Operating Instruction

DPA Detergent

General information

DPA Detergent has been specifically developed to dissolve DPA-100 support material in water. When dissolved in water the detergent produces a mild alkaline solution. A stirred and heated bath is recommended when dissolving DPA-100 support material. Recirculation and temperature affect the speed at which DPA-100 will dissolve.
Please find below our operating instructions for correct handling of DPA Detergent.

Operating instructions

Despite its low corrosiveness, please follow the safety data sheet attached for the correct and safe use of DPA Detergent. Please always wear appropriate protective gloves, eye protection, and respiratory protection when using DPA Detergent

In order to dissolve DPA-100 you need a mild alkaline solution which is heated and stirred. At higher temperature DPA-100 will dissolve faster than at lower temperature. The temperature you choose depends on the temperature resistance of your build material. In general **20c below the temperature resistance of your build material is a safe settings**. Thicker models would be less likely to deform and can handle temperatures closer to softening temperature. **The minimum pH value for the alkaline solution is >10**. We recommend using our DPA Detergent for making the alkaline solution.

At colorFabb we experimented with a low cost set-up for dissolving DPA-100. We used a sous-vide stick and a plastic container with lid. The sous-vide stick will heat up the water to desired temp and circulate water.

The process step by step:

- Fill up your dissolving device with water, use 4 l of water to dissolve 100 g of DPA detergent.
- Heat the bath to the required temperature and start the recirculation process.
- You can add your models as soon as the bath has reached the correct temperature and DPA detergent has been dissolved in water.
- The dissolving process usually takes between an hour and 9 hours, depending on the amount of DPA-100 support material being dissolved, the geometry of the model and the temperature of the water.
  It's a good idea to periodically check the process and if necessary change the position of the model in the device. Make sure the model is submerged for the duration of dissolving DPA-100
- When the support material is full dissolved, let the model dry for at least 15 minutes, rotating the model a couple of times to make sure the detergent can drain off.
- After initial drying, rinse the model thoroughly using warm, running water to remove the remaining detergent and then let dry completely.
- After completely drying white residue could appear, if so, put the model into a warm (30 – 50 °C) water bath for at least one hour. Add rinsing agent for dish washers to speed up the process.
- 1 kg of DPA-100 can dissolve at least 1 kg of support material. The more support material is dissolved, the slower the material will be able to dissolve. It's a good idea to keep track of how

many grams of support material has been dissolved so you know when to renew the alkaline solution.

- Before disposing the solution, it must be neutralized. For this, we recommend 5 – 10 g citric acid per litre of used up solution. When foam formation occurs, the solution has reached a neutral pH area.
- The detergent, dissolved in water, produces a mild alkaline which usually, together with the dissolved support material, can (in limited quantities) be disposed of via the wastewater. Please check your local regulations. **You can acquire our waste profile datasheet by contacting** support@colorfabb.com

Storage

DPA Detergent needs to be stored in a tightly closed container.

Safety Datasheet

Before using DPA Detergent make sure to completely read the Safety Datasheet