

## What is ACMI?

The Art & Creative Materials Institute, Inc. (ACMI) is a non-profit association of manufacturers of art, craft and other creative materials. Formerly known as The Crayon, Water Color & Craft Institute, Inc., it was re-organized and expanded in 1982 to include more types of art materials and was re-named The Art & Craft Materials Institute, Inc. The name of the association has recently been changed to The Art & *Creative* Materials Institute, Inc. to more accurately reflect the wide variety of materials in its certification program. Since 1940, ACMI has sponsored a certification program for children's art materials, certifying that these products are non-toxic and meet voluntary standards of quality and performance. ACMI's certification program has received the endorsement of experts in the field of toxicology and is one of the finest industry programs in existence. The program has been a responsive one, evolving to meet new challenges and to include ever more products. In 1982, the program was expanded to include certification of a broad spectrum of art and craft materials, including adult products, ensuring that health warning labels are affixed where appropriate. Today ACMI has over 220 members and has certified over 60,000 art, craft and other creative materials. ACMI seeks to create and maintain a positive environment for art, craft and other creative materials usage; to promote safety in these materials; and to serve as an information and service resource on such products. In these ways, ACMI provides leadership, guidance, and education to all to achieve greater participation in art, craft and other creative activities.

## How does a product get approved by ACMI?

ACMI has a consulting toxicology team, led by the primary Toxicologist, Woodhall Stopford, M.D., M.S.P.H., at Duke University Medical Center, Division of Occupational and Environmental Medicine, who review the complete formulas of products in the certification program. In this evaluation, the Toxicologist takes into account:

- Each ingredient and its quantity
- Possible adverse interaction with other ingredients
- The product's size and packaging
- Potential acute and chronic harm to any part of the human body
- Possible allergic reaction
- How a product is commonly used and misused
- U. S. national and state labeling regulations.

The Toxicologist must approve the formula of every color of every product and must approve every formula change. Safety is the only consideration. The Toxicologist will not heed objections related to cost. The Toxicologist keeps informed of new scientific data on ingredients from government and private sources. He has banned previously-approved ingredients and established restrictions when new developments have occurred. The Toxicologist requires cautionary labeling on products when appropriate. All products certified as non-toxic by ACMI are non-toxic for both children and adults because the Toxicologist bases his evaluation on the use and misuse (such as ingesting a material) of the product by a small child. The Toxicologist's decisions are final, subject only to appeal to ACMI's Toxicological Advisory Board, which is composed of leading toxicological experts in the United States. These toxicologists act as a review board on issues of toxicity. They review the criteria used by ACMI's Toxicologist and make recommendations to ACMI. Current members of the Toxicological Advisory Board are: Tom Miya, Ph.D., retired Dean of the School of Pharmacy at

the University of North Carolina; James C. Lamb IV, Ph.D., Toxicology & Environmental Sciences at Blasland, Bouck & Lee, Inc.; and Elaina Kenyon, Toxicologist at the U. S. Environmental Protection Agency.

## What do the ACMI Seals mean?



The new AP (Approved Product) Seal, with or without Performance Certification, identifies art materials that are safe and that are certified in a toxicological evaluation by a medical expert to contain no materials in sufficient quantities to be toxic or injurious to humans, including children, or to cause acute or chronic health problems. This seal is currently replacing the previous non-toxic seals: CP (Certified Product), AP (Approved Product), and HL Health Label (Non-Toxic) over a 10-year phase-in period. Such products are certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D 4236, and the U. S. Labeling of Hazardous Art Materials Act (LHAMA). Additionally, products bearing the AP Seal with Performance Certification or the CP Seal are certified to meet specific requirements of material, workmanship, working qualities, and color developed by ACMI and others through recognized standards organizations, such as the American National Standards Institute (ANSI) and the American Society for Testing and Materials (ASTM). Some products cannot attain this performance certification because no quality standard currently exists for certain types of products.



