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 1994 Vol. 8, No. 1

ANNA DE CARMEL GRANT PROGRAM FOR ARTISTS

Last summer, after a long life dedicated to art and craftsmanship, artist Anna de Carmel died. Her last years were marred by serious respiratory problems which began while she developed a new method of painting using an industrial lacquer. It is very likely that her respiratory difficulties were related to use of this material in her small home studio.

To honor this artist, ACTS has set aside $ 3000 per year of in-kind services which will be donated to individual artists and crafts-people who work in their own studios and need industrial hygiene assistance. Recipients will be chosen from among artists who write or call for help and who are unable to afford services at our regular below-market fees.

ALTERNATIVE TO LEAD ROOFS

Welding Journal, Amer. Weld. Soc., Nov. 1993, p. 17

Monticello, Thomas Jefferson's home, was recently completely re-roofed with stainless steel to reduce or eliminate the need for subsequent roof restoration. Monticello has required five roof replacements. Eight other major U.S. building projects also are installing stainless steel for roofing or exterior surfaces to take advantage of its durability and ease of maintenance.

ACTS hopes that stainless steel will be used to replace lead metal roofs on all historic buildings rather re-roofing with lead--a practice akin to replacing lead paint with more lead paint in the name of "authenticity." Ironically, a replacement lead roof was recently installed on Washington's Octagon House, the official residence of our environmentally sophisticated Vice President (ACTS FACTS, February 1993).

AIRCO MSDSs AVAILABLE BY FAX

Welding Journal, Amer. Weld. Soc., Nov. 1993, p. 17

Airco Gases, Murray Hill, NJ, recently activated the first toll-free "Safety Information Fax-Back" system in the gases industry. It provides welders and other customers with fax print-outs of material safety data sheets for the company's 250 compressed gases, cryogens and specialty gases. The completely automated service is active 24 hours/day by touch-tone phone: 1-(800)734-5463.

FIREARM SAFETY VIDEO

Had the crew of Crowvision followed the advice in *Firearm Safety Onstage*, Brandon Lee would be alive. In this video, Robert B. Chambers, Associate Professor of Theatre and Design at Southern Methodist University, demonstrates gun hazards and basic safety procedures in a way which rivets the viewer's interest and attention. The subject is divided into short sections: How Guns Work; History of Firearms; Safety Tests; Guidelines for Using Guns Onstage; Sound Considerations; and Proper Cleaning Procedures. The video should be required viewing for theater classes and production groups, prop crews, directors, playwriters, stage managers, faculty advisors, and other professional and school administrators who are responsible for safety.

ACTS would add only two items to the video: 1) how to select hearing protection for actors onstage such as ear plugs with attenuation ratings suitable for the loudness of the effects; and 2) the need to develope a written record of safety procedures, meetings, and training (an OSHA requirement). The video can be obtained for $ 129 from Theatre Arts Video Library, 174 Andrew Ave, Leucadia CA 92024. Call 619/632-6355 for further information.

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NEW HEALTH MAGAZINE

INFORMED CONSENT, Vol. 1, No. 1, Nov/Dec 1991

INFORMED CONSENT, a new magazine dedicated to health, prevention, and environmental news, is on the market. Published by the non-profit International Institute of Research for Chemical Hypersensitivity, the magazine is definitely a cut above most of the publications targeting this audience. Its articles are written for a lay audience, but are footnoted and well-researched. The first issue has articles on "Chemical Injury, CFIDS and Chemical Sensitivity," "Carpet Concerns," "Flea Control," and "A closer Look at Schools and Health." Subscriptions are $ 18 for 6 issues per year. Contact *INFORMED CONSENT*, P.O. Box 1304, Minot ND 58702-1304.

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WELDING SAFETY AND HEALTH SELF-STUDY COURSE

All welders and welding teachers should be certified in the type of welding they do. However, most art and theater welders and teachers have no professional welding credentials. At the very least, ACTS recommends that they take the American Welding Society's (AWS) eight-hour "Welding Safety and Health" course.

Busy artists and teachers often complain that it is difficult to travel to the venues where the courses are given. These people should consider taking the course by correspondence. The cost is $ 225 for AWS members, and $ 300 for non-members. For this price the student gets a 3 ring workbook, tests, assistance, and a certificate. For particulars, contact AWS 550 N.W. LeJeune Road, Miami FL 33126. 1-800/334-4393

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JURASSIC PARK CREATES ANOTHER MONSTER

Peter Manchester and his son went shopping for a school lunch box. The boy chose Universal Studio's Jurassic Park model. Peter was shocked to see that the lunch box's thermos said in bold letters, "WARNING - BIOLOGICAL MATERIAL - TERATOGENIC AND MUTAGENIC AGENTS PRESENT." It also carried the biological hazard symbol that is required on blood products or other potentially infectious materials. Peter points out that this tells children:

* its OK to drink something with a warning label.

* its OK to get stuff out of a container with this...symbol on it. (Every doctor and school nurse has a container with this symbol for discarded needles, examination room waste, etc.)

* children who can't read will think waste with this symbol on it is not dangerous (and may even be good to eat).

People wishing to complain about this product may call the Consumer Product Safety Commission, 800/638-2772 or write to CPSC, 4330 East West Highway, Bethesda MD 20207.

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ASBESTOS PRODUCTS ARE STILL ON THE MARKET

58 FR 58964-58968, Nov 5, 1993

Several years ago, EPA promulgated a rule to phase out asbestos-containing products over a period of time. Instead, the Asbestos Information Association of North America took EPA to court. In 1989, 5th U.S. Circuit Court of Appeals ruled the EPA must repeal its ban on the manufacture of asbestos-containing products. Now the EPA rule has been formally rewritten and published.

The new rule still bans those items which were not being manufactured, produced, or imported on July 12, 1989 (when the court's rule was published). This includes corrugated paper, rollboard, commercial and specialty paper, and flooring felt.

Products no longer banned include pipeline wrap, vinyl/asbestos tile, millboard, asbestos clothing, asbestos-cement corrugated and flat sheets, roofing felt, asbestos-cement shingles. These items have been and continue to be available on the market. **People must never assume that newly purchased building materials, tiles and protective clothing do not contain asbestos.**

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OSHA CITES NAIL SALON

BNA-OSHR, 23(24), Nov 10, 1993, p. 759

Nails by Marie & Daughter, a salon in Barrington, Illinois, is contesting a serious citation and $ 1,200 penalty for alleged violations for failure to develop or implement a written hazard communications program (1910.1200(e)(1) and for failure to have material safety data sheets (MSDSs) for each hazardous chemical (1910.1200(g)(1). These salons use highly toxic nail products.

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HIGH BLOOD LEAD FOUND IN GLASS DECORATORS

"Risk of Abnormal Lead Absorption in Glass Decoration Workers, Med. Lav., 80(2): 136-9, 1989

An Italian Local Health Unit noted an abnormal blood lead test (72 micrograms per deciliter [ug/dl]) in a young female glass decorator on a routine lab test. Further testing revealed abnormal lead tests in a large number of the glass workers who were applying low-melting glass paints by brush and spray painting. Most of the workers were of childbearing age. (In the U.S., OSHA considers blood lead levels of 30 ug/dl a risk during pregnancy.)

Attempts to reduce lead levels of these workers by means of education and environmental improvements at the workplace were unsuccessful. The authors concluded that reduction in lead absorption could only be achieved by using paints with lower lead content.

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SCULPTURE FOUNDRY CITED BY OSHA

BNA-OSHR, 23(26), Nov 24, 1993, p. 799-800

The Excalibur Bronze Sculpture Foundry in Brooklyn, New York, is contesting a serious citation and a $ 5,400 penalty for alleged failure to institute a continuing and effective hearing conservation program when their employees were exposed to noise equalling or exceeding an 8-hour time-weighted average sound level of 85 decibels (1910.95(c)(1)), failure to use protective equipment (1910.132(a)), and failure to develop, implement, or maintain a written hazard communication program on site (1910.1200(e)(1)).

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We wish you a healthy, happy 1994

Monona Rossol, Susan Shaw, Eric Gertner, Nina Yahr, and Elizabeth Northrop

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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.

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HEALTH & SAFETY MANUAL FOR SEMI-LITERATE WORKERS AVAILABLE

BNA-OSHR, 23(31), Jan 5, 1994, p. 924

A brochure from the Labor Occupational Health Program (LOHP), a part of the University of California at Berkeley's School of Public Health, reports that a recent study estimates that 90 million adults (almost half of the adult population in the U.S), struggle with basic reading, mathematics, and reasoning skills. It also says most reading materials used on typical jobs require between 9th and 12th grade reading levels, and that an average worker cannot understand 40 percent of the information in material safety data sheets, a key source of information about chemical hazards.

In ACTS experience, illiterate and semi-literate employees are very common in public schools, especially among custodial workers. These workers are easily identified when they are unable to take right-to-know training quizzes. **School administrators are in violation of the law if they consider illiterate workers trained merely because they were present at training sessions.** Right-to-know training must be "performance oriented," which means that illiterate workers (and non-English-speaking workers) must be specially trained using methods and materials they can understand and they must be able to demonstrate comprehension.

LOHP addresses the problem with a new 200 page manual called *The Right to Understand: Linking Literacy to Health and Safety Training*. The manual was designed to provide trainers with tools and practical tips for developing materials and programs for semi-literate workers. It features examples of nine different training methods, alternative testing models, ways to evaluate materials, 60 illustrations, literacy definitions and statistics, tips for assessing skill levels, ways to write and design easy-to-read training materials, sample questions, and resource lists for related publications.

The Manual costs $20 per copy. Orders must be prepaid. Checks must be payable to the UC Regents and sent to: LOHP-Publication Orders, 2515 Channing Way, Berkeley, CA 94720. For further information call LOHP at (510)642-5507.

SORRY, WRONG NUMBER

Last month's article on the American Welding Society's health and safety course gave the wrong phone number. The correct number is 800-433-9353. Inconvenience from any subsequent boo-boos can be lessened by calling 1-800-555-1212 for free 800 information.

LEAD-GLAZED CERAMIC RULES CHANGE AGAIN

59 FR 1638-1642, January 12, 1994

Makers of ceramic pieces that look like food ware, but which will not meet lead-leaching guidelines, must comply with a newly revised FDA regulation if they sell them in the United States. Effective July 13, 1994, they must comply with regulation 21 CFR part 109.16(b)(1) which says that the decorative piece must bear:

> (i) A conspicuous stick-on label on a surface clearly visible to consumers that states in legible script in letters at least 3.2 millimeters (0.125 inch) in height one of the following messages: "Not for Food Use. May Poison Food," "Not for Food Use. Glaze contains lead. Food Use May Result in Lead Poisoning." and "Not for Food Use--Food Consumed from this Vessel May be Harmful," and
>
> (ii) A conspicuous and legible permanent statement of the message selected from (b)(1)(i) of this section molded or fired onto the exterior surface at the base or, when the ceramicware is not fired after decoration, permanently painted onto the exterior surface of the base. This permanent statement shall be in letters at least 3.2 millimeters (0.125 inch) in height, except that if insufficient space exists for the permanent statement in letters of such height, the statement shall be in the largest letters that will allow it to fit on the base of the piece, provided that the letters are at least 1.6 millimeters (0.062 inches) in height; or
>
> (2) A hole is bored through the potential food-contact surface.
>
> (c) In addition to steps required under paragraphs (b)(1) and (b)(2) of this section, the following optional information may be provided on the ware:
>
> (1) A further explanatory statement concerning the decorative nature of the piece, such as "Decorative" or "For Decorative Purposes Only," may be used; however, such additional statement shall be placed after the required statement.
>
> (2) A symbol may be used to advise that a piece of ornamental or decorative ceramicware is not to be used with food as illustrated below:
>
> The circle of the above symbol should be at least 2.54 centimeters (1 inch) in diameter. The symbol may be used on the temporary label or applied to the base of the piece in the same manner at the permanent statement.

This rule changes only the labeling. Limits for lead extraction from glazes are still the same (See ACTS FACTS, August, 1992).

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ART SCHOOL SETTLES LAWSUIT

Art Hazards News, Vol. 16, No. 5, 1993, p. 1

The Art Institute of Philadelphia paid $ 260,000 to a former student in settlement of a lawsuit for alleged injury to her nervous system. The student claims that the damage was cause by normal hexane and other solvents in products such as rubber cement and its thinner, and spray adhesives and fixatives. She further claimed that the school had not informed her or her classmates of the hazards of the solvents, nor had they provided proper ventilation. An inspection of the school by Dr. Michael McCann confirmed the lack of ventilation and other precautions.

Attorney Thomas L. Gowen, noted that this was a difficult case, but he hoped that it would "encourage other art schools to look at their ventilation and prevent further illnesses of this type."

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MORE LIMITS ON CFC's AFFECT PHOTO AND PAPER CONSERVATION PRODUCTS

FR 69637-69678, December 30, 1993

As predicted in our February ACTS FACTS, another EPA Clean Air Act rule has been published which further restricts use of products containing chlorofluorocarbons (CFCs) and hydrochlorofluorocarbons (HCFCs). Included among banned products are string confetti, marine, sporting and personal safety horns, wall mounted factory and home intruder alarms, liquid packaging for solvent wipes and sprays, many plastic flexible or packaging foams, and more.

Of special importance to photo artists and conservators are the regulations for 1) cleaning fluids and sprays for electronic and photographic equipment and 2) document preservation sprays such as Wei T'o.

1. PHOTO DUST OFFS. Effective January 1, 1994, any person who sells or distributes any aerosol or pressurized dispenser of cleaning fluid for electronic and photographic equipment which contains a class I or class II CFC or HCFC must display a sign explaining that such a product can only be distributed to a commercial user. The sign also must state that the penalty for violating the prohibition can be up to $ 25,000 and individuals purchasing such products must present proof of their commercial status in the form of one or more of the commercial identification numbers required by the law.

