

What Makes Ceramics Food Safe and Dishwasher Proof?

Is my glazed ware food safe?

The body responsible for policing food safety in ceramics is the Food Standards Agency. The relevant Standard is ISO 6486-2 which deals with the release of lead and cadmium from ceramic ware intended for use in the preparation, cooking, serving and storage of foodstuffs.

In an unstable glaze containing lead or cadmium, these metals can be leached out of the glaze by acidic substances, for example fruit juice or vinegar. The test specified under this Standard measures levels of lead and cadmium leached out of the glaze. If levels are higher than the Standard specifies then the relevant products must not be sold. The maker, retailer and importer of ceramic goods may be asked for a test certificate to prove conformity to the Standard. However, in practice, the FSA are primarily concerned with larger scale production and importation of wares with unstable glazes and do not consider “artisan” produced ware to be of particular concern.

Lead in ceramics is only used in a fritted form, whereby it is chemically combined with silica to make it non-bioavailable. This is referred to as Low Solubility or “Low Sol” glaze. It does not therefore present a hazard in a correctly fired glaze. It should be noted that the presence of copper on the ware or in the kiln could destabilise a lead-containing glaze.

Similarly, cadmium is only used in the pottery industry in an encapsulated form.

Under the Food Standards Authority’s definition, it follows that any glaze not containing lead or cadmium is “food safe”. Lead and cadmium are both low-fire materials so are never used in stoneware, therefore all stoneware glazes would be deemed to be food-safe. There are glazes that, while food safe, would not usually be recommended for food use because of crazed or rough surfaces that might harbour bacteria, but tests have shown that when properly washed all bacteria is eliminated. (*Citation: [Techno File: Dirty Dishes](#) – Ryan Coppage, PhD with Ruhan Farsin & Laura Runyen-Janecky, PhD*)

Potclays Ltd. Albion Works, Brickkiln Lane,
Etruria, Stoke-on-Trent, ST4 7BP ENGLAND
+44(0)1782 219816 | sales@potclays.co.uk
potclays.co.uk   

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Are my pieces dishwasher-safe?

As a general rule, earthenware is not recommended for the dishwasher. This is because earthenware is porous, so the water absorbed during the dishwashing cycle can cause glazes to craze and the item to superheat when microwaved.

On-glaze decoration, particularly lustres and metallic glazes are not recommended for dishwasher use as they can be worn away.

Vitrified stoneware is usually OK for the dishwasher, but some glazes are more durable than others in the caustic environment of the dishwasher so it is always recommended to test your pieces. You can do this by taking two identical pieces (same clay, glaze, firing), mix 50 grams of soda ash with 1 litre of water, fully submerge one of the pieces and simmer for a few hours - checking on it occasionally to ensure the piece remains submerged - then compare the surface of the treated piece with the untreated piece.

Disclaimer: Technical advice

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