The CL Seal identifies products that are certified to be properly labeled in a program of toxicological evaluation by a medical expert for any known health risks and with information on the safe and proper use of these materials. This seal is currently replacing the HL Health Label (Cautions Required) Seal over a 5-year phase-in period. These two Seals appear on only 15% of the adult art materials in ACMI's certification program and on none of the children's materials. These products are also certified by ACMI to be labeled in accordance with the chronic hazard labeling standard, ASTM D 4236, and the U. S. Labeling of Hazardous Art Materials Act (LHAMA).

## What makes an art material "safe"?

Knowledge of materials and their proper use makes them safe. Be sure to read the label on all products you use so you will know they have been evaluated and are non-toxic or need special handling to avoid possible health hazards from misuse. Look for the ACMI Seals so you will know the product has been evaluated by a qualified toxicologist for both acute and chronic hazards. Or, you may see other indications that the product conforms to ASTM D 4236, the chronic hazard labeling standard that is now part of the U.S. labeling law. Follow all safe use instructions. Purchase only products with the ACMI Non-Toxic Seals [CP, AP, and HL (Non-Toxic)] for young children, the physically or mentally handicapped, and any persons who cannot read or understand the safety labeling on product packages. Observe good work habits and teach them to others.

### Read the label!

Always use products that are appropriate for the individual user. Children in grade six and lower and adults who may not be able to read and understand safety labeling should use only non-toxic materials.

Do not eat, drink or smoke while using art and craft materials.  
Wash up after use - Clean yourself and your supplies.

Never use products for skin painting or food preparation unless indicated that the product is meant to be used in this way.

Do not transfer art materials to other containers - You will lose the valuable safety information that is on the product package.

Although the safety precautions below are not necessary with ACMI-certified non-toxic products, they are good habits to learn and practice with any art material use. Above all, purchase art materials that have been evaluated with your safety in mind, and read and follow any label directions to safely enjoy rewarding art, craft and other creative activities.

### Products that are hazardous require the following on their labels:

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A conformance statement to ASTM D 4236, unless impractical and, if so, then at the point of sale (This requirement also applies to non-toxic products.)

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A signal word, such as Warning or Caution

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A listing of the ingredients in the product that are at a hazardous level

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A listing of how the product may hurt you if not used properly (May cause lung cancer, may cause harm to the developing fetus, etc.)

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Instructions on how to use the product properly and safely (Do not eat, drink, or smoke; use a respirator; wear gloves; etc.)

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An appropriate telephone number; this will usually be the telephone number of the manufacturer or importer.

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A statement that the product is inappropriate for use by children.

**Additional procedures to follow when using products that have cautionary labeling:**

- Keep products out of reach of children.
  - Keep your work area clean.
  - Vacuum or wet mop dust; don't sweep it.
  - Don't put your brush, pen, etc. in your mouth.
- Keep your work area well ventilated; make sure you have a system that takes out old air AND brings in new air.
- Avoid skin contact and eating these materials. Keep materials out of your eyes and mouth.
- Use any and all protective equipment specified on the label, such as gloves, safety glasses, and masks.
- Use a mask or gloves that are impermeable to whatever product you are using; the wrong type of equipment could do as much or more harm than using no equipment at all!
  - Protect any cuts or open wounds by using the appropriate gloves, etc.
- Mix and handle certain dry materials in a locally-exhausting hood or sealed box.
- Spray apply certain materials only in a locally-exhausting spray booth with filters.
- Do not mix different food-safe glazes together because the balance of ingredients in the mixed glaze will be disrupted and the resulting mixture may not be dinnerware safe.
  - Carefully follow suggested disposal methods.

**Procedures to follow when a product has a flammability warning:**

- Do not store or use product near heat, sparks or flame.
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Do not heat above the temperature specified on the label.

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Use explosion-proof switches and an exhaust fan with an explosion-proof motor, if specified on the label.

What should I do if I or my child swallows a product by mistake?