2. DOCUMENT PRESERVATION SPRAYS. Only certain types of sprays are approved: sprays containing CFC-113 as a solvent and no other CFCs; sprays containing CFC-12 as a propellant but no other CFCs; sprays containing HCFC-141b as a solvent and no other class II substance; and sprays containing HCFC-22 as a propellant and no other class II substance.

These sprays are allowed to be "used solely on thick books, books with coated or dense paper and tightly bound documents...." EPA also says they are "aware of formulations for document preservation sprays that do not use class I or class II substances." These words make it clear that the end is near for these CFC products.

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DYE INTERMEDIATE O-NITROANISOLE STUDY AVAILABLE

59 FR 2419, January 14, 1994

The National Toxicology Program announces availability of an NTP Technical Report: "Toxicology and Carcinogenesis Studies of o-Nitroanisole...." This chemical is used to synthesize o-anisidine and azo dyes. Under the conditions of these feed studies there was clear evidence of carcinogenic activity* in male and female rats and in male and female mice. Overall increased incidence of several types of cancer were seen, most notably of the bladder and kidney.

O-nitroanisole is used primarily as a precursor to o-anisidine which, in turn, is used in the synthesis of over 100 azo dyes. O-anisidine causes bladder cancer in rats apparently by the same mechanism as the benzidine and o-toluidine based dyes. It is reasonable to assume then, that the azo colorants based on o-anisidine also are suspect.

For a free copy of the report, write from Central Data Management, NIEHS, MD AO-01, P.O. Box 12233, Research Triangle Park, NC 27709. Enclose a self-addressed mailing label.

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* The NTP uses five categories of evidence of carcinogenic activity observed in each animal study: Two categories for positive results ("clear evidence" and "some evidence"); one category for uncertain findings ("equivocal evidence"); one category for no observable effects ("no evidence"); and one category for studies that cannot be evaluated because of major flaws ("inadequate study").

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CADMIUM STANDARD STAYED FOR PIGMENTS INDUSTRY

BNA-OSHR, 32(29, Dec. 15, 1993, p. 852

December 3, the US Court of Appeals for the District of Columbia stayed the OSHA Cadmium Standard as it applies to cadmium pigments (*Color Pigments Manufacturers Association, Inc. v. OSHA*, CA DC, No. 92-3057, 12/3/93). Last year in the litigation (December 1992), the court denied CPMA's request for a stay. It is not clear why the court changed its mind since neither party even discussed the motion for a stay during their oral arguments on November 30. CPMA has repeatedly argued that cadmium pigments are not cancer-causing like other forms of cadmium. Right.

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March 1994 Vol. 8, No. 3

HAZARD COMMUNICATION STANDARD MODIFIED

59 FR 6125-6184, Feb 9, 1994

The Occupational Safety and Health Administration (OSHA) has made some technical modifications of the "Right-to-Know" or Hazard Communication Standard (HCS) to clarify areas of the standard which OSHA found were commonly misinterpreted.

For example, OSHA makes it clear that while wood and wood products are exempted from the HCS, exposure to wood dust is covered. It is obvious that boards can't be labeled in accordance with the standard, but employers are obligated to obtain material safety data sheets (MSDSs) on the wood, train workers about it's hazards and the means of protection and all other HCS requirements. The MSDSs on wood must be created and provided on request by the first employer that processes the wood in such as way that hazardous fine wood dust is produced. This usually is the duty of the sawmill.

HCS requirements for retail store employers, construction sites, formaldehyde out-gassing products, and many other areas of common confusion are addressed in detail. To aid those who must comply with the HCS, OSHA's Publications Office, Room N3101, 200 Constitution Ave., N.W., Washington, DC 20210, (202) 219-4667, is providing free single copies of the following:

* The Federal Register item cited above (59 FR 6155-6184);

* "Chemical Hazard Communication" OSHA 3084, a booklet describing the rule's requirements;

* "Hazard Communication Guidelines for Compliance", OSHA 3117, a booklet to help employers comply with the rule;

* "Informacion Sobre Los Riegos De Los Productos Quimicos," a Spanish translation of OSHA 3084;

* "Hazard Communication Guidelines for Compliance, OSHA 3111;

* "Informacion Sobre Riegos Normas De Cumplimeniento," a Spanish translation of OSHA 3111.

Also available for $18.00 from the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20210; (202) 783-3238, is "Hazard Communication--A Compliance Kit" OSHA 3104, GPO order No. 929-022-00000-9, a step-by-step guide to compliance.

BUNGEE ACCIDENT CITED BY OSHA

BNA-OSHR, 23(36), February 9, 1994, p. 1206-7

Bungee America of Arvada, CO is contesting a serious citation and $ 7,500 penalty for five items including two alleged violations of the general duty clause (Section 5(a)(1) which is failure to furnish a place of employment free from recognized hazards that were causing or likely to cause death or serious physical harm. The citations are for exposing employees to 1) falling from a hot air balloon that was not high enough for a bungee jump and 2) falling while being attached to a bungee cord that was not rigged correctly causing the employee to strike the ground at a high rate of speed. Here's a new use of the general duty clause.

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READ FIRST: FACTS ABOUT SILICOSIS

The articles on page 3 of this issue assume the reader knows that silicosis is an untreatable and completely preventable disease cause by the inhalation of respirable (very fine, invisible) crystalline silica dust. There are three types:

a) **simple silicosis** which occurs after many (usually 15 or more) years of relatively low exposure to free silica;
b) **accelerated silicosis** which results from exposure to higher concentrations of free silica and developing 5 to 15 years after the initial exposure; and
c) **acute silicosis**, in which exposure to high concentrations results in symptoms developing from as soon as a few weeks to 4 or 5 years after the initial exposure.

Both simple and accelerated types of silicosis cause scarring of the lung which reduces oxygen transfer in the lung, and decreases the volume of air the lung can hold. Acute silicosis causes a protein-containing fluid to accumulate in the lungs in response to a very high degree of exposure to silica dust. Acute silicosis produces very little scarring. It causes death by the flooding the lungs with fluid.

Fungal and bacterial infections such as pneumonia and tuberculosis often complicate silicosis and can be fatal. These infections are believed to be so deadly because the cells that fight infection (microphages) are filled with silica and unable to kill the invading organisms. Silicosis accounts for more than 300 deaths each year in the U.S. It is suspected that the number would be higher if surveillance were improved. Diagnosis of silicosis requires:

a) confirmed history of occupational exposure to silica and a chest radiograph classified by a "B" reader* or
b) a lung tissue biopsy indicating silicosis.

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* "B" readers are physicians certified by NIOSH as proficient in classifying chest radiographs for pneumoconioses using the International Labour Office Classification for Radiographs of Pneumoconioses. To confirm a case, the "B" reader must classify the x-ray as "category 1/0 or greater profusion of small rounded opacities." Other health specialists and physicians must not be relied upon for this diagnosis.

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FOUR STATES REPORT SILICOSIS SURVEYS

MMWR, Vol. 42, No. SS-5, November 19, 1993, pp. 23-28

In 1987, 10 states were awarded grants from the National Institute for Occupational Safety and Health (NIOSH) to study selected occupational diseases including silicosis. Four of the states, Michigan, New Jersey, Ohio, and Wisconsin, have reported their 1987-1990 silicosis data which confirmed a total of 430 cases. About 60 per cent of these cases were in workers employed in primary metal industries including foundries. Stone, clay (including ceramics), glass, and concrete products industries were the predominant source of exposure among the New Jersey cases. In Ohio, no single industry predominated. A few cases in various states were in the dental supply industry which was an unexpected finding. ACTS suggests researchers also look for art, craft, and hobby exposures.

The average duration of exposure for the confirmed cases in these four states was 26 years. Only 10 % of the cases had less than 10 years of occupational silica exposure.

Physicians are required to report silicosis cases. But since the diagnosis is often missed, all four states have information programs for pulmonologists and occupational medical specialists. Michigan and Wisconsin have begun providing classification by "B" readers free of charge to physicians, companies, and individuals.

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NIOSH CALLS FOR BAN ON SAND BLASTING

NIOSH: HETA 92-0174-2363

The death of a sandblaster from silico-tuberculosis at an Ohio steel-treating company prompted NIOSH to evaluate medically all the exposed workers at the plant. Sixteen current and former male workers were examined, eleven of whom were sandblasters. One worker had advanced silicosis, four others had x-ray changes consistent with silicosis, and four showed radiographic changes consistent with tuberculosis. NIOSH said the infection may be related to suppression of the lung's immune response known to be caused by silica particles. If this is true, silica exposure could worsen the increasing threat from occupational exposure to TB.

Sandblasters are at risk of developing acute or accelerated silicosis because they are potentially exposed to high concentrations of free and freshly fractured silica. Freshly fractured silica is known to be more toxic.

Crystalline silica was prohibited as a blasting agent in 1950 in Great Britain. Other European countries outlawed it in 1966. NIOSH first recommended that use of sand or other materials containing more than one percent free silica be prohibited in abrasive blasting operations in 1974. NIOSH repeated this recommendation in a November 1992 alert concerning abrasive blasting (ACTS FACTS, June 93), and again in this report. Copies of the report can be obtained by writing the NIOSH Publications Office, 4676 Columbia Parkway, Cincinnati, OH 45226-1998. Request HETA 92-0174-2363 and enclose a self-addressed mailing label.

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SICK ART BUILDING CLOSED

Potomac Gazette, Michael Koster, Capitol News Service, Dec 15, 1993, p. A-36

Officials at the University of Maryland in College Park ordered the closing of the fourth floor of their Art-Sociology Building. This floor housed art history seminar rooms and grad assistant offices where headaches, fatigue and flu-like symptoms have plagued students and workers for years. Interest in the problem peaked when the art history and archaeology department chairman noted there were at least four cases of cancer among art history faculty diagnosed in the last two years, and two cancer deaths in the past six years.

A health survey of about 300 faculty, staff and graduate students who work in the Art-Sociology Building was prepared and sent to Dr. Rosemary Sokas, acting director of occupational medicine at George Washington University. She said, "It looks like there's a cluster of breast cancer," but added that there was no compelling evidence linking the cases to poor building conditions. However, the fourth floor shared a ventilation system with lower floors where art studios used chemicals some of which were carcinogens.

A Baltimore engineering firm was consulted and they reported that there were "basic deficiencies in the air handling system." A new system is being installed. ACTS recommends continued medical surveillance for the roughly 950 faculty and students who currently use the building and for previous occupants and students.

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IROQUOIS FOUNDRY CITED BY OSHA

BNA-OSHR, 23(34), Jan 26, 1994, p. 1022

The Iroquois Foundry, Browntown, Wisconsin, is contesting a serious citation and $ 9,600 penalty for alleged failure to keep open flames or spark producing equipment, separated by a partition, at least 20 feet from spraying areas (1910.107(c)(2)), for failure to use appropriate respirators when engineering controls weren't feasible or were being installed (1910.134(a)(1)), and failure to ensure that the crane operators didn't leave the controls unattended while the load was suspended (1910.179(m)(3)(x)).

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April 1994 Vol. 8, No. 4

In January, 1992, ACTS FACTS ran an article on Sculpey and other polymer clays. ACTS received so many requests for further information that we decided to publish a detailed update. Sculpey and Fimo data are used in this article, but other polymer clays probably are similar in composition. ACTS dedicates this issue to those individuals most likely to be at risk from exposure to these products: 1) cottage industry artists who hand-form large amounts of jewelry or other objects in their homes and cure them in their kitchen ovens; 2) other family members living in these homes; 3) school children; and 4) their teachers. Editor

OVEN-CURED POLYMER CLAYS

Oven-cured "polymer clay" modeling compounds, such as Sculpey and Fimo, are made of vinyl chloride plastic and additives. These additives include plasticizers, colorants, inert fillers such as calcium carbonate or clay, and antioxidants to resist discoloration. The bulk of the additives are the plasticizers which comprise about 15 percent of the product.[1] Users come into skin contact with the plasticizer when they hand-mold polymer clays. The plasticizers actually can be seen as a greasy stain if the unfired product is set on a piece of paper for a while.

For many years, Sculpey's and Fimo's plasticizer was di(2-ethylhexyl)phthalate (DEHP). Artists surely inhaled DEHP vapor along with other highly toxic emissions from the vinyl chloride plastic when ovens over-heated. Some DEHP volatilizes even when recommended curing temperatures are not exceeded. DEHP-contamination of food subsequently cooked in the ovens also might happen. Small amounts of DEHP also may absorb very slowly through the skin. The extent of exposure to DEHP from all these routes has never been assessed.

Exposure to DEHP is worrisome because it causes liver cancer and birth defects in test animals. DEHP has been listed as a carcinogen by the International Agency for Research in Cancer (IARC) since 1982. Three U.S. agencies also consider it a carcinogen (see chart page 3). After the Labeling of Hazardous Art Materials Act became effective in 1989, products containing DEHP required cancer warnings on their labels. Whether for this reason or for product safety, DEHP was removed from Sculpey and Fimo.

Polyform Products replaced DEHP in Sculpey with a chemical called di(2-ethylhexyl)terephthalate (DEHTP). Eberhard Faber replaced DEHP in Fimo with a mixture of three phthalate plasticizers. All of these chemical are very similar to DEHP, but have never been studied for cancer effects. Unfortunately, the Labeling of Hazardous Art Materials Act allows products containing these untested chemicals to be labeled "non-toxic."

To assess the risk from using the new products we must compare what is known about DEHP and the new plasticizers in detail.

