employee who performs work while on a scaffold trained by a competent person (1926.45(a)); for failure to use portable ladders, hooks on ladders, attachable ladders, stair towers, stairway-type ladders, ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold structure, personnel hoist, or similar surface when scaffold platforms are more than two feet more above or below a point of access (1926.45(e)(1)); and because frames and panels were not braced by cross, horizontal, or diagonal braces or combination there of, to secure vertical members together so as to be plumb, level, and square (1926.452(c)(2)).

BNA-OSHR 28(20), October 21, 1998, p. 660

Glenn D. Musselman Masonry Restoration, Millersville, PA, is contesting a serious citation and a $900 penalty for the alleged violations of two items: failure to fully plank or deck each platform (1925.451(b)(1)); and failure to use portable ladders, hooks on ladders, attachable ladders, stair towers, stairway-type ladders, ramps, walkways, integral prefabricated scaffold access, or direct access from another scaffold structure, personnel hoist, or similar surface when scaffold platforms are more than two feet more above or below a point of access (1926.451(e)(1)).

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SCHOOL SUPERINTENDENT HIRED STUDENTS FOR ASBESTOS WORK

Asbestos & Lead Abatement Report, Sample issue, Business Publishers, Inc., Silver Spring MD, p.7

A Pennsylvania school superintendent who hired untrained students and other workers is charged with one count of violating the Clean Air Acts by a jury in the U.S. District Court in Pittsburgh July 16. The jury determined that workers hired by David Farley of New Bethlehem, PA., improperly removed asbestos tiles from his high school in 1996. Federal standards for worker protection were not followed during the removal and the asbestos-containing waste was improperly collected, processed, packaged and disposed of, the U.S. Environmental Protection Agency announced.

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NICKEL, NAVELS, AND NIPPLES

NY Times, "When Body Piercing Causes Body Rash," Denise Grady, Tuesday, October 20, 1998, p. F8

The *NY Times* interviewed Dr. David Cohen, a New York University dermatologist and expert on contact dermatitis, about the large number of his patients that are fans of body piercing. Most of these pierced patients are allergic to their jewelry, specifically to the nickel found in costume jewelry. Nickel is the metal most likely to provoke allergic reactions, followed by chrome, cobalt, and palladium, which are also found in costume jewelry.

Over the last decade the percentage of Americans who are sensitive to nickel has risen from 10.5% to 14.3%. Dr. Cohen and other experts think the increase may be linked to the piercing craze. Newly pierced skin is the most likely to react to nickel, Dr. Cohen said, and the best way to prevent the allergy is to wear jewelry made of stainless steel* or gold, especially while a freshly pierced opening is healing. Sterling silver is also safe for most people, but, Dr. Cohen said, jewelry sold as silver often turns out to contain nickel or chrome.

Some people do not know they are nickel-sensitive. There is a time lag between wearing the jewelry and breaking out. "You might wear it on Friday night, and you start itching on Tuesday," Dr. Cohen said. Then the rash can persist for weeks, and it is easily mistaken for an infection. The fluid-weeping rash may actually become infected after a time.

To prevent these allergies, the European Union (EU) has restricted the amount of nickel allowed in jewelry that has prolonged contact with the skin (***ACTS FACTS***, May 1997). Under the EU regulations, nickel must not exceed 0.05% of the metal and may not release more than 0.05 micrograms per square centimeter of nickel per week.** Release from nickel-containing products also must not exceed this level after 2 years of normal use.

This regulation essentially bans nickel from European jewelry because expensive testing is needed to prove the nickel does not leach from the metal. It also means that U.S. craftspeople cannot sell jewelry to Europe unless they can document that their products are nickel-free. The U.S. should consider a similar law.

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* In an article in *Contact Dermatitis* (1996, 35, 267-271) David J. Gawkrodger from the Department of Dermatology, Royal Hallamshire Hospital, Sheffield, UK says that testing found that the European nickel threshold levels were exceeded by many items including those made from high-sulfurstainless steel.

** Ibid.. Gawkrodger also says that the 0.05ug/cm^2/wk threshold will not protect many nickel-sensitiveindividuals.

EUROPE TO CLASSIFY CERAMIC FIBER AS A CARCINOGEN

Ceramic Industry, November 1998, p. 12

A European directive is expected to classify most types of refractory ceramic fiber (RCF) as a carcinogen by the end of 1998. The new directive is not a ban, but any work with RCFs will be subject to more stringent controls. For example, use of RCF in the United Kingdom will come under the Control of Substance Hazardous to Health Regulations 1994 (COSHH). The COSHH's Carcinogens Approved Code of Practice requires employers to assess the risks from the use of hazardous substances and to ensure that appropriate control measures are taken. The Code's first choice of control methods for carcinogens is to prevent exposure by avoiding their use or finding a less hazardous, alternative material to use.

