



Food Safe Glazes

The phrase, “food safe” may conjure up varying beliefs and feelings based on personal values. While it may be legal and “food safe” to eat raw shellfish there are many people who will never do so. And within the statement above you have the dynamics of the phrase “food safe”: that it is a matter of law and of personal preference.

At Mayco, we recognize “food safe” as a **legally defined term** and a term of **practical common sense**. We’ll explain our understanding and use of the phrase below.

Legal Definition

The U.S. Food and Drug Administration (FDA) is the legal entity that oversees food safety regulations and standards. They set limits and tolerance levels for chemicals and additives. With respect to ceramic glazes: a glaze that contains lead and cadmium can be fired and the food container surface can be **legally classified as “food safe”** if it meets leach test standards. Basically, leach tests involve placing an acetic acid food (lemons, tomato juice) on a glazed surface and measure the chemical changes to the food before and after the test period.

The following excerpt is reprinted from the Society of Ceramic and Glass Decorators (SCGD) advisement, February 2008, 15th Edition. It details the current FDA standards for lead and cadmium.

“In November 1991, the U.S. Food and Drug Administration (FDA) announced revised standards for lead leaching from the food contact surface of five categories of ceramic foodware. These standards set the maximum level of leaching. The standards are contained in FDA’s Compliance Policy Guide and have not been issued by FDA as formal regulations. We note that they apply only to the food contact surface. These limits are not applicable to non-food contact areas such as the outside of a mug or canister. The standards for lead are:

1. Flatware - 3.0 parts per million
2. Small Hollowware - 2.0 parts per million
3. Large Hollowware - 1.0 part per million
4. Cups and Mugs - 0.5 part per million
5. Pitchers - 0.5 part per million.

The standards for cadmium are:

1. Flatware - 0.5 part per million
2. Small Hollowware - 0.5 part per million
3. Large Hollowware - 0.25 part per million

The FDA Compliance Policy Guide states that FDA will use as an analytical method for measuring leaching that prescribed by the Association of Official Analytical Chemists as Official Methods of Analysis, 15th Ed. (1990), section 973.32. American Society for Testing Materials (ATSM) method C-738 is essentially the same method.

The lip-and-rim area of a glass tumbler or ceramic mug or cup is considered the top 20 millimeters of the outside of the item - the area the lips might touch while consuming a beverage.



SGCD worked with the FDA (as well as the Consumer Product Safety Commission and the Environmental Protection Agency) to develop standards for the leaching of lead and cadmium from the lip-and-rim area. The voluntary standard was officially recognized by FDA in a notice published in the Federal Register which also indicates that test method American Society for Testing Materials ASTM C-927-80 should be used.”
(Copyright: Society of Glass and Ceramic Decorators)

So, if a product label features the phrase “Food Safe” that means the *fired* glaze meets the FDA guidelines listed above.

Practical Definition

Many glazes are designed to create surface textures, such as those created using Mayco Classic Crackle, Crystalites and Jungle Gems crystal glazes. Textured surfaces can trap food and lead to bacterial growth. While these glazes are legally labeled “Food Safe” we do not feel they are the best choice for food containers. Our company philosophy, consistent with our views on product safety, is to avoid using textural glazes for food surface containers. We voluntarily add the following phrase to product labels on textural glazes:

“Due to surface characteristics this glaze may not be suitable for food containers.”

If you have any questions on food safe glazes please consult our website or contact technical support at technical@maycocolors.com.