DEHP CANCER THEORIES. The mechanism by which DEHP causes cancer is unknown, but there are two major theories:[2,3]

1. PEROXISOME PROLIFERATION THEORY: The increase in liver peroxisomes (an enzyme) which follows DEHP exposure results in increased hydrogen peroxide production. Hydrogen peroxide then reacts with DNA, initiating tumor development. Liver enlargement is expected to precede this condition.

2. HYPERPLASIA THEORY: The increased liver cell division which accompanies DEHP exposure leaves the cells vulnerable to the action of genotoxic compounds. Alterations of DNA in rapidly dividing cells become permanent as cells divide faster than DNA repair enzymes can correct the damage. Liver enlargement is expected to precede this condition.

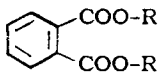
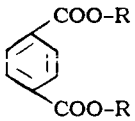
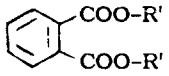
THE NEW PLASTICIZERS. Both Sculpey's and Fimo's new plasticizers also cause liver enlargement on subchronic testing. Both polymer clay makers seemed to assume that the first of the above theories is true and sent ACTS studies of peroxisome induction.[4] The studies indicate that Sculpey's and Fimo's plasticizers show less liver enlargement and weaker peroxisome activity in comparison with DEHP. ACTS also has data indicating that none of the plasticizers (including DEHP) are mutagenic.[5,6] Additional data showed that two of the three Fimo plasticizers (like DEHP) have adverse reproductive and developmental effects,[7] No reproductive tests of Sculpey's DEHTP could be found. The chart on page three compares the available data on DEHP, DEHTP, and Fimo's plasticizers.

While some of this data may mean that the new plasticizers are less toxic than DEHP, it also shows more similarities than differences in their behavior. Further chronic testing clearly is needed.

RECOMMENDATIONS. ACTS believes that the limited data indicate that polymer clays are not suitable materials for children and pregnant women. Adults who choose to take the risk should use polymer clays in studios that are separated from living areas rather than at home. Curing should be done in an oven or heating device which is never used for food and whose emissions are vented outside. Scrupulous hygiene should be practiced. Hands should be washed after use. If the skin is chapped or broken, nitrile gloves may provide protection (ask your glove manufacturer).

As consumers, we are sick of learning that "non-toxic" chemicals we have used for years are found to cause cancer and birth defects when they finally are tested. This happened with DEHP. It could happen again with Sculpey's and Fimo's new plasticizers. To prevent this, terms like "non-toxic" or "no warnings required" should not be allowed on products containing untested substances, especially substances closely related to known toxic chemicals. In fact, shouldn't we be told--in all cases--whether products have been tested or not? Shouldn't consumers have a "right-to-know?" >>

COMPARISON OF PHTHALATE PLASTICIZERS IN HAND-MOLDED, KITCHEN OVEN-FIRED, POLYMER CLAY HOBBY PRODUCTS

DEHP	DEHTP (aka DOTP)	D 6, 8, 10 P
Was the plasticizer in Sculpey, FIMO & others	Now used in Sculpey.	Now used in FIMO
CHEMICAL DATA	**CHEMICAL DATA**	**CHEMICAL DATA**
Di(2-ethylhexyl)phthalate	Di(2-ethylhexyl)terephthalate synonym: Dioctylterephthalate	Di(C_6, C_8, C_{10}) phthalates
CAS # 117-81-7	CAS # 6422-86-2	CAS # 68515-51-5
		
R= CH_2CH_3 $CH_2CHCH_2CH_2CH_2CH_3$ = C_8H_{17} = ethylhexyl branched chain	R = CH_2CH_3 $CH_2CHCH_2CH_2CH_2CH_3$ = C_8H_{17} = ethylhexyl branched chain	R' = $C_{6\text{-}10}H_{15\text{-}23}$ = n-hexyl, n-octyl, and n-decyl
note: the R groups are on the 1 & 2 positions on the benzene ring	note: the R groups are on the 1 & 4 positions on the benzene ring	A mixture of straight chains ($C_{6, 8, 10}$) on the 1 & 2 position on the benzene ring
ACUTE TOXICITY DATA	**ACUTE TOXICITY DATA**	**ACUTE TOXICITY DATA**
RAT LD_{50} = 30.6 g/kg RABBIT LD_{50} = 33.9 g/kg	RAT LD_{50} > 3.2 g/kg MOUSE LD_{LO} = 20 g/kg	RAT LD_{50} = 45 g/kg
CHRONIC TOXICITY DATA	**CHRONIC TOXICITY DATA**	**CHRONIC TOXICITY DATA**
SUBCHRONIC/CHRONIC TOXICITY Causes liver enlargement, liver cancer in test animals	SUBCHRONIC TOXICITY Causes liver enlargement	SUBCHRONIC DATA Causes liver enlargement
CANCER STUDIES result in classification: NIOSH= X (cancer agent) EPA = B2 (probable human carcinogen) IARC = 2B (possible carcinogen) NTP = 2 (reasonably anticipated to be a carcinogen)	CANCER STUDIES No studies found	CANCER STUDIES No studies found
MUTATION DATA Negative on Ames test	MUTATION DATA Negative on Ames test	MUTATION DATA Negative on Ames test
REPRODUCTIVE TOXICITY Adverse effects on fertility in both rats and mice.	REPRODUCTIVE TOXICITY No studies found	REPRODUCTIVE TOXICITY n-dihexyl phthalate: adverse effects on fertility in male/female mice
DEVELOPMENTAL TOXICITY Causes birth defects in mice and rats. Affects skeletal and nervous systems, blood vessels, and the kidney.	DEVELOPMENTAL TOXICITY No studies found	DEVELOPMENTAL TOXICITY n-dioctyl phthalate: fetotoxicity, developmental abnormality of eye/ear/other. n-dihexyl phthalate: effects on newborn. n-didecyl phthalate: no studies found.
LEGAL LABEL WORDING	**LEGAL LABEL WORDING**	**LEGAL LABEL WORDING**
"Cancer hazard based on experimental data," "Causes cancer in test animals," or similar approved statement.	"Non-toxic"	"Non-toxic"

1. Fifteen percent is stated on page 129 of The New Clay, Nan Rochle, Flower Valley Press, 1991 as the general composition of these products. Sculpey's Material Safety Data Sheet also lists it as 15 %.
2. Toxicological Profile for Di(2-ethylhexyl) Phthalate, U.S.DHHS, Agency for Toxic Substances and Disease Registry (ATSDR), April 1993, publication #: TP-92/05, p. 63.
3. There are two other theories: 1) Ethylhexyl alcohol, formed when DEHP breaks down in the body, was incorrectly thought to be the carcinogen. However, the influence of toxic effects of 2-ethylhexanol on the DHEP-induced changes in the liver are currently being investigated. 2) DEHP may bind to a specific rat liver receptor and turn on certain genes involved with the regulation of cell division and the assembly of peroxisomes. This theory was postulated in an article in Nature (Issemann & Green, Vol 347-18 October 1990), but was not even referenced by ATSDR (see footnote 2).
4. "Peroxisome induction studies on di(2-ethylhexyl)terephthalate," Toxicology and Industrial Health, 1987, 3(1), pp. 7-22 and "Peroxisome induction studies on seven phthalate esters," Ibid., 3(2) pp. 63-78.
5. Unpublished study, Safepharm Laboratories Ltd, England, using an acetone extract of unfired Fimo.
6. "Genetic Toxicology Testing of Di(2-ethylhexyl) Terephthalate," Eugene D. Barber, Eastman Kodak Company, Corporate Health and Environment Laboratories.
7. Lewis, Richard J. Sr., Reproductively Active Chemicals, Van Nostrand Reinhold, 1991, pp. 199, 223. A summary of this data can be obtained from ACTS on request.

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THEATER CITED BY OSHA

BNA-OSHR, 23(40), March 9, 1994, p. 1342

United Artists Astoria Theatre, Astoria, NY is contesting a serious citation and a $9,000 penalty for four items, including alleged failure: to mark exits or access to exits by readily visible signs (1910.37(q)(1)); to place "EXIT" signs with an arrow indicating the direction in every location where the direction of travel to reach the nearest exit was not immediately apparent (1910.37(q)(5)); and **to provide an educational program to all employees to familiarize them with the general principles of fire extinguisher use and the hazards involved with incipient stage fire fighting upon initial employment and at least annually thereafter (1910.157(g)(2)).**

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POTTERY CITED BY OSHA

BNA-OSHR, 23(40), March 9, 1994, p. 1342

Tipton Limited, doing business as Mesa Verde Pottery of Cortez, CO, is contesting a serious citation and $ 2,400 penalty for four items including alleged failure to: require protective eye equipment (1910.133(a)(1)); ground exposed non-current-carrying metal parts of cord- and plug-connected equipment (1910.304(e)(5)(v)); and develop, implement, and/or maintain at the workplace a written hazard communication program (1910.1200(e)(1).

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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.

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

May 1994 Vol. 8, No. 5

MOLD EXPOSURE TRIGGERS $ 400 MILLION SUIT AGAINST MUSEUM

NY Observer, Warren St. John, reporter, February 21, 1994, pp. 1, 17.

A nearly $ 400 million class-action lawsuit was filed by 11 current and former employees against the New Museum of Contemporary Art in New York City's SoHo district. The Plaintiffs claim they suffered illnesses ranging from minor symptoms to complete disability from exposure to a highly toxic black mold that was growing for the last three years in the subbasement of the museum's exhibition space.

The mold, *Stachybotrys atra*, attracted interest in the early 1980's when NATO and the West German Department of Defense tried to develop an antidote for it because it was thought to be a component of the Soviet Union's biological warfare arsenal. The mold produces toxins that have been known to kill horses, cattle and even humans. This may account for the observations of Dr. Eckardt Johanning of Mt. Sinai Hospital's Occupational Health Clinic who examined some of the plaintiffs. Dr. Johanning noted that: "This went far beyond normal 'sick building' syndrome." One museum employee, he recalled, "was a picture of someone who is, like, poisoned."

The lawsuit is complicated by alleged building code violations, bad ventilation, failure to correct hazardous conditions promptly, and an inadequate report from an environmental firm. The report recommended that the affected area "be thoroughly cleaned by washing with a Pine Oil disinfectant...." Dr. Johanning suggested that this cleaning may have endangered those who performed it.

A second environmental firm later correctly identified the highly toxic mold. This firm also reported outdoor air intakes that were positioned over an air shaft full of stagnant water which fostered growth of molds and fungi, and intakes that "were covered with pigeon feces and a dead pigeon that can harbor pathogenic fungi."

If the plaintiffs win their lawsuit, the Museum's Board of Directors are personally liable for awards in excess of the amount the Museum can pay. Directors include Henry Luce III, Vera List, Herman Schwartzman and art collector Arthur Goldberg.

All Board members of non-profit corporations such as museums, theaters, schools and galleries are similarly liable. They are responsible for protecting the institution, the employees, and the public that visits their facilities. The Board's liability is at risk if their buildings harbour hazards like mold, water damage, poor sanitation, black dust floating out of air-supply grates, or ventilation systems that deliver insufficient amounts of fresh air.

RISD STUDENT FIRST VICTIM OF RARE VIRUS IN NORTHEAST

NY Times, Feb 24, 1994, p. B7

Hantavirus, a viral disease associated with exposure to feces or urine of infected rodents, caused a deadly outbreak of illness in the Southwest last summer. All but one of the 53 confirmed hantavirus cases have occurred east of the Mississippi. Now a Rhode Island School of Design (RISD) senior majoring in film and video is the first in the Northeast to die of the disease.

Hantavirus' flu-like symptoms develop about two weeks after exposure to the virus. Two weeks before he fell ill, the RISD student visited his family's two homes in Nassau County and on Shelter Island and he filmed a movie for a school project in his father's Queens factory. He was sick when he returned to the RISD campus. Two days after getting prescription antibiotics from a doctor, he went to the emergency room feeling short of breath. He died less than eight hours later on January 20.

The Centers for Disease Control and Prevention (CDC) sent experts to work with New York and Rhode Island health officials to search for any additional cases. The disease begins with fever, muscle aches and may lead to acute respiratory distress. There is no specific treatment and 60 percent of those infected have died. The CDC suggests that people avoid contact with rodents, try not to disturb their nests, keep food in rodent-proof containers, and disinfect sites where rodents or their droppings have been seen. Hantavirus is just one of many biological hazards that threaten workers during construction, renovation, or cleaning.

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BIO-HAZARDS THREATEN CLAY MINERS AND RENOVATORS

NIOSH: HETA 92-0361-2343 & HETA 92-0348-2361

Two recent NIOSH Health Hazard Evaluations found workplace hazards associated with biological agents. In one study, workers at a bentonite mine developed acute hepatitis from Q fever when they were exposed to soil contaminated with animal feces. In another study, NIOSH found that workers renovating a church attic were exposed to bat droppings contaminated with the fungus *Histoplasm capsulatum* which can cause a severe respiratory disease.

These studies should remind us that restoration and conservation workers should treat animal waste and moldy materials as toxic substances. For the church renovation, NIOSH suggested spraying contaminated waste with water prior to and during removal operations, and wearing NIOSH-approved full-facepiece powered air-purifying respirators with high-efficiency filters, disposable protective clothing with a hood, disposable latex gloves under cotton work gloves, and disposable shoe coverings. Since the clothing is warm, NIOSH also recommends precautions against over-heating such as scheduling work during the coolest parts of the day. The report with the complete list of precautions can be obtained by sending a self-addressed mailing label to the NIOSH Publications Office, 4676 Columbia Parkway, Cincinnati OH 45226-1998. Ask for the HETA 92-0348-2361 study of the First United Methodist Church, Manchester, TN.

