



Department of Public Health

Lead Poisoning Prevention & Control Program Environmental & Occupational Health Assessment Program

Use of Leaded Ceramic Glazes in School Art Classes

Product Advisory and Information Sheet

The Connecticut Department of Public Health (DPH) is advising officials in school districts across the state to inventory all ceramic glazes and frits for the potentially harmful element of lead. Such products pose a risk of lead exposure for students and staff.

Leaded ceramic glazes are generally applied to pottery, which is then fired in a kiln. Working with these glazes can pose a health risk, especially to children and women of childbearing age, as well as to developing fetuses.

Lead exposure can cause adverse health effects including, but not limited to, damage to the brain and nervous systems, lowered IQ, behavior and learning problems, headaches, reproductive problems in men and women, high blood pressure, digestive problems, nerve disorders, memory and concentration problems, and muscle and joint pain.

It is important to review any ceramic glaze materials that are used in public schools (and to the extent possible, those that were used in the past) to determine whether leaded glazes are or have been used, and to determine if lead hazards may have been created.

It is the position of the CT DPH that only non-toxic, non-leaded glazes and frits should be used in school systems in Connecticut. We strongly discourage the use of toxic glazes by individuals who may not be able to read or understand the manufacturer's safety instructions, or by women who are pregnant or may become pregnant.

The Federal Hazardous Substances Act (FHSA) as amended by the Labeling of Hazardous Art Materials Act (LHAMA), authorizes the U.S. Consumer Product Safety Commission to take action against a school and enjoin the purchase of any art material that would require labeling for chronic health hazards (essentially prohibiting the use of leaded glaze in the primary grades). The U.S. Consumer Product Safety Commission recommends that schools purchase only NON-LEADED GLAZES AND FRITS for use in their classrooms.

If it is determined that toxic leaded art materials are currently or have been used in the past in any school facility, the following actions are recommended:

- Stop using the materials immediately, and safely dispose of those materials as hazardous waste.
- It is not possible to know what level of hazard, if any, was created. As a precautionary step, it would be prudent to stop the use of and restrict access to all areas where ceramic/pottery operations were conducted in conjunction with leaded glazes, including glaze storage areas, kilns, and ventilation systems, until further evaluation is conducted.

- Notify the local health department (LHD).
- The LHD will review the situation and may advise that a DPH Licensed Lead Consultant Contractor be contacted. The Consultant Contractor will assign a DPH Certified Lead Inspector Risk Assessor (LIRA) who will review the overall situation with the LHD, assess the level of risk, conduct sampling for dust lead hazards as warranted¹, and develop site specific clean-up plan(s) for the facility or facilities. The plan(s) will be submitted to the LHD for review and approval. The plan(s) should include:
 - A review of the historic and/or current use of leaded products within each room and area of concern. Any existing lead-containing glazes shall be disposed of safely in accordance with all applicable laws and regulations.
 - Documentation of the layout of all rooms, areas, and surfaces where samples have been collected. Equipment and storage areas, as well as ventilation and exhaust systems should be included in the risk assessment.
 - A determination of what areas are to be cleaned (including kilns). Cleaning shall be done using wet cleaning and HEPA vacuuming techniques that are specific for cleaning lead contaminated facilities.
 - A review of potentially contaminated items that may not be able to be effectively cleaned. The LHD should determine whether the items may be cleaned or should be discarded
- Cleaning shall be followed by clearance testing that is conducted by a DPH Certified Lead Inspector (LI), LIRA, or by trained LHD staff. Clearance testing is to include visual inspection and dust wipe sampling in all areas. Reoccupancy and/or use of affected areas and surfaces shall not occur until cleared for reoccupancy. Lead in dust clearance criteria as listed in the CT Lead Poisoning Prevention and Control Regulations Section 19a-111-3(j), should be utilized. It is recommended that the most stringent clearance standard (40 $\mu\text{g}/\text{ft}^2$) be used for any surface that is tested for which no specific standard exists.
- If leaded glazes have been fired in the past, kiln brick may have absorbed lead and this lead could be deposited during current firings. In such circumstances any other pottery that has been fired in the same kiln should be considered to be contaminated with lead and potentially harmful unless proven otherwise by lead testing. In such cases, or when leaded glaze has been used on pottery, parents should be notified that such pottery should not be handled by children and should be considered unsafe for food storage. Remember that people may use art creations for purposes other than intended. They may drink or eat out of products that are not intended for that purpose. As mentioned above, the kiln should be included as an area of concern when the lead consultant designs a clean-up project. If your kiln was contaminated, consult with the manufacturer of the kiln to determine how best to clean it. In certain situations, replacement may be advisable.
- In the future, order, stock, and use only those glaze products that are labeled as “Non-hazardous”, and “Conforms to ASTM D-4236”. Such labeling confirms that the product has been tested and appropriately labeled for acute and chronic health hazards. Carefully review the descriptions of any products that you purchase from art resource catalogs to ensure they are labeled lead-free.
- Products should never be removed from their original container and stored in another container because important health and safety information will be lost.

