



All AMACO® Glaze colors are shown on the following pages with corresponding certifications by ACMI which conform to federal standard ASTM D-2436/FHSA for safe labeling.

Product Labeling

All AMACO® glazes are either AP (Non-Toxic) or CL (Cautions Required).



NON-TOXIC
Conforms to
ASTM D-4236
LEAD-FREE



CAUTIONS REQUIRED
Restricted From Use K-6
Professional Use Only
Conforms to ASTM D-4236/FHSA

566 Lead Free Glazes for School and Professional Use

AMACO® (American Art Clay Co., Inc.) manufactures 501 "AP" Non-Toxic Lead-Free glazes intended for school use in grades PreK - 6+. In addition, AMACO® manufactures another 81 "CL" Lead-Free glazes suitable for use in grades 7-12+ with adult supervision. **Please note: All "CL" (cautions required) glaze colors are prohibited from use PreK-6.**

All AMACO® glaze labeling features either the "AP" (Non-Toxic) seal or the "CL" (cautions required) seal of the Art and Creative Materials Institute, Inc. (ACMI). These seals are your assurance that the product was evaluated by an independent toxicologist and labeled according to ASTM D-4236/FHSA - the federal standard for safe labeling of art materials. If the product contains harmful ingredients, the label must identify those materials and then carry a warning statement identifying any health hazards in addition to providing directions for the safe usage of the product. Thus, 501 AMACO® Lead Free glazes are certified AP Non-Toxic; and 65 AMACO® Lead Free glazes are certified CL for non-lead materials. **Only AP Non-Toxic Lead Free Glazes are suitable for use PreK - 6.**

In addition, AMACO® manufactures 16 glaze colors that have lead content and are labeled "CL" to conform to federal standard ASTM D-4236/FHSA. These colors are certified "CL" by ACMI as safe for use in grades 7 - 12+ (with adult supervision) and are also suitable for professional or adult use. Safe usage procedures are specified on all "CL" glaze labels.

Not All Lead Free Glazes Are Dinnerware Safe

All AMACO® glaze labels comply with FDA Guidelines to determine whether or not they meet dinnerware safe testing requirements. **Please note: Not all AMACO® Non-Toxic Lead-Free glazes are dinnerware safe.** In addition, some CL listed AMACO® glazes do meet FDA Guidelines for safety and have been determined to be dinnerware safe - but are not suitable for use in schools and are for professional or adult use only. In order to determine whether a glaze is dinnerware safe, you must read the label. In this catalog, those glazes that are both dinnerware safe and lead free are shown with a (1). Plan school projects accordingly.

AMACO® recommends that the producers of any dinnerware for sale submit their production to an independent approved laboratory in order to test for release or leaching of hazardous materials such as lead or cadmium to meet FDA Guidelines in an applicable category **BEFORE DINNERWARE IS SOLD**. Many variables (such as exact firing temperature, contamination from other ware being fired along with dinnerware, and glazes that may not provide a stable surface adequate for food safety) are factors in whether a specific dinnerware line meets with FDA Guidelines.

Over fifty years ago, AMACO® formulated the F-Series of lead free glazes specifically for dinnerware safe ceramics. A well-formulated glaze like the F-Series will result in a stable surface, which will not dissolve in contact with foods. AMACO® submits all of its glazes to an independent approved laboratory for testing of leaching of lead content and/or other hazardous materials to establish the dinnerware status of each glaze. Only those glazes (which pass FDA guidelines for dinnerware glazes) receive the dinnerware safe seal on glaze labels and in this catalog.

Additional Coding For AMACO® Glazes

On each glaze page under the color chip and in the boxed area that provides item descriptions, sizes and prices, there is an additional coding that refers to the following key numbers.

(1) **Dinnerware Safe** (1). Contains no lead or cadmium bearing ingredients.

(2) **Dinnerware Safe** (2). Contains some lead and/or cadmium compounds but passes test for lead and cadmium release.

(3) **Not Dinnerware Safe**. Contains some lead and/or cadmium compounds and does not pass test for lead and cadmium release. Not recommended for surfaces which come in contact with food or drink.

(4) **Not Dinnerware Safe**. Contains no lead or cadmium bearing ingredients. We do not recommend these glazes on surfaces which come in contact with food or drink due to the soft or crackle nature of the glaze, even though they pass tests for lead and cadmium release.

Caution: None of these products should be taken internally. Contain ingredients not suitable for ingestion or inhalation.