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BIOLOGICAL HAZARDS

Primary source for table: MMWR, CDC, Vol. 42, No. RR-16, Dec 31, 1993, PP. 27-38

This issue of ACTS FACTS emphasizes biological hazards. These diseases might be encountered in contaminated workplaces, during building restoration, construction, and cleaning, or on museum artifacts, animal specimens, hide, fur, or the like. Exposure most often occurs when dust containing the organism is inhaled. Other routes of exposure include: skin contact, especially if the skin is broken; contamination of food by dust or unwashed hands; insect bites; and, in rare cases, parasite penetration of normal skin.

Dozens of hazardous microorganisms are known and new ones are still being identified. In addition, diseases which used to be seen only in foreign countries, such as Lassa fever, now have been found in North America. Many of these diseases are difficult for physicians to diagnose and even harder to treat. It is far better to prevent exposure. The table below lists some of these biological disease organisms and a few of the toxic molds. Not included are hundreds of molds and fungi which can cause severe allergies in many people.

SOME DISEASES WHICH MIGHT BE CONTRACTED FROM EXPOSURE TO SOIL, MOLDS, ANIMAL SPECIMENS AND WASTE, REFUSE, AND INSECT BITES IN NORTH AMERICA

DISEASES	*SOURCE OF THE DISEASE ORGANISMS*
Anthrax (B)*	*viable spores in soil for years, also on animal hides, bone, horn, etc.; inhalation, skin contact with broken skin (inhalation form is highly fatal).*
Aspergillosis (F)*	*decaying vegetation; inhalation of spores (treatment difficult)*
Babesiosis (P)*	*rodents or cattle; tick borne; rare*
Blastomycosis (F)*	*found in soil; thought to be inhaled; rare (treatment difficult)*
Chromomycosis (F)*	*wood, soil, or decaying vegetation; inhalation (treatment very difficult)*
Coccidioidomycosis (F)*	*soil; inhalation of dust (treatment difficult)*
Cryptococcosis (F)*	*soil, pigeon droppings; inhalation (treatment difficult)*
Hantavirus (V)*	*rodents; inhalation (currently 60 percent fatal, no specific treatment available)*
Histoplasmosis (F)*	*dust and soil associated with chickens, bats and starlings; inhalation (treatment difficult)*
Hymenolepiasis (P)*	*possible reservoir in mice; rare (infections may last years, some infections asymptomatic)*
Lassa fever (V)*	*rodents; rare in N. America (fatal in epidemics)*
Legionellosis (B)*	*water systems, possibly soil; inhalation (sometimes fatal)*
Leishmaniasis (P)*	*wild and domestic animals; sandfly bite (400,000 cases/year world wide, sometime fatal, treatment difficult)*
Lyme disease (S)*	*wild deer, rodents; tick borne*
Lymphocytic choriomeningitis (V)*	*mice, hamsters; rare*
Melioidosis (B)*	*soil, water, various animals; inhalation (often asymptomatic and relapses)*
Nocardiosis (B)*	*soil; inhalation*
Plague (B)*	*wild rodents; fleas (high fatality rate)*
Psittacosis (B)*	*birds; inhalation*
Q fever (R)*	*cattle, sheep, goats; contaminated soil; inhalation (rarely fatal, may lead to complications such as hepatitis)*
Rabies (V)*	*bites from live animals or contact with dead infected animals resulting in broken skin*
Relapsing fever (S)*	*wild rodents and ticks (may be fatal)*
Rocky Mountain Spotted fever (R)*	*ticks, dogs, rodents (fatality rate up to 20 percent)*
Stachybotrys atra (F)*	*moldy cellulose-containing materials (straw, paper, building materials); inhalation*
Strongyloidiasis (P)*	*dogs; larvae penetrate skin from fecally contaminated soil (potentially fatal)*
Tularemia (B)*	*wild animals; direct contact, inhalation, or tick bite*
Typhus:	
Louse-borne (R)*	*flying squirrels; louse bite*
Murine (R)*	*rats, other wild or domestic animals; flea bites*

* *B=bacteria, F=fungus, P=parasite, R=rickettsia, S=spirochete, V=virus*

PATHOGENS STANDARD APPLIES TO TAGGING GUNS

BNA-OSHR, 23(42), March 23, 1994, pp. 1386-7

Tagging guns are devices used in textile and retail industries to attach price and inventory tags. Employees using the guns sometimes suffer puncture wounds and lacerations. In the process the tagging gun needle becomes contaminated with the employee's blood and may pass diseases to other employees using the gun. California's Division of Occupational Safety and Health has determined that these employers must comply with the bloodborne pathogens standard. This standard applies to hospital workers and any other employees who are at risk of exposure to blood or other body fluids on the job.

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NEW YORK SCHOOL BUILDINGS POSE RISKS TO WORKERS/STUDENTS

BNA-OSHR, 23(42), March 23, 1994, p. 1386

The New York State United Teachers (NYSUT) released a report claiming that about 25 percent of New York state public schools pose a significant risk to school staff and students. Based on a survey by 1,098 local teachers union leaders, the report listed problems ranging from indoor air pollution, asbestos and fire hazards, lead in paint and drinking water, to pesticide exposure. The report also recommends corrective actions including requiring school districts to appoint a certified health and safety officer to monitor buildings, better management of pesticide applications, and increased testing for radon and lead. The report, *School Decay: A Prescription for Recovery* is available from NYSUT, 159 Wolf Road, Box 15-008, Albany, NY 12212; 518-459-5400.

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CRAYONS RECALLED BY CPSC

Readers who did not hear about the recall of lead-contaminated crayons on TV or in newspapers last month may obtain the complete list of recalled brands from the Consumer Product Safety Commission or ACTS (send SASE). The most disturbing factor in the recall was that the crayon labels provided no warnings. Some of the recalled items were labeled "conforms to ASTM D-4236" or "non-toxic."

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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.

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WOOD DUST RULE STAYED UNTIL AUGUST

59 FR 17478-9, Apr 13, 1994

Last month's ACTS FACTS covered technical amendments to OSHA's Hazard Communication Standard which clearly state that this law applies to wood products which are to be processed in a manner which creates wood dust or which results in exposure to hazardous wood treatment chemicals. Previously, the wood industry did not accept this interpretation of the OSHA rule and did not label or supply material safety data sheets (MSDSs) for all wood and wood products. To allow more time for the industry to prepare labels and MSDSs, OSHA stayed the requirements until August 11.

MSDSs are not needed if the "manufacturer or importer can establish that the only hazard [the wood products] pose to employees is the potential for flammability or combustibility"* because these hazards are common knowledge. Such materials would include pre-cut products intended to be glued or nailed into place. But if wood is to be sawed or sanded, workers must be warned that wood dust causes dermatitis, respiratory diseases, and is associated with cancer.** Many workers are not aware of these hazards. And if the wood is toxic or chemically treated, these hazards also must be addressed.

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* 29 CFR 1910.1200(b)(6)(iv) is now amended to reflect this change.

** The American Conference of Governmental Industrial Hygienists (ACGIH) considers wood dust toxic and set Threshold Limit Values (eight hour time weighted averages) of 1 milligram per cubic meter (mg/m^3) for hard wood and 5 mg/m^3) for soft wood. In their recommendations they note that the "principal health effects reported from exposure to wood dust are dermatitis and increased risk of upper respiratory tract disease. Epidemiologic studies of furniture workers have indicated an excess of lung, tongue, pharynx, and nasal cancer. ... Certain exotic woods...contain alkaloids that can cause headache, anorexia, nausea, bradycardia, and dyspnea on inhalation."

OSHA also set Permissible Exposure Limits for wood dust, but these were vacated by the courts. OSHA will probably use TLVs as guidelines to protect workers under the General Duty Clause.

PERSONAL PROTECTIVE EQUIPMENT RULES ALTERED

59 FR 16333-16364, April 6, 1994

OSHA amended the rules for personal protective equipment (PPE) in the General Industry Standards (Code of Federal Regulations 29 CFR 1910.132-140). The first of these, General Requirements (.132), applies to all types of PPE such as eye wear, gloves, head and foot protection. Parts a) to c) of .132 are unchanged. The new sections are: d) how to assess hazards, e) prohibition against using defective or damaged equipment, and f) training requirements.

The training requirements include teaching workers (i) when PPE is necessary, (ii) what PPE is necessary, (iii) how to properly don, doff, adjust, and wear PPE, (iv) limitations of the PPE, (v) proper care, maintenance, useful life and disposal of the PPE. Section (2)

requires each affected employee to demonstrate an understanding of the training and their ability to use PPE properly before being allowed to perform work requiring the use of PPE. Section (3) requires retraining when either the workplace or type of PPE are changed, or if the employer has any indication that the employee has not retained the requisite understanding or skill. Section (4) requires verification that each affected employee has received and understood the required training through a written certification that contains the name of each employee trained, the date(s) of training, and that identify the subject of the certification.

These changes in PPE training requirements are also important to teachers, since liability makes it imperative that they protect their students at least as well employees. Now teachers should document that their students understand the proper use and limitations of each type of protective equipment.

The eye and face protection section, 1910.133, is completely rewritten. Subsection (a), general requirements for eye and face protection, requires: 1) that each affected employee shall use appropriate eye or face protection when exposed to eye or face hazards from flying particles molten metal, liquid chemicals, acids or caustic liquids, chemical gases or vapors, or potentially injurious light radiation; (2) that side protection is required when flying objects are the hazard (detachable side shields are acceptable); and (3) that both prescription eye protection and eye protection that can be worn over prescription eye wear are acceptable if they do not disturb the proper position of the prescription lenses or the protective lenses.

It further requires (4) that eye and face PPE shall be distinctly marked to facilitate identification of the manufacturer; and (5) that appropriate filtered lenses are required. A chart lists the minimum protective shade for each type of welding. Criteria for eye and face protection devices purchased after July 5, 1994 must comply with the latest standard of the American National Standards Institute (ANSI Z87.1-1989) or else the employer must demonstrate the devices are equally effective.

OSHA also includes non-mandatory guidelines for face and eye protection including for heat and furnace operations. These hazards involve multiple types of radiation such as heat, light, and ultraviolet and they should be technically quantified. OSHA notes that: "As required by the standard, filter lenses must meet the requirement for shade designations in 1910.133(a)(5). Tinted and shaded lenses are *not* filter lenses unless they are marked or identified as such." **This should help to end the misguided use of unmarked didymium glasses for kiln, foundry, and glass work.**

There are similar changes in the sections on head protection (135), foot protection (136), and hand protection (138). Call your local OSHA office and ask for a copy. Most significantly, **the new rules all require use of the right type of devices, documented training, and regular review of protective equipment programs.**

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SCREEN PRINTER'S SUIT SETS PRECEDENT

BNA-OSHR, 23(45) Apr 13, 1994, p. 1579

(Pere v. McConkey d/b/a J&V Sales, Tenn SupCt, No.03-S-01--9306-CV-00034, 2/28/94)

A Tennessee operator of a screen printing machine tried to sue her employer after she fainted and fell at work, requiring hospitalization. She testified that she worked in a small, poorly ventilated room amid smoke, vapors, and excessive heat, and that her employer failed to address working conditions despite her complaints.

Her employer countered with a Tennessee legal principle called the "doctrine of implied assumption of risk." Essentially, the employer held that since the employee complained, she clearly knew there was a risk. By continuing to work, she "assumed the risk" and was not entitled to sue. A lower court agreed.

The Tennessee Supreme Court reviewed the case and abolished the doctrine of implied assumption of risk as a bar to recovery, retaining only the principle of "express assumption of risk" when such agreements are contractual in nature. The court ruled that in the case of the screen printer, "the reasonableness of a party's conduct in confronting a risk should be determined under the principles of comparative fault." Translation: she can sue.

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SILKCREEN PRINTER PROSECUTED UNDER NEW LAW

BNA-OSHR, 23(46) Apr 20, 1994, p. 1621

Winterland Productions Inc. and one of their employees were criminally prosecuted under the California Corporate Criminal Liability Act (jokingly called the "Be a Manager, Go to Jail Act"). The case involved the death of an employee whose head allegedly was crushed after he climbed into a press to tape silkscreens while the machine was being adjusted. The company pleaded "no contest" and received three years' probation. The civil portions of the case were settled by an agreement under which Winterland will pay $ 350,000. The employee charged in the case was given a chance to avoid pleading to a criminal charge by accepting community service.

California employers or managers can run afoul of this law if they knowingly allow employees to work under unsafe conditions or to produce products that possess unforeseen dangerous qualities. In addition, if employers or managers learn of a serious concealed danger in the workplace or a product, they must provide written notification to affected workers and to the Division of Occupational Safety and Health (Cal/OSHA) within 15 days of learning of the hazard. If the hazard involves an immediate threat of bodily harm, then they must notify Cal/OSHA and the affected employees within 24 hours. Failure to notify exposes managers to penalties of up to $25,000 and as much as one year in county jail and three years in state prison. Corporations could be fined up to $ 1 million.

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GRAPHICS COMPANY CITED BY OSHA

BNA-OSHR, 23(43), Mar 30, 1994, p. 1435

Art-Vertising Inc., New Orleans, LA is contesting a serious citation and $ 2,250 penalty for four items including alleged failure to provide cooling fan blade guards (1910.212(a)(5);

failure to develop, implement, and/or maintain at the workplace a written hazard communication program (1910.1200(e)(1); and failure to have material safety data sheets for each hazardous chemical (1910.1200(g)(1).

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COURT ORDERS OSHA TO RESTUDY CADMIUM RULE

BNA-OSHR, 23(43), Mar 30, 1994, pp. 1413-1414
Color Pigments Manufacturers Association Inc. v OSHA, CA 11, No. 92-3057, 3/22/91

The Color Pigments Manufacturers Association (CPMA) took their objections to the OSHA Cadmium Standard to court. This standard limits workers' exposure all cadmium compounds, including pigments, to 5 micrograms per cubic meter of air (ug/m^3) to reduce worker's risk from cadmium's toxicity and carcinogenicity.