RC Fibers of less than 6 millimeters length weighted geometric mean diameter will be classified as Category 2 defined as substances to be regarded as if they are carcinogenic to humans. RCF will also be listed as "irritating to the skin." (In the U.S. the National Toxicology Program lists RCF in category 2B, Reasonably anticipated to be a carcinogen from sufficient evidence from studies in animals.)

The majority of RCF products currently marketed in the United Kingdom and Europe will be affected. For additional information, contact the European Ceramic Fibres Industry Association, (33) 1 44 05 54 84, fax (33) 1 44 05 54 94.

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BENTONITE BEAUTY CLAY NOT FOR BABIES

MMWR, 47(43) Nov 6, 1998, 928-930

"Health and Beauty Clay," a bentonite clay from Death Valley, CA has been sold for 21 years as a cosmetic product without reported adverse health outcomes. The manufacturing process of the clay did not include sterilization. In the belief that the clay accelerated the drying of umbilical cords, the use of Health and Beauty Clay became common among local midwives in Montana.

A woman who had not been vaccinated for tetanus because of her philosophical beliefs had a baby by cesarean delivery. The baby left the hospital at 3 days of age with no complications. The woman lived in a rural Montana area. She and the newborn stayed primarily indoors, but outdoor microorganisms could have entered the home because the family's dog ran between the house and their horse pasture. At age 9 days the baby was rushed back to the hospital. Her parents reported a 10 hour history of inability to nurse and difficulty in opening her jaw. They had also noticed during the preceding 1-2 days an odorous discharge from her umbilical cord.

At the hospital it was noted that the umbilical cord was covered with dried clay which when retracted revealed a foul smelling discharge. Culture of the discharge grew several anaerobic bacterial species and the baby had tetanus, a disease often fatal in newborns. The baby was in the hospital 21 days, on a mechanical ventilator for 12 days, and was treated with tetanus immune globin and penicillin. Today the baby is home and well at age 7 months.

Healthcare providers in Montana now are warned to avoid applying nonsterile products to umbilical cords, especially products that dry and seal the umbilicus to create anaerobic conditions.

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MEDIEVAL CURE FOR INDIGO POLLUTION

Nature, 396, 1998 p. 225 & C&EN, November 23, p. 37

Indigo used for dying denim blue must first be solubilized for dyeing by reducing it. This is done via a process that consumes copious amounts of sodium dithionite, a wastewater pollutant.

Plant scientist Philip John, at the University of Reading in England, and his coworkers, looked for ways to eliminate the sodium dithionate pollutant. They found the answer in a medieval process in which woad, an indigo-containing herb native to Europe, was fermented in order to solubilize the dye. After the fermentation had used up all the oxygen in the vat, the woad dye is reduced, which causes it to lose its color. The dye is then applied to fabric and it regains its color when reoxidized by air.

Philip John's team isolated the anaerobic bacterium responsible for the fermentation, a distinct species of *Clostridium*. The bacterium could provide the textile industry with a more environ-mentally friendly approach to denim dyeing. Artists who use natural dyes probably wonder why no one thought of this sooner.

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PFIZER WARNS ABOUT NEW CHLORACNE CHEMICALS

Chemical & Engineering News, November 23, 1998, p. 8

A.R. MacKenzie, Director of Discovery Chemistry and S. Brooks, Head of the Research Safety and Environmental Group of Pfizer Ltd., U.K. issued an alert on a new class of chloracnegens. The compounds were identified after a small number of Pfizer chemists were diagnosed with chloracne. The chemists had worked in the same laboratory and most were involved in the same research project. Pfizer suspended the project, closed the laboratory, and the workers are improving.

Chloracne is a rare skin condition caused by exposure to certain halogenated aromatic organic chemicals such as the polychlorinated biphenyls (PCBs). The condition involves an increase of keratin in the skin and a reduction in the capacity to produce sebum. This causes acne-like lesions to form, usually on the face and neck.

Pfizer's investigation showed that known chloracnegens had not been inadvertently synthesized in the labs. They developed a screening program to identify chloracnegens among the chemicals used in the lab. They identified 5 new classes of chemicals which can cause chloracne (halo substituted phenyls and pyridines). The Pfizer representatives strongly recommend that chemists do not synthesize these chemicals. And if they absolutely must work with them, to use control measures that prevent exposure by all routes of entry.

ACTS FACTS hopes this alert will remind readers that there may be many such surprises among the roughly 70,000 chemicals which are untested for chronic effects. Outbreak of this skin disease easily identified a problem, but cancer and many other diseases from chemical exposures are silent for years. We must treat all unstudied chemicals as potentially toxic. This includes most of the inorganic dyes and pigments used in art and craft materials.

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