Note: In order for glazes labeled (1) and (2) to be dinnerware safe they must be fired to recommended firing temperature.

Tableware producers must have all finished ware tested and approved as safe for dinnerware through a certified laboratory due to possible variations in firing temperature and possible contamination.

Special Information for Massachusetts Regarding Product Safety for K-6, Important for all AMACO® Customers

Federal law requires the use of non-toxic products in grades K-6 and requires art materials labeling that conforms to the ASTM D-4236 Standard. Under the Federal Hazardous Substances Act, children should not be permitted to use art material products labeled "not recommended for the use of children". Products with this statement may not be sold in school systems in states with laws prohibiting the sale of such products to pre-kindergarten or grades 1 through 6.

Massachusetts has special regulations relating to lead bearing products.

1. Leaded glazes, overglazes shall not be sold to individuals under eighteen (18) years of age.

2. Leaded glazes, underglazes, and overglazes shall not be sold for use in settings where children under eighteen (18) years of age, or mentally handicapped or impaired individuals may use them or be exposed to their use. Such settings include, but are not limited to, schools, nursing homes, camps, recreational centers, churches, etc.

3. Leaded glazes, underglazes, and overglazes shall not be sold to institutions or organizations working with or serving the mentally handicapped

AMACO® product lines offer AP Non-Toxic glazes which meet the criteria.

Massachusetts law allows lead bearing glazes to be used by artists, crafts people, and individuals over the age of eighteen (18) as long as they comply with the provisions listed above.

The following list of glazes, underglazes, and overglazes are not allowed to be used in schools for children under eighteen (18) years of age.

PRODUCTS NOT FOR SALE IN MASSACHUSETTS

L Series Lustre and Metallic Glazes

L-518 Lustre Gold
L-520 Bronze Patina

LG Series Gloss Glazes

LG-9 Super Clear
LG-53 Flame
LG-56 Christmas Red
LG-66 Brilliant Orange

LT Series Textured Alligator Glazes

LT-24 Antique Blue
 LT-31 Cinnamon
 LT-115 Frosted Jade
 LT-121 Light Blue
 LT-122 Dark Blue
 LT-130 Buffalo Brown
 LT-133 Pinkish Brown
 LT-142 Antique Green
 LT-144 Green Blend

OB Series Oil Based Versa Colors

OB-1 Black
 OB-12 White
 OB-22 Blue
 OB-32 Brown
 OB-46 Green
 OB-54 Red
 OB-60 Yellow
 OB-64 Orange

SP Products

SP-510 Fine Art Clear
 SP-2001 Fine Art Clear
 SP-10 Clear Transparent



All 566 AMACO® Lead Free Glaze colors are shown on the following pages, with corresponding certifications by the Art & Creative Materials Institute, which conform to federal standard ASTM D-4236 for safe labeling. MSDS Sheets, Safety Instructions, and Lesson Plans are available on-line at amaco.com

Firing AMACO® Lead-Free Glazes

AMACO®, the leading manufacturer of lead-free glazes, has the advantage of many years of formulating experience. Unlike lead bearing glazes, where a little underfiring or overfiring may not make a difference, low fire lead-free glazes must reach Cone 05 to mature. The other fact to consider is that lead-free glazes do not flow as much in the firing as most lead bearing glazes will. Therefore, if application is made by brush, a criss cross brush pattern is recommended for even application. These minor adjustments are all that are necessary to use safe glazes with perfect results. The information on this page and throughout the glaze section of this catalog gives specific instructions for the use of AMACO® glazes for best results. Please read all of it very carefully.

LIQUID AND DRY FORM. AMACO® Glaze Series LG and HF are available in liquid form with some also available dry. AMACO® Glaze SE Series are available in dry form only.

AMACO® **LIQUID GLAZES** are supplied in non-breakable plastic jars and are homogenized to the correct consistency for easy brushing.

AMACO® **DRY POWDER GLAZES** are packaged in safe, convenient non-breakable plastic jars with plastic lids. Since they contain gum, only water need be added.

NOTE: All AMACO® glazes are available in a 5 gallon bucket on a special order. Call for pricing. Special orders are not returnable.

How to Use AMACO® Lead-Free Glazes

AMACO® glazes are available in a wide variety of colors and textures, all of which are perfectly compatible with AMACO® clays. All AMACO® glazes are accurately formulated and compounded from the finest raw materials available. Each batch is laboratory tested before packaging, assuring our customers of receiving only the highest quality dry and liquid glazes.