The federal appeals court did not buy CPMA's old argument that the pigments are not as toxic as other cadmium compounds because they are not very soluble. But the court did decide that OSHA failed to show that the standard was technically and economically feasible for the dry color formulator industry.

Dry color formulators buy bulk pigments from major pigment manufacturers, mix made-to-order colors, and then encapsulate the pigments in pellets. Their workers inhale cadmium pigments during the blending process. Formulators typically are small businesses with a limited ability to absorb capital outlays for ventilation and dust control. The court has required OSHA to show that this industry can afford to provide the required precautions or else exempt them from parts of the standard.

This case is important because art materials manufacturers also are small businesses whose workers are exposed to cadmium pigments. They also could appeal if the formulators are exempted. In either case, it always unsettling to find that workers legally can be put at risk if an industry proves it can't afford to protect them.

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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.

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July 1994 Vol. 8, No. 7

ACGIH PROPOSES NEW BLOOD LEAD LIMIT

BNA-OSHR, 24(1), June 1, 1994, p. 13

The American Conference of Governmental Industrial Hygienists (ACGIH) has proposed a voluntary limit for blood-lead concentrations in workers of 30 micrograms per deciliter (ug/dl) of whole blood based primarily on protecting workers from reproductive health effects. This is more restrictive than the 40 ug/dl level above which the Occupational Safety and Health Administration (OSHA) requires employers to remove workers from lead exposure.

ACGIH's action demonstrates a continuing change in their policy regarding lead. For many years, ACGIH's Threshold Limit Value of 150 micrograms per cubic meter (ug/m^3) for lead in workplace air was far less protective than OSHA's permissible exposure limit of 50 ug/m^3. Then in 1993, ACGIH published a Notice of Intended Change (NIC) to make their limit the same as OSHA's. This limit is still under review (see page 4 for other NICs). Now ACGIH has proposed a blood-lead limit that is even more protective than OSHA's. ACTS hopes both ACGIH proposals are adopted.

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CITATIONS FOR LEAD VIOLATIONS GETTING LARGER

BNA-OSHR, 23(42), Mar 23, 1994, pp. 1379-1380 & 24(2), Jun 8, 1994, pp. 83-84

On June 3, a Pittsburgh-based painting contractor was hit with more than **$ 5 million** in proposed penalties for alleged egregious, willful violations of the new federal standard protecting workers from lead exposure during abrasive blasting and repainting of a lead-painted bridge. Earlier in February, OSHA levied a **$ 1 million** fine against a Pennsylvania painting company for failing to comply with the lead requirements.

On March 17, OSHA proposed penalties against two New York-based contractors totalling more than **$ 200,000** for allegedly exposing workers to high levels of lead while repainting a bridge in Massachusetts. On this same day, two executives of a smelting company pleaded guilty in criminal court to exposing their employees to dangerous levels and lead. The company President and plant manager were ordered to pay **$ 500,000** and sentenced to perform 750 hours of janitorial work at a center for the blind (*Massachusetts v. Bay State Smelting Co.*, Mass SuperCt, No. CA-94-99001-002, 3/17/94).

These cases demonstrate a continuing trend toward assigning higher fines and criminal prosecution of CEOs and managers who expose workers to lead.

==========

BRICKS AND TILES NEED LABELS AND MSDSs

BNA-OSHR, 24(4), June 23, 1994, p. 237

The Occupational Safety and Health Review Commission upheld an OSHA citation of a brick manufacturer for failure to label shipments of bricks and to provide material safety data sheets (MSDSs). No penalty was assessed, but the Holly Springs Brick and Tile Company (Holly Springs, Mississippi) was ordered to provide labels and MSDSs which warn of silica-containing brick dust to which workers are exposed during dry cutting.

All manufacturers of ceramic and clay materials such as tiles, brick, and refractories must prepare labels and MSDSs if these materials may be cut or shaped during installation or used in ways which create dust. **The requirement applies also to craftspeople who make and sell decorative ceramic tiles.**

==========

KOHLER COMPANY VIOLATIONS AFFIRMED

BNA-OSHR, 24(1), Jun 1, 1994, p. 5

A case that has been pending since an OSHA inspection of Kohler Company in 1988 was finally settled. Many of the original 466 violations were withdrawn, but the Occupational Safety and Health Review Commission upheld 277 non-serious violations against the company and assessed a total penalty of $ 29,430 (*Secy of Labor v. Kohler Co.*, OSHRC, No. 88-237, 5/23/94). The violations were related to a faulty recordkeeping system which mis-classified occupational illnesses and injuries as "first-aid" cases.

This case is important because minor "first aid" injuries do not have to be reported on the required yearly accident/illness summary (the OSHA 200 form). This summary is used by OSHA to determine when there are enough serious injuries to initiate an inspection. By down-grading serious cases, a company can avoid an inspection.

The Kohler Company makes porcelain plumbing fixtures in its Wisconsin factory and for many years has invited artists from around the country to use their facility to make ceramic and porcelain art works. Kohler's attitude toward safety is an important ingredient in the intellectual environment provided for these artists.

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OSHA CITES CERAMIC CHEMICAL MANUFACTURER

BNA-OSHR, 23(45), Apr 13, 1994, p. 1581

Ferro Corporation, Bedford Chemical Division Walton Hills, Ohio, is contesting a repeat citation and a $3,000 penalty for alleged failure to maintain floors in a dry condition (1910.22(a)(2). They are also contesting a serious citation and a $ 11,900 penalty for six items including alleged failure to keep aisles or passageways clear (1910.22(b)(1)); for permitting employees to consume food or beverages in areas exposed to cadmium (1910.141(g)(2)); for failure to ensure that no employee was exposed to an airborne concentration of cadmium in excess of the permissible exposure limit (1910.1027 (c)); and for failure to institute a training program for all workers who are potentially exposed to cadmium (1910.1027(m)(4)(1)).

==========

THEATER SAFETY VIDEO AVAILABLE

Theatre Arts Video Library (TAVL) has released an excellent and comprehensive 82 minute video called **"Play it Safe - Introduction to Theatre Safety."** The video is divided into six parts which TAVL suggests be viewed in two sittings to avoid "information overload:"

* Current Safety Laws and How They Apply to Theatres
* General Safety Practices

SUGGESTED INTERMISSION (42 minutes into the tape)

* Chemical Hazards and Personal Protection Equipment
* Stage Lighting Safety
* Costume Shop Safety
* Scene and Prop Shop Safety

With only a few minor exceptions, the vast amount of technical information is remarkably accurate. ACTS strongly recommends the video for theater health and safety committee programs and OSHA training programs. OSHA does not allow videos to replace interactive right-to-know or safety training by a qualified person, but any of the six parts would provide a good introduction for a formal training session.

The video is available for $ 148 from Theatre Arts Video Library, 174 Andrew Avenue, Leucadia, CA 92024 or phone 1-800-456-8285. Also available for $ 129 is "Firearm Safety Onstage," a video which was recommended in our January 1994 issue of ACTS FACTS.

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FREEBIES

Artists may be interested in two free publications called "Guides to Pollution Prevention" that are available from the U.S. EPA, Office of Research and Development, 401 M. St., S. W., Washington DC 20460. Write and ask for:

The Photoprocessing Industry, EPA/625/7-91/012
The Commercial Printing Industry, EPA/625/7-90/008

Another EPA pamphlet is available free from the National Lead Information Center Clearinghouse. Call 1-800-424-LEAD and ask for:

"Reducing Lead Hazards When Remodeling Your Home"

A self-addressed, stamped envelope can also get you single copies of the following data sheets, articles, and special back issues of ACTS FACTS. When requesting more than one item, add a 23-cent stamp for each additional six pages.

All About Wax (4pp)
Ceramic Ware Hazards (6pp)
CPSC recalled crayons alert (6pp)
CPSC 1992 Safety Alert (2pp)
D-Limonene (2pp)
Household Air Cleaners (6pp)
Oven-Cured Polymer Clays (4pp)
Understanding the MSDS (5pp)

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ACGIH CHANGES SOME TLVS

PROPOSED CHANGES The American Conference of Governmental Industrial Hygienists (ACGIH) published their "Notice of Intended Changes (NIC) for 1994-1995." The NICs are trial limits which have been proposed either for the first time, or which have been retained from a previous list of NICs. These trial limits will remain for a period of at least one year. If, after one year, no evidence comes to light that calls the values into question, they will be reconsidered for the "Adopted" list. Below are some NICs which apply to chemicals used by artists.

ACETONE. The ACGIH proposes to reduce its TLV-TWA for acetone from 750 to 200 parts per million (ppm) and to reduce the TLV-STEL from 1000 ppm to 400 ppm. This is a significant change in a solvent previously assumed to be one of the safest solvents. The NIC also adds an A4 rating.*

BENZENE. ACGIH proposed last year to reduce the TLV-TWA from 10 ppm to 0.1 ppm. This year they revised their proposal to 0.3 ppm. Retained is its A1 cancer rating.* This TLV is now lower than OSHA's PEL which is 1 ppm. Benzene is no longer commonly available. Artists are only likely to be exposed to benzene if they misuse gasoline as a solvent.

MANGANESE (and its inorganic compounds). The NIC is retained for another year. It would change the TLV-TWA from 5.0 to 0.2 mg/m^3, more toxic.

NICKEL. The NIC is retained for another year. It would change TLV-TWAs for both soluble and insoluble nickel compounds to 0.05 mg/m^3. It remains classed as an A1 carcinogen.*

OIL MIST. ACGIH has retained for another year the NIC to change the TLV-TWA's to: 1) "severely refined" (highly purified) oil which is 5 mg/m^3; and 2) "mildly refined" oils (containing highly toxic/carcinogenic impurities) which is 0.2 mg/m^3. Mildly refined oil is listed in class A1.*

OZONE. ACGIH retained for another year the NIC TLV-TWA of 0.05 ppm and a TLV-STEL of 0.2 ppm for ozone. This is more protective than OSHA's PEL-TWA of 0.1 ppm and STEL of 0.3 ppm.

ADOPTED CHANGES

CHROMIUM. ACGIH new limits:

chrome metal & Cr III compounds:	TLV-TWA=0.50, A4*
water-soluble Cr IV compounds:	TLV-TWA=0.05, A1*
water-insoluble Cr IV compounds:	TLV-TWA=0.01, A1*

COBALT (and inorganic compounds). The new limit is a TLV-TWA of 0.02 mg/m^3 (lower than the OSHA PEL of 0.05 mg/m^3), and it is classified as an A3 carcinogen.*

MERCURY (metallic and inorganic forms). ACGIH has adopted the new TLV-TWA of 0.025 ppm, an A4* cancer rating, and a "skin" absorbing notation.

*** ACGIH CANCER CLASSIFICATIONS**
A1-Confirmed Human Carcinogen
A2-Suspected Human Carcinogen
A3-Animal Carcinogen
A4-Not Classifiable as a Carcinogen
A5-Not Suspected as a Human Carcinogen

RULES FOR USING CANCER RATINGS
A1 agents with no TLV: Equip workers to eliminate to the fullest extent possible all exposure.
A1 agents with TLVs & A2 and A3 agents: Worker exposure by all routes should be carefully controlled to as low as reasonably achievable below the TLV.

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August 1994 Vol. 8, No. 8

NTP CANCER REPORT LISTS CERAMIC FIBER

BNA-OSHR, 24(6), July 6, 1994, pp. 284-5

Ceramic fiber and fiberglass (aka glass wool) are now listed as substances reasonably anticipated to cause cancer in the National Toxicology Program's (NTP's) *Seventh Annual Report on Carcinogens*. (The International Agency for Research on Cancer listed ceramic fiber and glass wool in 1988.) Ceramic fiber is used extensively in ceramics, jewelry, stained glass, and hot glass crafts. It comes in many forms including blanket and molded refractory (e.g. kiln insulation), chopped fiber, rope, and sheet.

The NTP report was delayed for nearly two years while glass wool manufacturers tried to have their listing deferred (see ACTS FACTS (Sept., 1993). The report lists 173 other substances compiled from previous reports, plus ceramic fiber, fiberglass, and five new substances: glycidol, hexachloroethane, tetranitromethane, and 4-vinylcyclohexene diepoxide (listed as reasonably anticipated to cause cancer); and radon (listed as a known human carcinogen).

PERSONAL PROTECTIVE RULE STAYED

59 FR 34580-34581, July 6, 1994

This June, ACTS FACTS reported on OSHA's amended rules for personal protective equipment (29 CFR 1910.132-140). The rules apply to eye wear, gloves, head and foot gear, and other types of protection. They were scheduled to be in effect by July 5, but a number of employers told OSHA that they will not be able to comply by this date. Accordingly, OSHA stayed two sections until October 5, 1994: d) how to assess hazards; and f) training requirements. Hopefully, schools, museums, theaters, and other art facilities will use this time to formally assess the chemical and physical hazards faced by their teachers and workers and to plan formal training programs.

CLEAN-UP OF LEAD DUST FROM CARPET

Am. Ind. Hyg. Assoc. J., 55(7):650-657, July, 1994

Methods of removing lead-containing dust were tried on linoleum, wooden flooring, and thirteen carpets from inner-city Cincinnati homes--several from homes where children had been lead poisoned. Linoleum and wood floors could be cleaned effectively with a combination of HEPA vacuuming and wet-washing procedures. No method worked well on carpets. HEPA-vacuuming of carpets actually increased lead dust on the surface since it brought lead up from deeper in the pile. Researchers concluded that it may be more practical to replace rather than clean carpets from lead dust.

