

Art hazards – toxic materials abound

Art hazard substitutes

Avoid: Materials on the California list of hazardous arts and crafts materials. See Resources section for website.

Avoid: Powdered, dusty, or aerosol materials. Examples include clay in dry form, powdered paints, glazes, pigments, wheat paste, and spray paints and fixatives. **Substitute:** Wet or liquid nonaerosol products. If dry products are used, they should be mixed under a hood while children are not present.

Avoid: Solvent-based products. Examples include rubber cement and its thinner, turpentine and other paint thinners, and permanent and white-board markers. **Substitute:** Solvent-free or water-based products.

Avoid: Materials that contain toxic metals like lead, cadmium, lithium, chromium, nickel, vanadium. Examples include some paints, glazes, and enamels. **Substitute:** Products that do not contain heavy metals.

Avoid: Cold water dyes or commercial dyes. **Substitute:** Vegetable dyes.

Avoid: Instant papier-mâché, which may contain lead or other metals from pigments in colored printing inks. **Substitute:** Papier-mâché made from black and white newspaper and library or white paste or flour and water paste.

Resources

California Office of Environmental Health Hazard Assessment (OEHHA)
www.oehha.ca.gov/education/art

OEHHA has Guidelines for the Safe Use of Arts and Crafts Materials and a list of hazardous arts and crafts materials that may not be purchased for use in grades K-6.

University of Chicago, Health and the Arts Program website

www.uic.edu/sph/glakes/harts/index.htm

Arts, Crafts, and Theater Safety (ACTS)

www.artscraftstheatersafety.org

ACTS has a monthly newsletter, a book entitled *The Artist's Complete Health and Safety Guide*, and over 50 data sheets are available, including:

Selecting Children's Art Materials

Teaching Art Safely

Teaching Preschool Art Safely

Teaching Art & Theater Safely



Despite misleading “non-toxic” labels, the truth is that there are toxic ingredients in many art and craft materials. Asbestos-contaminated talc in clays, glazes, and modeling products; silica dust in clay; lead and other metals in glazes; and solvent in markers, rubber cement, paints, inks, and clean-up materials are among the hazards. Art processes involving dry-mixing, spraying, heating, burning, sanding, and other activities will release dust, fumes, and vapors.

Elementary school students are at special risk since they cannot be expected to keep the materials away from their skin, mouth, hair, and clothing. In addition, some art and craft projects involve processes that are inappropriate for young children: for example, airbrushing, enameling, photo developing, silk-screening, and soldering.

Misleading Labels

Words meant to reassure often appear on art material labels: for example, “water-based,” “nontoxic,” and “natural.” Unfortunately, because of loopholes in labeling laws, these words don’t always mean what they imply, for example:

Water-based: Water is an ingredient, but the product may also contain solvents and other toxic ingredients.

Nontoxic: Does not contain ingredients that are known to cause a chronic health hazard. Most substances used in art materials, especially pigments and dyes, have never been tested for chronic hazards. They can be labeled “nontoxic” by default.

Natural: There is nothing inherently safe about substances derived from nature. For example, turpentine, asbestos, lead, clay, wood, mold, and citrus oil are natural but toxic.

School staff should not rely on labels for art materials but refer to the Material Safety Data Sheet (MSDS). MSDSs are forms that provide data on a product’s hazards and the precautions required for its safe use. They are provided by the product’s maker and the quality of data varies depending on their diligence.

MSDSs are essential starting points for collection of information but should not be considered complete sources on their own. For example, some art materials manufacturers merely state that the product is considered nontoxic under “ASTM D 4326,” which is applicable to consumer products but not to products used in workplaces like schools. Such MSDSs do not comply with the Occupational Safety and Health Administration/Public Employees Occupational Safety and Health (OSHA/PEOSH) Hazard Communication standard, which requires listing all potentially toxic chemicals present in amounts over 1 percent and 0.1 percent for carcinogens.

To obtain more complete health and safety information on specific ingredients in art materials, use Hazardous Substance Fact Sheets (HSFSs), written by the New Jersey Department of Health and Senior Services (DHSS). HSFSs are available free online at web.doh.state.nj.us. Click on “Right to Know Hazardous Substance Fact Sheet Search.” You can also call the DHSS Right to Know Program at 609-984-2202.

Controlling art hazards

The “hierarchy of controls” is a list of steps to prevent or reduce exposure to hazards, ranked from best to worst in terms of effectiveness:

The best control is substituting a safer material or process.

Engineering controls are the second best, like a hood that draws chemicals out of the work area, when mixing clay and glaze, spraying, kiln firing, photographic processes, soldering, silk-screening, printmaking and the like.

- Administrative controls are next best, for example:
- Keep supply cabinets in order and label all supplies.
- Keep liquids in trays deep enough to contain spills.
- Keep liquids in tightly covered, clearly marked containers.
- Keep dust to a minimum by vacuuming and wet mopping rather than sweeping.
- Do not eat or drink where art materials are used or stored.
- Wash hands thoroughly when finished working.

Personal protective equipment like respirators, gloves, goggles, and clothing are the least desirable way to control exposures, but may be necessary. For example, gloves may be needed when skin contact cannot be avoided.

Local association action plan

Chemical exposure can be a more serious problem with art and craft materials than in a chemistry lab. More students are exposed, fewer precautions are taken, and materials are often used in odd ways, for example, melting crayons for candles or batik. Because the safety of art materials is of major concern to parents and teachers, the local association should work with its UniServ field rep to ensure that districts:

- Purchase least toxic art hazard substitutes like those listed in the sidebar.
- Purchase only art materials that come with MSDSs that comply with the OSHA/PEOSH Hazard Communication Standards.
- Provide staff and students protection in keeping with the hierarchy of controls.
- Provide art staff Hazard Communication training covering art hazards.