AMACO's liquid glazes are prepared by homogenizing to the correct consistency for brushing. Only stirring is necessary before application. For spraying, dipping, and pouring, liquid glaze may be thinned with water.

SPRAYING/AIRBRUSHING: Make sure to use only AP Non-Toxic sprayable glazes for spraying and take the necessary ventilation precautions. We recommend the use of a respirator mask that is suitable for mist and dust when spraying glazes. See page 66 for important information on safe spraying or airbrushing of glazes.

MIXING DRY GLAZES: To prepare AMACO® dry glazes, we recommend as a "basic recipe" a ratio by weight of three parts of glaze to two parts of water. A one-pound jar of AMACO® dry glaze powder will make

approximately one pint of liquid glaze. Add water gradually to the jar, stirring slowly and completely until desired consistency is achieved. Every glaze formula will have its own special water requirements. Various application techniques will dictate consistency for optimum application properties. Each craftsman has his own preference for glaze consistency.

BRUSHING GLAZES: When brushing, glaze consistency should be similar to that of latex house paint. Other techniques may require a thinner mixture and AMACO® Gum Solution may be added. Try not to let the glaze become thinner than needed, since the lower the viscosity, the greater the chance that heavy glaze particles will settle out. For instance, the very thin consistency required for spraying will need continual agitation to prevent settling.

DIPPING GLAZES: When using liquid dipping glazes, shake the jar well, pour into a bucket, and mix thoroughly using a fan blade mixer attached to a hand drill. If the consistency is too thick add a small amount of water. Be careful not to thin the glaze too much or it will settle.

For dry dipping glazes, add water to the bucket as indicated on the label then mix thoroughly using the same procedures as above.

To dip, hold the piece with the tip of your fingers or use dipping tongs. When dipping an enclosed container, start immersing the piece mouth first until it is entirely immersed into the glaze. Rotate so it will be covered all over, then bring the piece out of the bath with the bottom first so it will empty as it is pulled out.

To glaze plates, start immersing one side of the plate, slide the plate through the bath and pull it out the same side first, thus bringing the whole plate through the glaze.

With AMACO® Dipping Glazes you will not have any dripping as soon as you pull the piece out of the glaze bath.

Slight variations in the color of glazes may result from: 1) thickness of application, 2) opacity or transparency of glaze, 3) color of clay body.

EXPERIMENTING WITH GLAZES: As knowledge and skill in working with glazes increases, experimentation may produce many new and special glaze effects. When experimenting, be sure to test glazes on tiles before using them on pottery. It is also a good idea to keep records of experimental procedures for future reference. Some suggestions for experimenting with AMACO® glazes follow:

◆ **Mix Glazes Together.** Glazes within a series usually mix well. Mixing high fire with low fire glazes can change the maturing temperature of the glaze;

may increase or decrease temperature depending on percentage of each glaze used.

◆ **Pour One Glaze Over Another.** Pouring gloss over matt or vice versa may produce a variegated effect. If glosses and matts are first mixed, then poured on bisque, the effect may be a semi-matt without variegation.

◆ **Add Underglazes to Change the Color.** An average of 3-5% may be added according to intensity desired.

◆ **The Three White Gloss Glazes From AMACO® Offer a Variety of Finishes When Fired.** DG-11 Deco White fires to a pure white, LG-11 Opaque White fires white, and F-11 White fires to an off-white.

◆ **Add AMACO® Velvets or AMACO® Liquid Underglaze Decorating Colors to Glaze to Change Color.** See an instruction book when adding oxides, as they vary greatly in strength and intensity and require careful use to control good results.

◆ **If You Are Experiencing Under-firing When Using a Kiln-Sitter® During the Firing of AMACO® Clays and AMACO® Glazes, Use One Cone Higher Than Recommended.**

CAUTION: Intermixing ANY or overlapping ANY dinnerware glazes, whether leaded or lead free, will not assure that they will remain dinnerware safe. Also, additions of underglazes or oxides may alter the composition of the glaze and disrupt the formula balance thus making it unsafe for dinnerware. Only testing for lead release will determine if they are dinnerware safe.

Health and Safety

AMACO® is dedicated to an ongoing program of safety research and awareness. All AMACO® glazes, overglazes, and underglazes have been evaluated by a toxicologist and are properly labeled for safe use, according to the guidelines established by The Art and Creative Materials Institute, Inc. AMACO® glazes and underglazes are labeled for safety in accordance with ASTM D-4236.

For additional safety information, please call Steve Lampron or Lori Jenkins at 800-374-1600.