SYNTHETIC AND NATURAL ANTHRAQUINONES MAY CAUSE CANCER

BNA-OSHR, 24(5), June 29, 1994, p. 268

A review committee of the National Toxicology Program (NTP) has voted unanimously to accept the conclusions of a two year feeding study of an anthraquinone vat dye, 1-amino-2,4-dibromoanthraquinone (CAS No. 81-49-2). The study showed clear evidence that the dye caused toxicity and produced cancer in both rats and mice at all doses administered. In rats, the dye produced an increased incidence of tumors in the liver, large intestine, kidney, and urinary bladder. In mice, the dye caused an increased incidence of tumors in the liver, forestomach, and lung.

This dye is one of six naturally-occurring and synthetically-produced anthraquinones chosen for study by NTP to establish certain relationships that could be applied to other chemicals in this class. In this way, whole groups of anthraquinones could be listed as carcinogens rather than testing every class member. NTP scientist, J.E. Huff, reportedly said that at this time the class study indicates that anthraquinones typically are mutagenic and carcinogenic in both genders of two rodent species. He predicts that anthraquinones also will cause cancer in humans.

Years before this study began, three other anthraquinones were shown to cause cancer: 2-aminoanthraquinone (CAS 117-79-3) and 1-amino-2-methylanthraquinone (CAS 82-28-0) which are listed by NTP; and Disperse Blue 1 (CAS 2475-45-8) which is 1,4,5,8-tetraamino-anthraquinone (ACTS FACTS, Sep.1991).

ANTHRAQUINONE DYES. There are hundreds of anthraquinone dyes. They are found in almost all dye classes including fiber reactive, acid, vat, disperse, leather, solvent, mordant, and sulfur dye classes. They are used in Tintex^{RT,} Rit^{RT}, and many other household, hobby and professional dyes, in some batik dyes, in blue aviation and diesel fuels (1,4-dialkylaminoanthraquinone), in bright orange emergency flare smoke (C.I. Solvent Orange 86), and much, much more.

ANTHRAQUINONE PIGMENTS. Some art pigments are anthraquinones. The most well-known is alizarin crimson (C.I. Pigment Red 83) which is 1,2-dihydroxyanthraquinone. Alizarin can be of either natural or synthetic origin. The NTP study will look at both natural and synthetic anthraquinones and which should put to rest the myth that "natural" chemicals are innately safer than synthetic ones.

Other common anthraquinone pigments include C.I. Pigment Red 168 (a brominated anthanthrone) and pigments called indanthrone blues including C.I. Pigment Blue 21, 22, 60, 64, and 65.

IDENTIFYING PRODUCTS CONTAINING ANTHRAQUINONES. A single dye or pigment may have hundreds of commercial names. For this reason, descriptive or common names do not reliably identify anthraquinones. For example, alizarin-pigmented paints may be called "carmine red," "crimson" or a host of other names. Or alizarin may be mixed with other pigments in some browns, blues, and purples. Even paints labeled "alizarin" may contain alizarin mixed with other pigments.

Label warnings also wont help. Anthraquinone-containing products usually carry no warnings or are labeled "non-toxic," because none of the anthraquinones used in art have been studied and proven to cause cancer. In fact, it is impossible to identify anthraquinones unless manufacturers label their colorants in one of three ways:

* **chemical name** (pigments and dyes may have several chemical names and these may be difficult to interpret);
* **Chemical Abstract Service (CAS) number** (not all dyes and pigments have CAS numbers); or
* **Color Index name and/or number** (the best over-all method).

RECOMMENDATIONS FOR USING ANTHRAQUINONE-CONTAINING PRODUCTS:

1. **IDENTIFY COLORANTS.** Purchase paints and dyes only from reliable companies that identify their colorants with Color Index names, CAS numbers, or chemical names on the tube, in package inserts, or data sheets. The best manufacturers abbreviate C.I. names right on their labels. For example, "PB15" stands for "C.I.Pigment Blue 15."

2. **RESEARCH HAZARDS.** Use reference books to look up C.I. names, CAS numbers, or chemical names to see if they are anthraquinones or if they have other toxic properties about which you should know. If you can't find information on a particular pigment or dye, call or write ACTS. We will look it up in the Color Index for you.

3. **AVOID EXPOSURE.** Even paints and dye products containing toxic colorants can be used safely if you take precautions. Separate your studio from living areas and children--the further the better. Do not eat, smoke, drink, apply cosmetics, or do any personal hygiene tasks in the studio. Wash hands before eating or using the bathroom. Do not get materials on your skin, especially if the skin is damaged. Do not ingest small amounts from contaminated hands when eating or from habits such as nail biting or touching your lips. Buy premixed rather than powdered products. Do not sand, spray, airbrush, or heat materials except in local exhaust ventilation. Leave smocks, shoes, and other work clothing in the studio. Wash the clothing frequently and separately from other clothing.

If these precautions sound like a lot of bother, read them again. This is how we should work with all paint and dye products.

4. **DEMAND BETTER LABELING.** Let your suppliers and legislators know that you want better information on product labels. Tell them we don't want the "non-toxic" term applied to products containing anthraquinones or any other unstudied chemicals. A suitable warning label for products containing anthraquinones might read:

CONTAINS ANTHRAQUINONE PIGMENT/DYE--C.I. NAME PIGMENT/DYE UNTESTED FOR LONG-TERM HAZARDS. CHEMICALLY RELATED TO PROVEN ANIMAL CARCINOGENS. REASONABLY EXPECTED TO CAUSE CANCER IN HUMANS. AVOID INHALATION, INGESTION, OR CONTACT WITH BROKEN SKIN.

ACTS FACES FACTS

ACTS started its eighth fiscal year last month. Financially we are very secure, but to stay strong we need to raise the price of an ACTS FACTS subscription to $15 beginning in January. Until then, we will renew subscriptions for $10 and will let subscribers renew for multiple years at this price. Even those who have already renewed may take advantage of this offer (see blank below).

The Board also voted to raise Monona Rossol's lecture and consulting fee next year (beginning June 1995). Until then, it remains at $500 per day. This is far below market value, but we keep it low because we understand the financial difficulties faced by many art organizations, museums, theaters, and schools. We also will not actively solicit donations again this year because we do not want artists to feel obligated or to hesitate to ask for our help. ACTS is deeply grateful to those who contribute without our asking.

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ART HAZARDS VIDEO AND BOOK AVAILABLE

FIRST STEPS, Artsafe Australia's elegant, authoritative educational training video for artists is again available from ACTS. The first shipment sold out several months ago. **FIRST STEPS** won a prize from the Australian Society for Educational Technology and also was nominated for an American Society of Medical Film award. The price will remain at $ 175 (New York residents at $14.44 sales tax). Call or write for details or wait for an order blank which will be enclosed in our next newsletter.

THE ARTISTS COMPLETE HEALTH AND SAFETY GUIDE is out in a revised and expanded second edition for $ 19.95 (see enclosed flyer). The low price is designed to encourage artists to replace the book every few years because information about safety, health, and regulations should be regularly updated.

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September 1994 Vol. 8, No. 9

BIOAVAILABILITY: A COMPLEX LABELING ISSUE

Editorial

The following article covers a complex and vitally important labeling issue about which all art material users should be aware.

BACKGROUND. Art materials must be labeled in accordance with the Labeling of Hazardous Art Materials Act (LHAMA). This Act incorporates a standard for chronic hazard labeling developed by the American Society for Testing and Materials called ASTM D-4236. At issue now are the criteria for determining what constitutes chronic toxicity and, hence, what must be labeled under ASTM D-4236. One of these criteria is "bioavailability," that is, the amount of a toxic substance that is actually taken up by the body.

BIOAVAILABILITY VERSUS SOLUBILITY

Products containing lead, cadmium, or other hazardous substances are not toxic by ingestion if they are not "bioavailable," that is, if they pass through the digestive tract unchanged. However, tests used by the art materials industry to determine bioavailability often are simple laboratory solubility tests in acid at concentrations which simulate gastric juice. These tests are inadequate because they assume that absorption is limited to the action of acid in the stomach.

Actual absorption occurs not only in the stomach, but in the rest of the digestive tract: the small intestine (duodenum, jejunum, and ileum) and the large intestine (cecum, colon and rectum). Absorption is affected by saliva, gastric juice, other acids, alkaline substance, salts, hundreds of enzymes, and much more. It takes an average of 44 hours for passage through all of the different chemical environments in the tract.

If there is a relationship between digestive tract absorption and acid solubility, it should be easy to prove by comparing acid solubility in the laboratory with actual uptake by living organisms (*in vivo*) as measured by analysis of blood or other tissues. Surprisingly, we found very few studies of this nature in the literature. Worse, those we found did not show a direct relationship between solubility and bioavailability--even for common metals such as lead and cadmium.

STUDIES OF CADMIUM PIGMENTS AND COMPOUNDS

The major studies of cadmium solubility and absorption have already been evaluated by the Occupational Safety and Health Administration

(OSHA). Referred to as the "Hazleton Laboratory, Glaser, Princi, and Rusch" studies, they were cited by the pigment industry as evidence that OSHA should exclude "insoluble" cadmium pigments from the new cadmium regulations. On evaluation, however, OSHA drew the opposite conclusion from the data:

> *OSHA concludes that the Hazleton Laboratory, Glaser, Princi, and Rusch studies do not provide adequate evidence to show that cadmium pigments are not as toxic as other forms of cadmium.... These studies used short exposure periods that might not be relevant to long-term, low-level occupational exposures or obtained conflicting results that do not indicate a simple relationship between solubility and bioavailability.*[1]

STUDIES OF LEAD AND FRITS

Toxicologists often defend the acid solubility concept by invoking the British pottery industry's history of "fritting" raw lead. Fritting is the process of melting soluble lead compounds with silicates and/or other chemicals to form a "glass" which is then reground into a powder. The resulting powder, if properly formulated and manufactured, is insoluble in acid.

Deaths from lead poisoning in the British pottery industry all but ceased when frits were introduced. However, hygiene measures (clean clothes, hand washing, etc.) also were instituted at this time. These may have been the major factors in reducing mortality. Nonetheless, frits were assumed to be the cause. Now it appears that no one bothered to question this theory until 1985 and 1992 when two related studies were published in Italy and France.[2, 3]

In these studies, blood lead analyses were recorded over a period of two weeks after rabbits were exposed daily to various lead-containing substances by ingestion and inhalation. The substances compared were acid-soluble lead tetroxide (red lead) and relatively insoluble lead monosilicates, bisilicates, borosilicates, and borosilicoaluminates. The Italian authors conclude:

> *...those compounds which exhibit a lower solubility in acidic media do not behave differently in <u>in vivo</u> experiments from the other compounds and, in particular, from red lead. Moreover, the compounds which exhibit the lowest absorption levels via the...digestive system...do not show the lowest solubilities in acidic and biological media.*
>
> *Consequently, the <u>in vitro</u> solubility of each compound does not predict the degree of absorption <u>in vivo</u> by experimental animals.... We therefore call for attention against the injustified feeling of safety that often accompanies the use of such compounds.*[2]

So far, only a few odds and ends of other lead data have been found, all of it unpublished. One of these, a lab report, compared solubility and uptake of a special lead pigment (silica encapsulated medium lead chromate) with highly soluble white lead (lead carbonate). In this subacute (not chronic) study in dogs, the pigment was absorbed into blood in smaller amounts than white lead.[4]

EVALUATION OF THE DATA: In all, the studies we found address only a few cadmium compounds and pigments, one special lead pigment, and a handful of lead compounds and frits. The data conflicts, the best lead study and the cadmium studies show no direct link between solubility and bioavailability, and none of the studies are long-term. Long term studies are needed if solubility tests are to be used to predict bioavailability for the chronic hazard labeling of cadmium- or lead-containing art materials. Worse, manufacturers use these tests to predict bioavailability of other toxic metals such as cobalt and chrome for which we have even less data.

ASTM D-5517

This August, ASTM announced the availability of yet another useless acid solubility test called *Standard D 5517, Test Method for Determining Extractability of Metals from Art Materials.* The method has been reviewed by Cate Jenkins, PhD, Chemist in the Technology Assessment Branch of the EPA. She agrees with ACTS' position that:

> *...there is compelling justification to reject these procedures solely on the grounds that there is neither animal or human evidence to support an association between the proposed...procedure and actual bioavailability.*[5]

In addition, Dr. Jenkins feels the method probably wont work on art materials containing wax (crayons), oil (oil paints), or emulsion (acrylics). And even if it did, the analyses specified by ASTM are not sensitive enough. In her words:

> *Even if the extract generated by the proposed method did contain relevant levels of metals, the chemical analytical methods to quantitate them are inadequate.*[6]

SUMMARY. Why was ASTM D-5517, an unworkable acid solubility test method based on an unproven theory, published? Perhaps it was as simple as the reluctance to question a method that is traditional, cheap, easy, and advantageous to industry. But if D-5517 remains in use, art materials containing highly toxic metals will continue to be labeled without ingestion warnings or "non-toxic" if the metals are not solubilized by this bogus test. ACTS believes that this practice is unethical and potentially hazardous to the public.

We recommend instead that labelers simply consider the actual composition of their products and assume that 100 percent of any toxic substance present can be taken up by the digestive tract. If, instead, they wish to label products based on their bioavailability, they must study this phenomenon first.

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1 57 FR 42136. Supplemental material prefacing the OSHA Cadmium Standard, September, 1992.
2 "Lead Silicate Toxicity: A Comparison among Different Compounds," Sartorelli, et al, (University of Siena), Envirnmental Research, 36, 420-425, 1985.
3 "Etude de la solubilite des composes du plomb utilises dans les ateliers d'emaillage" (study of solubility of lead compounds used in enameling studios), Peltier, et al, INRS, 146, 43-50, 1992.
4 Report to Dry Color Manufacturer' Association, 90-Day Subacute Oral Toxicity Study with Silica Encapsulated Medium Chrome Yellow in Beagle Dogs, April 9, 1976 IBT No. 611-06384.
5 Correspondence from Cate Jenkins, EPA, Washington DC 20460, August 10, 1994, Page 1. Copy available on request from ACTS. Send SASE.
6 Ibid., page 4.