**First, read the label and follow any instructions that may appear there.** If the product bears a warning, call your local poison control center. (**This number should be kept handy by the phone.**) Be ready to provide the center with information concerning ingredient content and first aid directions that appear on the label. If the product has an ACMI non-toxic seal, there is no need for alarm or action.

### **What do "acute" and "chronic" mean?**

"Acute" and "chronic" refer to different types of toxic reactions. An acute reaction means the effect will occur immediately after using the product. For example, something that causes a skin rash, irritates your eyes, or causes immediate sickness, is acutely toxic. A chronic reaction means the effect will occur over time (months or even years). For example, something that causes cancer is chronically toxic. Products can cause acute effects, chronic effects, both types, or neither.

### **If a product smells bad, does that mean it is toxic?**

Smell is not a good indicator of toxicity. Sometimes a material can have a strong smell (such as a marker) but be non-toxic. On the other hand, something that has no smell or smells sweet could be highly toxic. Always remember to *read the label* before using a product.

### **Some products are very dusty. Is all dust toxic?**

Again, it is important to read the label. Not all dust is toxic. In fact, many dusty or dry products, such as chalk, powdered tempera, and many pastels, are non-toxic, even if inhaled. Other dust-causing products, such as many dry clays, can be toxic, and proper precautions need to be taken. Dust is messy but not always toxic.

### **What about lead in art materials?**

Renewed concern is currently being expressed by scientists, medical personnel and others about the presence of lead in the environment and the lasting harm even low amounts of lead exposure can do to children. Thus, many specific areas of possible lead exposure are being re-evaluated. Doctors and toxicologists continually re-examine acceptable blood lead levels, and the U. S. Centers for Disease Control have recently recommended lower acceptable levels for children. The U. S. Food and Drug Administration (FDA) has re-assessed its current lead-release standard for pitchers and other large ceramic holloware. Manufacturers of dinnerware and of ceramic glazes intended for dinnerware test their products, which meet or are below the current FDA standards for lead release. However, concern is being expressed about ceramicware being imported from countries that do not meet this standard.

Lead is found in very few art materials, namely in certain ceramic glazes, flake white oil color and lead chromate colors in both oil and water colors. Flake white is an oil color which some

adult artists feel is essential in preparing an oil canvas to give the permanence necessary for a work of art and for which there is no substitute. Because of this fact, flake white was exempted from the ban on lead in paint under the U. S. Consumer Product Safety Act. However, it still must be labeled with health, cautionary and safe use information. Lead chromate colors are found in traditional artists color ranges and contain low levels of soluble lead.

Lead is used in some hobby and artists ceramic glazes because it is required to allow glazes to mature at lower kiln temperatures, to fire properly in kilns without precise firing temperatures, to prevent cracking, to provide certain colors not otherwise attainable, and to withstand repeated dishwasher use. Thus, lead is essential to providing a high quality, safe glaze, and no other ingredient supplies the same effects. "Food safe" glazes containing lead, if fired to cone 06 (1,830 degrees Fahrenheit) or higher, will comply with the FDA safety requirements for lead release from finished articles. To assure that glazes initially labeled as food safe continue to be so, manufacturers test the lead release of articles finished with these glazes before every formula change, then periodically using the FDA testing method. Glazes that are labeled as food safe should not release lead over the limits established by the FDA standard for food safe.

However, lead-free glazes, including some food-safe glazes, have been developed for use in institutions and by consumers such as children who need a glaze that requires no precautions during its use. According to ACMI's toxicologist, lead-containing hobby glazes should be used only by individuals who are capable of following safe use instructions; if supervision is required (such as in elementary schools, hospitals, nursing homes, and mental institutions), non-toxic, lead-free hobby glazes should be used.