¹ As an alternative, areas where there is a probability of lead contamination may be cleaned without prior sampling using wet cleaning and HEPA vacuuming techniques that are specific for cleaning lead contaminated facilities. Such cleaning shall be followed by clearance testing as described herein.

- The Art and Creative Materials Institute, Inc. (ACMI) is a non-profit association of manufacturer's of art, craft, and other creative materials. ACMI sponsors a certification program for art materials that includes toxicological assessment of products in the certification program. ACMI certifies that products meet voluntary standards of quality and performance and that health warning labels are affixed where appropriate. ACMI's toxicologist recommends that lead-containing hobby glazes be used only by individuals who are capable of following safe use instructions. If supervision is required, only lead-free, non-toxic hobby glazes should be used. Art products that have been evaluated by the ACMI for content of toxic materials are labeled with the following seals:



Products bearing the AP Approved product seal of the Art and Creative Materials Institute, Inc. contain no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems. In addition, there is no physical hazard as defined within 29 CFR Part 1910.1200 (c).



Products bearing the CL Health Label (Cautions Required) seal of the Art and Creative Materials Institute, Inc. are certified to be properly labeled according to the chronic hazard labeling standard, ASTM D-4236 and the U.S. Labeling of Hazardous Art Materials Act (LHAMA). **[Note: These products lack the “no physical hazard” qualification.]**

Please Note: The AP label on an art product indicates that the product contains no materials in sufficient quantities to be toxic or injurious to humans or to cause acute or chronic health problems.



Lead-free glazes and non-lead frits have been developed for use in institutions and by consumers such as children who need a glaze that requires no extraordinary health and safety precautions during handling and use.

If the use of leaded glazes in the curriculum of a Vocational Technical High School is necessary for career path training of students, it is recommended that an appropriate, protective leaded glaze safety program be implemented that will include: (1) education of students and staff regarding the hazards of leaded glaze, (2) instruction regarding the health and safety precautions that must be taken when working with leaded glaze, and (3) the development of a documented handling, storage, and clean-up protocol for the use of such potentially hazardous glazes.

If leaded glaze or other lead containing supplies are used in your classrooms, school administrators are required to abide by the OSHA Lead Standard (29 CFR 1910.1025) and the OSHA Hazard Communication Standard (29 CFR 1910.1200) regarding worker safety and protection. These Standards include requirements to perform initial air and dust monitoring, and the possible implementation of extensive safety precautions, blood lead testing and monitoring of workers, installation of special ventilation systems, and a formal documented staff training program regarding the hazards of using lead on the job and precautions that must be taken. Please contact the CT Department of Labor at (860) 263-6901 to ensure that your district is in compliance with these laws.

You may contact staff in the Lead Poisoning Prevention and Control Program at (860) 509-7299 or the Environmental & Occupational Health Assessment Program at (860) 509-7740 should you have any questions regarding this information sheet.