OSHA TIGHTENS ASBESTOS RULES

59 FR 40964-41162

The Occupational Safety and Health Administration (OSHA) published its final rules for workplace exposure to asbestos August 10th. The new rule cut the permissible exposure limit (PEL) for asbestos from 0.2 fibers per cubic centimeter of air to 0.1 f/cc and establishes a new system of work practices designed to protect workers who may disturb asbestos-containing materials in buildings.

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TOXIC INK AND PAINT PROMPTS PRODUCT RECALLS

Consumer Reports, Sept, 1994, p. 570

All of the following items can be returned for a refund:
Kenner Fastblast Spray Art Design craft set and ink-refill assortment was recalled because the ink could be toxic to children. 45,000 sets, model 60090, and 29,000 Fastblast ink refills, model 60091, were sold between November 93 and March 1994 for about $ 10 and $ 4 respectively. The toy is for creating stencil designs with an airbrush that sprays washable colored inks.

Animal Shape Wagon pull toys were recalled because they have small parts that could come off and choke a child and excessive lead in yellow and green paint. 1000 were sold between June and December, 1993 by Hanover House. The box label says "Animal Shape Wagon, ITEM No.9638...MADE IN CHINA."

Armadillo figures made from gourds and wood were recalled because they have excessive lead in green, red, and purple paint. 5000 of various sizes were sold by Colbert Collection between January 1990 and December 1993. The label underneath reads: HECHO EN MEXICO. The product was not intended for use as a child's toy.

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A FEW CERAMICS BOOKLETS STILL AVAILABLE

About 20 copies of Keeping Clay Work Safe and Legal were found during a cleaning rampage. The publisher (NCECA) sold out months ago so these are the only copies left. They are available from ACTS for $ 8.00 postage and handling included while they last.

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October 1994 Vol. 8, No. 10

ACTS' BARIUM LEACHING STRATEGY ENDORSED

Art Hazards News, Vol. 17, No. 3, 1994, p. 1

An article in the latest Art Hazards News suggests that the EPA's maximum contaminant level(MCL) for barium in drinking water be used as a guideline for interpreting barium levels found on standard FDA ceramic leaching tests. This means that the publisher, the Center for Safety in the Arts (CSA), agrees with ACTS on this use of MCLs.

HISTORY. Only lead and cadmium are regulated by the FDA even though barium and other metals also leach from ceramic foodware. Currently, there are no guides for determining at what levels these other metals are hazardous. ACTS first mentioned using the barium MCL as a guide in ACTS FACTS, September, 1991. In 1993 we wrote a data sheet for technical review suggesting MCLs and Health Advisories as guides for 15 substances which could be found on ceramic leach tests. By February, 1994, we were confident enough about this unorthodox use of MCLs to add the data sheet to our Publications List and to mail it to hundreds of people who wrote us about the FDA labeling rules. Now CSA has endorsed the idea for barium.

Readers who would like a copy of ACTS' "Ceramic Ware Hazards" data sheet may send a self-addressed stamped envelope for a copy.

NO MORE CHEAP RATES FOR NON-PROFIT MAILINGS THAT ADVERTISE

59 FR 23156-23164, & Postal Bulletin 21867 of May 12, 1994

The Post Office has new limits on items which non-profits may send by special third-class rates. They now exclude mail that advertises any product or service unless it has "a causal relationship to the achievement of the exempt purposes (other than through production of income)...." This prevents non-profits from taking commercial ads in their newsletters and flyers, a common source of income.

ACTS thinks this is a good way to reduce conflicts of interest for non-profits. This is why we never take advertising or donations from companies that sell art materials, safety equipment, or the like. Artists can be confident that ACTS has no financial relationship whatever with companies whose products we recommend.

ACGIH REVOKES ACETONE NIC

1994-1995 Threshold Limit Values, Amer. Conference of Governmental Industrial Hygienists

The July issue of ACTS FACTS reported on an ACGIH notice of intended change (NIC) for acetone that lowered the TLV-TWA from 750 parts per million (ppm) to 200 ppm. This NIC has been revoked and a new limit is being considered. The old limit still is in effect.

BOOK MOLD DATA SHEET

Review

"Managing a Mold Invasion: Guidelines for Disaster Response," Technical Series No. 1, published by the Conservation Center for Art and Historic Artifacts, deals with mold outbreaks in libraries, archives, and museums. Most of the information is well-organized and useful. However, author Lois Olcott Price, holds one misconception that clouds her advice: the idea that if you bubble mold-contaminated air through water--whether in an Erlenmeyer flask or a wet vacuum--all the mold will stay in the water.

Actually, vacuums that filter air through water exhaust significant amounts of small particles back into the air. This is why they were not approved for asbestos clean up. The illustration of the vacuum in the data sheet is especially misleading because it shows the suction tube simply extending into the water. Adding a device to the end of the tube that forces the air through small holes improves wet vacuum collection. Some of these better wet vacuums might be acceptable for small infestations of non-toxic molds if workers are wearing respirators and if plans are made to deal with the mold spores that are exhausted into the room by the vacuum.

A far better suggestion would be to use a HEPA-filtered vacuum (available from most safety suppliers). HEPA vacs not only capture mold, they effectively capture the other toxic particles that contaminate many artifacts. This includes treatment and pesticide fumigation residues such as arsenic, mercury salts, DDT, ethylene chlorohydrin, pentachlorophenol, organic phosphate and tin compounds, disinfecting chemicals, and many other toxic substances.

Except for the vacuum recommendation, this publication is worth adding to your library. It can be obtained for $ 3.50 from CCAHA, 264 South 23rd St., Philadelphia PA 19103 or call 215/545-0613.

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EPA NIXES MANGANESE GAS ADDITIVE

59 FR 42227-42261, August 17, 1994

In 1991, Ethyl Corporation requested a waiver from EPA to permit the sale of the gasoline additive methylcyclopentadienyl manganese tricarbonyl (MMT), an octane enhancer substitute for organic lead compounds. This August, EPA denied the request based on unresolved concerns regarding the potential impact of manganese emissions resulting from MMT use on public health. The EPA is particularly concerned about the effects of manganese on the nervous system. They also cite less-studied respiratory and reproductive effects. ACTS also feels that it is not reasonable to replace lead dust from gasoline in our streets with manganese dust.

Last November, ACTS FACTS carried an article about an Australian potter who may have manganese Parkinsonism. Many readers wrote for information about manganese. Readers who want more information may write ACTS for the EPA's "Health Effects Assessment" section from the denial of the request to sell MMT. It is a 14 page referenced summary of manganese toxicity. Send $2.50 for copying costs.

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TB OUTBREAK IN A HIGH SCHOOL

New York Times (National), July 18, 1994, p. A1

La Quinta High School in Orange county, California experienced the worst outbreak of drug-resistant tuberculosis in a high school ever reported in the United States. The entire outbreak was traced to one 16-year-old Vietnamese immigrant, whose persistent cough was misdiagnosed by her doctors for 13 months. As a result, tests in September 1993 showed 292 students (23 percent) tested positive for TB. By June, another 84 students who had not previously been tested or who tested negative the first time, now test positive.

After diagnosis, the Vietnamese student's doctors failed to be sure she took her medication properly and her TB became drug-resistant. Now over 70 additional students have been exposed to this new strain, 12 are being treated for active cases of drug resistant TB, and one student has lost part of her lung. The girl who lost part of her lung has an extremely resistant strain that was passed on to at least 18 more students and 2 teachers. Drug-resistant TB may require months or years of treatment and many cases are fatal.

The spread of the disease was made worse by the school's faulty ventilation system which did not provide enough fresh air. People with active TB expel microscopic droplets of the bacteria from their lungs or throats which can linger for hours in uncirculated air. High school students are at great risk of spreading TB because they sing in choir, shout, and talk more than other groups.

PRECAUTIONS. Ventilation cannot prevent TB transmission, but it can reduce it. Schools must upgrade their systems to meet the American Society of Heating, Refrigerating and Air-conditioning Engineer's standard, ASHRAE 62-1989, which recommends 15 cubic feet per minute per person outside air for classrooms. Devices which kill TB germs in the air with ultraviolet light also are coming into use.

Other precautions include retraining school nurses to recognize TB, teach prevention, and monitor infected students' medication schedules. Schools also may bring back screen testing of incoming students, a practice that was discontinued in the 1980's when TB was rare. Orange County, CA, now tests all students entering kindergarten, sixth and ninth grades. Such precautions are needed because TB outbreaks are becoming more frequent. Other outbreaks include that of an Oklahoma chicken plant and child care worker who passed TB to over 100 adults and children, and of a Bath, Maine shipworker who gave TB to 417 co-workers and three bar patrons.

==========

1,2,3-TRICHLOROPROPANE STUDIED FOR CANCER EFFECTS

"Toxicology and Carcinogenesis Studies of 1,2,3-Trichloropropane in F344/N Rats and B6C3F1 Mice," NTP No. 384, NIH Pub. No. 94-2839. December 1993

1,2,3-Trichloropropane, a paint and varnish remover, solvent, and degreasing agent, was studied by ingestion (gavage) in mice and rats. It showed clear evidence of carcinogenic activity in both sexes of both species.

* The NTP uses five categories of evidence of carcinogenic activity to summarize the evidence observed in each animal study: Two categories for positive results (clear evidence and some evidence); one category for uncertain findings (equivocal evidence); one category for no observable effects (no evidence); and one category for studies that cannot be evaluated because of major flaws (inadequate study).

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COPIER TONER DUST CAUSES LUNG DISEASE

BNA-OSHR, (24)11, Aug 10, 1994, p. 504

Researchers at the University of Granada in Spain reported that a 44-year-old woman developed a respiratory disease called siderosilicosis from chemical toner dust from copymachines (*Lancet*, 1994, 344:412-413). The woman worked six years, full-time in a photocopy shop. Her symptoms were cough, headache and breathing difficulties. The symptoms stopped when she quit working, but lesions in her lungs and her reduced lung function did not improve.

Siderosilicosis is usually seen in miners and foundry workers exposed to ferric oxide and iron dust that is contaminated with silica. Iron and silica particles were detected in toner dust collected at the worksite. Copy workers should check the material safety data sheets on their toners to see if they contain iron compounds and silica. Machines that release this dust should be considered defective and should be repaired. The dust may be noticed visibly as a fine dark powder on surfaces.

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ART GLASS WORKER'S CANCERS ASSOCIATED WITH METALS

"Epidemiologic studies of occupational cancer as related to complex mixtures of trace elements in the art glass industry," Wingren, Gun; Axelson, Olav Scand. J. Work. Environ. Health 1993 p. 95-100

Art glass industry workers in Sweden show an increased risk of dying from several types of cancer and cardiovascular and cerebrovascular diseases. Morbidity among Swedish glass workers was studied and found to show a high degree of correlation with exposure to trace amounts of certain metals. Case-control evaluations showed an association between stomach cancer and exposure to a mixture of arsenic, copper, nickel, and manganese, and to some extent, lead and chrome. For colon cancer, there was a strong and clearly increasing risk with increasing use of antimony and to some extent, lead. The risk of death from cardiovascular disease was fairly evenly distributed, although slightly more related to increasing intake of nickel and copper. For lung cancer, no obvious correlation with any metal could be found.

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November 1994 Vol. 8, No. 11

ACTS' ADVICE NOW AVAILABLE BY E-MAIL

In addition to obtaining advice on art safety issues by writing or calling ACTS, readers may now contact ACTS FACTS Editor, Monona Rossol, at **75054.2542@compuserve.com.**

OSHA ISSUES FALL PROTECTION RULE

58 FR 40672-40753, August 9, 1994

Construction employees working at heights of six feet or higher will be protected by a new Occupational Safety and Health Administration (OSHA) regulation that will be in effect February 6, 1995. It establishes specific requirements for use of guardrail systems, safety nets, warning lines, personal fall-arrest systems, safety monitoring systems, hole covers, toeboards, etc. A written plan detailing these protective measures must be developed and implemented by a "competent person." Copies must be at the worksite.

This is the first rule specially designed for residential and small construction jobs. Craftspeople restoring historic sites, building museum and art exhibits, renovating schools, and similar work, will be affected. Larger jobs will be affected by new rules for scaffolds and steel erection which are due for publication late in 1995.

ANOTHER CRAYON RECALL

Consumer Reports, Nov. 1994, P. 730

Crayons in the **Kaleidoscope Art** sets sold at Toys 'R' Us stores contain high lead levels even though they are labeled "non-toxic" and for children "Ages 4 & up." About 14,000 sets, item No. 820, were sold from January through August of 1994. Sets contains eight crayons, six sheets of geometric shapes, and a six-inch kaleidoscope. Children are directed to color the shapes and view them through the kaleidoscope. Consumers can return sets for a refund.

NON-PROFIT ADVERTISING RULE STAYED

Last month, ACTS FACTS reported on a new Post Office rule to stop non-profits from using special third-class rates for mailings that advertise products or services unless the ads are directly related to the organizations' missions. The rule was stayed after postal officials learned that certain members of Congress are writing a bill to kill the rule. It is no surprise that some representatives object, considering how they obtain funds. Nevertheless, ACTS thinks it is unethical to use non-profit mail rates to advertise for profit-making companies. We will continue to refrain.

"OSHA APPROVED" AND OTHER SCAMS

BNA-OSHR, (24)12, Aug 17, 1994, pp. 608-609

OSHA Administrator Joseph A. Dear warned people not to be misled by recent advertising which claims that certain first-aid training programs are "OSHA Approved" or "OSHA Recommended." OSHA does not certify or approve first-aid or any other training programs. They also don't certify ladders, respirators, or any other equipment. Advertisers may claim that products meet OSHA requirements, but the company or manufacturer, not OSHA, stands behind these claims.