### **Does oil painting have to be done with toxic materials?**

No. The majority of oil colors are non-toxic. A few colors do contain heavy metals and other potentially toxic ingredients, and these few colors are properly labeled with health warnings and safe use instructions. ACMI has certified as non-toxic numerous oils, such as linseed and poppyseed oils, and several clean-up products that can be used effectively when painting with oil colors. So, it is possible to use only non-toxic products when oil painting. Just be sure to read the labels on all of the products you are using.

### **What does the U. S. law on labeling mean to me?**

Under the U. S. Labeling of Hazardous Art Materials Act (LHAMA), all art materials sold in the U. S. must be evaluated by a qualified toxicologist and labeled, if necessary, for chronic toxicity according to the chronic hazard labeling standard, ASTM D 4236. LHAMA, which went into effect November 18, 1990, amends the Federal Hazardous Substances Act (FHSA) to require art and craft materials manufacturers to evaluate their products for their ability to cause chronic illness (such as cancer) and to place labels on those products that provide health and cautionary information and safe use instructions. FHSA already required manufacturers to evaluate and label for acute toxicity.

### **What are my responsibilities under the U. S. labeling law?**

**As a teacher or purchaser for schools...** The law permits CPSC to sue to prohibit the purchase of any art or craft material with a chronic hazard warning label for use in pre-Kindergarten through grade six. These products can be purchased for use in grades 7-12. It may amount to professional malpractice for a teacher or school to ignore these requirements, aside from any civil or other liability concerns. Although the law does not specifically address this point, if an elementary school teacher purchases such a product for his or her own use on student artwork, the teacher should use the product only after classes are over, should follow the safe use instructions on the label, and should store the product outside the classroom.

**As a distributor or retailer...** If you sell a product that is not labeled in accordance with the law, the product is a misbranded hazardous substance and, technically, could be seized. In addition, any person, including a retailer, may be charged with a criminal violation, fines and imprisonment for distributing a mislabeled product. A retailer can be held liable if the retailer sells a product that is not labeled properly by the manufacturer, although the most likely scenario would be enforcement against a non-complying manufacturer first.

**As a manufacturer...** You must have your product evaluated by a qualified toxicologist and labeled according to ASTM D 4236. The toxicological criteria under which your products have been analyzed, as well as the brand names of any toxic products, must be registered with CPSC.

## **Shouldn't I get an MSDS for each product I use?**

Not necessarily. Actually, the most accurate place to get information on the products you use is right on the label! The label will tell you the ingredients in the product that may cause any potential hazards; what the potential hazards are if the product is not used properly; and how to use the product properly. Material Safety Data Sheets (MSDS's) do provide helpful information, such as spill procedures, waste disposal, and methods on extinguishing fires if the product is flammable. Workplaces, including schools in some states, require MSDS's under right-to-know laws. But, MSDS's can often be misleading. They are generally designed for industry use; so, information on an MSDS is often for a very large, industrial size product, not the size a consumer uses. MSDS's are also quite complex and highly technical and may be difficult for someone who does not have a scientific background to understand. Therefore, a great deal of the information that appears on an MSDS may not be useful or appropriate to a consumer.

## **Where can I get more information?**

ACMI publishes a list of products that have been certified through its program. This list is updated approximately two times a year. This list will also be published on this web site as a searchable database in the very near future.

We also recommend the following publications.

- Arena, Jay M., M.D., Child Safety is No Accident, Revised Edition, Berkeley Press, New York, 1987.
- Arena, Jay M., M.D., Poisoning - Toxicology, Symptoms, Treatments, 5th Edition, Charles C. Thomas, Springfield, IL, 1986.

- *Ceramic Guidelines* - appendix to ASTM C1023, American Society for Testing and Materials, 100 Barr Harbor Drive, P. O. Box C700, West Conshohocken, PA 19428-2959.
- Qualley, Charles, *Safety in the Artroom*, Davis Publications, Worcester, MA, 1986.
- Stopford, Woodhall, M.D., "Safety of Lead-Containing Hobby Glazes," *North Carolina Medical Journal*, January 1988 (available from ACMI).