

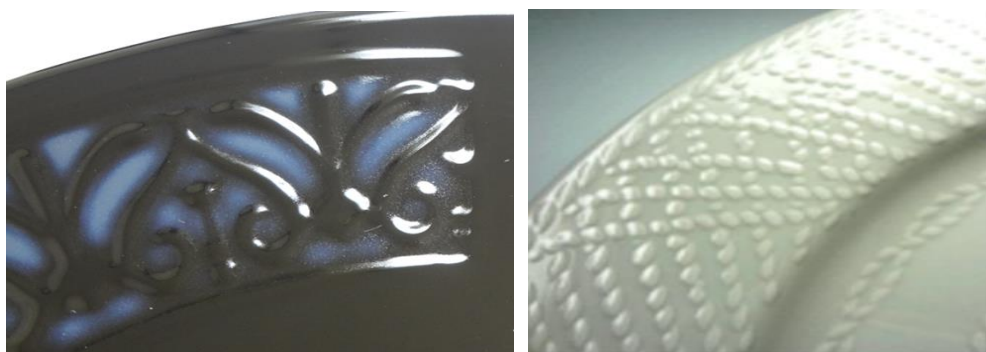
## 78193 Inglaze reactive flux 1000–1250°C

Lead–and cadmium–free inglaze reactive flux

### 1. General Information

#### Features!

- Very sharp high embossing effect.
- Suitable for wide range of glazes and firing conditions.
- Lead and cadmium free.



**78193** is a lead–and cadmium–free, intermixable, inglaze reactive flux for porcelain, bone china, earthenware, vitreous china.

It is suitable for screen–transfer printing, direct printing, spraying, pad printing and hand painting.

### 2. Firing Conditions

Type of ware	Firing range
Hard porcelain	1,230–1,260°C
Porcelain	1,180–1,230°C
Bone china	1,000–1,050°C
Earthenware	1,000–1,050°C
Fine china	1,000–1,200°C
Vitreous china	1,000–1,200°C

**78193** is suitable for both normal firing of 3–10 hours and fast–firing of 60–120 minutes, cold–to–cold conditions. They should also be only used with lead–free colors and glazes. It must be fired only under lead–free conditions to avoid heavy lead release.

## 3. Application

**78193** is suitable for screen-transfer printing, direct printing, spraying, pad printing and hand painting. It can be used with SELECTION 78 colors and it is recommended to use beside of relief materials to get high emboss effectively.

## 4. Particle size of Distribution (P.S.D.)

Product	D <sub>50</sub> average	D <sub>100</sub> biggest
<b>78193</b> reactive flux	5.0 $\mu\text{m}$ ( $\pm 1.0$ )	35 $\mu\text{m}$ ( $\pm 5.0$ )

## 5. Printing

### 【5.1 Mesh size】

**78193** is recommended to print over or beside of other colors. We recommend one time printing by mesh sizes that are 60–305 mesh (24–120T thread/cm) for all screen applications. Normally thicker printing shows more reactive effect obviously.

### 【5.2 Medium ratio】

<b>78193</b> sharp reactive flux : Medium PM2	10 : 7–9	60–305 mesh/inch (24–120 thread/cm)
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Lead-and-cadmium free inglaze colors absorb any moisture easily. Therefore, keep powder colors in a dry place. We recommend drying the color powder before using.

## 6. Mixability

**Mixing with other colors:** **78193** can be mixed with all of SELECTION 64, 66 and 78 inglaze colors in any proportions. However, it shows less reactive effect after mixing with other colors.

**Mixing flux:** 78101 flux is suitable for mixing with **78193** to lighten and to reduce the reactive effect if necessary.

## 7. Chemical durability

Chemical durability of **78193** depends on type of ware, glaze, kiln, color deposit and firing conditions. The following are the results of tests on porcelain fired at 1220°C, with 10 minutes of soaking time and 120 minutes of cold-to-cold firing conditions of gas kiln in production.

## 【7.1 Residual lead and cadmium content】

**78193** contain less than 90 ppm residual lead and less than 40 ppm residual cadmium and are therefore in compliance with Californian Proposition 65, FDA, CPSIA, EU, and Japanese requirements.

## 【7.2 Lead and cadmium release】

According to the DI EN 1388-1-2 test, **78193** itself show lead and cadmium releases are below AAS limits.

## 【7.3 Acid resistance】

According to the DI EN 1388-1-2 test, **78193** does not show any visible attack after immersion in a 4% acetic acid solution for 24 hours at a room temperature  $22 \pm 2^{\circ}\text{C}$ .

## 【7.4 Alkali resistance】

According to the ASTM C556-88 test, **78193** does not show visible attack for up to 6 hours.

## 8. Safety Data Sheet (MSDS)

Material safety data sheet (SDS) of **78193** is available on request.

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