OSHA also warned employers about companies that sell posters that are available from OSHA at no cost. A complete list of posters and other free or reasonably priced publications can be obtained by writing: OSHA Materials List, OSHA Publications, Room N-3101, U.S. DOL, 200 Constitution Ave.,N.W., Washington CD 20210.

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MORE FREEBIES

"When the Public Speaks, OSHA Listens" is a pamphlet that can be opened as a poster to reveal phone numbers and addresses for each area and regional OSHA office, states that operate their own enforcement programs and consultation offices, and OSHA's toll-free number for reporting job safety emergencies, 1-800-321-OSHA. Single free copies are available from OSHA Publications, Room N-3101, U.S. DOL, 200 Constitution Ave.,N.W., Washington CD 20210.

Summary of NTP's *Seventh Annual Report on Carcinogens*. This publication contains data on 180 substances some of which are of interest to artists. Included are ceramic fiber, fiber glass, some dyes (three anthraquinones, Direct Black 38, Direct Blue 6, Basic Red 9, and more), arsenic, asbestos, chromium, cadmium, DDT, DEHP (diethylhexyl phthalate), formaldehyde, ethylene oxide, nickel, silica, thiourea, TDI (toluene diisocyanate), and urethane. Single free copies are available from the National Toxicology Program, Central Data Management, Mail Drop AO-01, P.O. Box 12233, Research Triangle Park, NC 27709.

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GENERAL COLOR CHEMICAL CO. CITED BY OSHA

BNA-OSHR, (24)9, July 27, 1994, p. 424

General Color Chemical Company, Minerva, Ohio, is contesting a serious citation and a $56,000 penalty for 26 items, including alleged failure to: guard infrequently used floor openings by floor opening covers of standard strength and construction (29 CFR 1910.23(a)(5)); provide an emergency action plan and an educational program for all employees to familiarize them with fire extinguisher use and incipient stage fire fighting hazards (1910.38(a)(1)); and to reduce compressed air used for cleaning purposes to less than 30 pounds per square inch (1910.242(b)).

The employer also contests a non-serious citation and $2000 penalty for four items including alleged failure to institute a continuing effective hearing conservation program (1910.95(c)(1)(n)).

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ADVICE FROM THE SUPER HIGHWAY

Browsing through a Woodworker's forum on CompuServe on August 23, I noticed questions about table saw arbors and the hazards of pushing boards through blades by hand. Wayne R. Miller, 76057,3634 had the answer: "Heck, I solved_that_problem a couple of years ago. Just rip your hand to the proper width....."

==========

TAXIDERMIST'S SUIT FOR OCCUPATIONAL ASTHMA DISMISSED

BNA-OSHR, 24(20), Oct 12, 1994, pp. 1025-6.

A 30-year career taxidermist waited too long to sue for asthma allegedly caused by preserving animals in formaldehyde for several universities, a federal trial court in New York ruled (*Dembinski v. Ashland Chemical Inc.*, DC WNY, No. 91-CV-6138T, 9/15/94). In 1985, Reinhold Dembinski sought treatment for wheezing, coughing, recurrent infections, and related problems. In 1987, he began two years of treatment for various respiratory symptoms. In August 1987, an attack required an adrenaline injection and his doctor told him his occupational disease would be reported to the New York State Department of Health. In 1989, Dembinski was exposed to high concentrations of formaldehyde during a spill in the embalming room at Cornell University.

Dembinski waited until 1991 to file suit against Ashland Chemical, Fisher Scientific, and Mallinckrodt, alleging their chemicals caused him respiratory and neurological injuries. The court barred the action because personal injury suits in New York must be filed within three years of the date a plaintiff discovers the injury or one year from discovery of the cause, whichever is longer.

Aspects of this case should be considered by all users of toxic materials in schools and museums.

1. As soon as you know that your work has caused an illness or injury, consult an attorney. You do not have to sue immediately, but you must file. The time you have to file varies among states.

2. Determine who is truly "at fault." While chemical companies did not provide sufficient warnings about product hazards in the past, now most do. Today, the main culprit more often is the school or museum that allows workers to be overexposed to chemicals. Schools and museums are harder to sue than manufacturers, but good lawyers usually find ways. Labs and classrooms, like all other workplaces, must be safe. **"Academic freedom" does not include the right to allow employees to risk their health.**

==========

DISNEY HOTEL CITED BY OSHA

BNA-OSHR, (24)13, August 24, 1994, p. 858

Hilton at Walt Disney World Village, FL, is contesting a serious Blood Borne Pathogens Standard citation and a $4,875 penalty for alleged failures: to have an exposure determination list including all job classifications (1910.1030(c)(2)(i)(B)); and to make the required hepatitis B vaccinations available to those employees for which this protection is mandated (1910.1030.(f)(2)(i)).

==========

KOHLER COMPANY CITED BY OSHA - AGAIN

BNA-OSHR, (24)15 Sep 7, 1994, pp. 919-920

On May, 1994, the Occupational Safety and Health Review Commission settled a case against Kohler Company that was pending since 1988(July ACTS FACTS). Now, Kohler is contesting a new serious citation and $ 3,000 penalty for alleged: failure to provide employees with information and training in accordance with the hazard communication standard to the extent necessary to protect them in the event of a spill or leak of a hazardous chemical from a sealed container (1910.1200(b)(4)(iii)); and for failure to ensure that each container of hazardous chemicals leaving the workplace was labeled in accordance with OSHA and Department of Transportation regulations (1910.1200(f)(3)).

For many years, Kohler Company has invited artists to use their porcelain plumbing plant as a studio for production of ceramic art works. Kohler's policies regarding worker safety are a vital part of the intellectual environment provided for these artists.

==========

SCULPTURE FOUNDRY CITED BY OSHA - AGAIN

BNA-OSHR, (24)8, July 20, 1994, p. 373 & (23)26, Nov. 24, 1993, pp. 799-800

Excalibur Bronze Sculpture Foundry, Brooklyn, NY, is contesting a serious citation and a $ 4,500 penalty for six items including alleged failure to provide fan blade guards located less than seven feet from the working level (1910.212(a)(5)), failure to guard the sides of the lower exposed portion of the blade of radial saws to the full diameter of the blade by a device that automatically adjusts itself to the thickness of the stock and remains in contact with the material being cut (1910.213(h)(1)), and for failure to adjust work rests on grinding machinery to one-eight inch of the wheel (1910.215(a)(4). Last year, Excalibur contested violations involving hearing protection, protective equipment, and hazard communication. The outcome of these prior contested citations is not known to ACTS.

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LAST CHANCE FOR DEAL ON ACTS-FACTS SUBSCRIPTION

Starting on January 1, all ACTS-FACTS subscriptions are going up by $5.00 per year. Until then, we are accepting renewals in advance for multiple years at the old prices: $10/year in the U.S.; $12/year for Canada and Mexico; and $ 16 for other countries. After January, the rates will be $ 15, $ 17, and $ 23 respectively.

OSHA RULE COVERS COSMETICS USED IN THEATER AND FILM INDUSTRY

59 FR 6150, Feb. 9, 1994

In response to inquiries about coverage of cosmetics under hazard communication programs (right-to-know laws) in theater and film, we are reprinting this section from the rule's 1994 amendments:

> *Cosmetics.* OSHA has...not changed the substance of the requirements. Cosmetics are exempt when packaged for sale to consumers in a retail establishment, and when brought into the workplace for employee consumption. **Otherwise, they are covered by the rule when they contain hazardous chemicals.**

This means cosmetics are not exempt when used on the job in film or theater. "Hazardous" cosmetics may include items containing alcohol and other solvents, spray products containing propellants and solvents under pressure, and special effects make-ups containing flammable or toxic substances. Such products must be listed on workplace surveys and material safety data sheets (MSDSs) must be on file. Some cosmetics companies respond to requests for MSDSs by sending letters quoting the inapplicable exemptions from the hazard communication rule. We suggest you send back a copy of this item.

STANFORD UNIVERSITY LAB PAYS $ 995,000 TO SETTLE VIOLATIONS

Science, Vol. 266, October 14, 1994, p. 213 & Cal. Environmental Insider, 8(8), Sept 30, 1994, pp. 2-3

Stanford University will pay the State of California nearly $ 1 million to settle a dispute over charges that they mishandled research laboratory wastes. Stanford officials contend that 60 % of the citations were "personal and idiosyncratic" readings of the rules. However, Department of Toxic Substance Control spokesperson Allan Hirsch, says "Stanford is not paying $ 995,000 because of some picayune violations.... These problems are as serious as any industrial site we've investigated." Among a long list of problems Hirsch cited illegal dumping of mercury, improperly trained staff, open containers of chemical wastes, and overly crowded storage facilities. The settlement should remind all university, museum, and art conservation labs that they must comply with regulations.

CARBON MONOXIDE AIR QUALITY STANDARDS

Editorial

Carbon monoxide monitors and alarms are now readily available, even for home use. They can also be used in kiln rooms, in foundries, near glass furnaces, and in all areas where combustion processes occur. To use recording monitors properly, we must know at what levels carbon monoxide becomes hazardous.

The Occupational Safety and Health Administration (OSHA) set a Permissible Exposure Limit (PEL-TWA) of 35 parts per million (ppm) for carbon monoxide. The American Conference of Governmental Industrial Hygienists (ACGIH), the National Institute for Occupational Safety and Health (NIOSH) and the Federal Republic of Germany (DFG) set standards in the same range. These are eight-hour time-weighted averages. If levels in this range are measured in the kiln room, they can be considered to present an "acceptable risk" if exposure occurs for eight hours or less per day, and if only "workers" are exposed. This is because the standards are designed to protect most (not all) healthy adult workers. The standards are not acceptable for non-employees such as students, interns, children, or even for employees (including teachers) who have health problems such as hear or lung problems which make them more vulnerable to carbon monoxide.

CARBON MONOXIDE WORKPLACE AIR-QUALITY STANDARDS - TWA	
OSHA	35 ppm
ACGIH	25 ppm
NIOSH	35 ppm
DFG-MAK	30 ppm

Liability dictates that non-workers receive greater protection than those afforded by OSHA's workplace air quality regulations. In fact, schools should provide acceptable "indoor air-quality" for students. Workers affected adversely by kiln emissions also could require this degree of protection as a reasonable accommodation for their disability. Above are some standards for carbon monoxide in ambient and indoor air. When carbon monoxide is found at or near these levels, air quality is on the verge of being unacceptable and corrective action is needed.

INDOOR/AMBIENT CARBON MONOXIDE STANDARDS	
EPA Nat'l Primary Ambient Air Quality St'd:	9 ppm
Canadian Exposure Guidelines for Residential Indoor Air Quality:	11 ppm
World Health Organization Working Group:	<11 ppm

Elevated carbon monoxide levels also clearly indicate that furnaces and kilns are emitting many other highly toxic substances. Included are formaldehyde and other aldehydes, sulfur oxides, metal fumes, and more. Testing for these substances also may be needed.

RULES FOR WORKPLACES WHERE COMBUSTION PROCESSES OCCUR

1. Recording carbon monoxide monitors/alarms should be installed where combustion processes occur (e.g. kilns and furnaces). If monitoring indicates that overexposure may occur, those workers who are most exposed must be personally monitored.

2. If levels of carbon monoxide in the range of the PEL are found, tests for other air pollutants should be done.

3. Ventilation must be installed which provides air that meets workplace standards for healthy workers and meets indoor air quality standards for non-workers such as students, interns, volunteers, or workers who have health problems.

4. If air quality is unacceptable, every person who is exposed must be informed. Non-employees must be kept out of areas that do not meet indoor air quality standards.

5. Even healthy workers should spend as little time as possible in areas where carbon monoxide is in excess of ambient levels.

6. Workers who have symptoms or medical problems exacerbated by kiln and furnace emissions should be accommodated by moving them to work areas which are free of these emissions.

7. Special emphasis on the hazards of emissions from furnaces and kilns should be covered in the required OSHA Hazard Communication training for workers (e.g. teachers). Students and other non-employees must be included in training programs.

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DISTRICT COURT PROPOSES $5 MILLION PENALTY FOR KODAK

59 FR 53486, Oct 24, 1994

A proposed consent decree in *United States v. Eastman Kodak Company*, Civ. No. 94-CV-6503T, was lodged October 7, 1994, in the United States District Court for Western District of New York. The decree settles an action commenced in a complaint under the Resource Conservation and Recover Act (RCRA) arising out of operations at the Kodak Park facility in Rochester, New York:

> *The primary allegations in the Complaint concern Kodak's failure to make hazardous waste determinations, the deteriorated condition of 31 miles of industrial sewers at Kodak Park, and an unpermitted wastewater sludge incinerator. The Complaint also includes claims concerning an illegal waste pile, violation of notice requirements regarding treatment standards for hazardous wastes, violations of the requirements of Kodak Park's RCRA Permit, non-disclosure of certain hazardous waste management units, failure to properly close several underground storage tanks, and one violation of Section 104(e) of the Comprehensive Environmental Response, Compensation and Liability Act....for failure to timely respond to an information request letter.*

The Consent Decree requires Kodak to pay a civil penalty of $5 million. Up to $3 million additional civil penalties may be off-set by Kodak's implementation of six Supplemental Environmental Projects with a present value of $12 million. These are pollution prevention projects that go above and beyond the requirements of the law and would reduce Kodak's volume of hazardous waste.

The Department of Justice called for public comments on the proposed decree until November 23. ACTS sent a letter asking that Kodak also be held accountable for pollution resulting from improper use of their products by their customers. We believe that Kodak well-knows that many individual photographers and small businesses routinely dispose of darkroom wastes improperly. For this reason, we feel that the Kodak settlement should include additional funds to educate and assist small photochemical users.

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