

BIOPLASTIC RECIPE



Equipment list :

- balance
- heater
- pan
- spoon
- clean glass, plastic or alumin board or mold

Main recipe :

- cold water (240 ml)
- gelatin powder (48 g)
- glycerol (12 g)

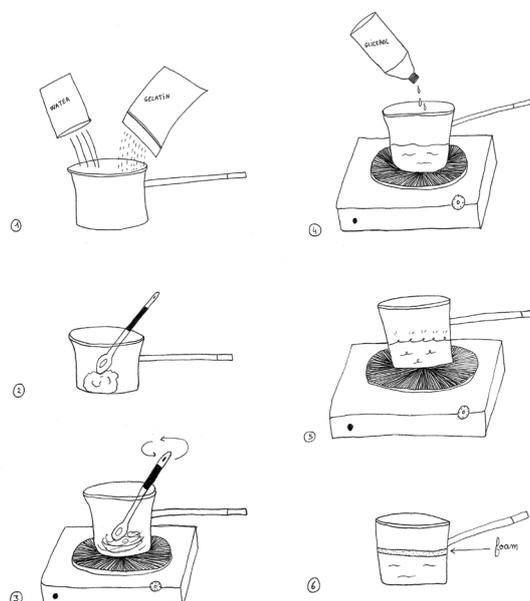
There are several recipes to create bioplastic. Here, we're gonna use only three simple ingredients : gelatin (pig skin), glycerol and water.

- The gelatin we are gonna take is made with recycling pig skin of the meat industry. It's a yellow pale and unflavored powder that you can buy in any food markets.
- The glycerol is produced by fermentation of vegetables sugar. It's liquid, transparent, colorless and create the plasticity of the product. Less glycerol will create a more brittle but harder material, more glycerol will make a flexible and softer sheet. You can find glycerol in the drugstores.

You can get different hardness (or elasticities) depending on the quantities of gelatin, glycerol and water you put inside your mixture. You can also change the opacity and create foam with spitting air inside the heated mix.

The work area needs to be clean and all tools and materials should be at hand.

- 1) First mix the cold water and the gelatin powder in the pan without heating.
- 2) Gradually, the mixture turns into a granular yellow pale paste.
- 3) Then start heating the preparation while stirring slowly so that there are no lumps.
- 4) Once the preparation has become liquid and homogeneous add the glycerin into the mixture.
- 5) Continue mixing and heating until you begin to see a whitish deposit on the surface of your mixture. If you want a transparent matter you have to remove completely this white foam with a spoon. Otherwise, you can keep it inside the mixture, it will dry on the surface and create a fluffy part. You can also make more foam by adding air inside your mix.
- 6) Now pour your mixture into the mold or the prepared surface. It's preferable to take a glass or aluminum mold to cast its bioplastic because a wooden or cardboard surface will probably stick and damage the desired shape of the bioplastic.



The drying time depends on several factors : the dosages of water, gelatin and glycerol put in the mixture ; the thickness of your final product and also the temperature and humidity of the room in which you made it dry.

It's best to wait a week of drying before taking off the bioplastic. If you remove it too soon, it's most likely that it will deform by continuing to dry.

In order to have the shrinking effect have a frame of the shape you want and cast the bioplastic on glass. Let dry for 2-3 days. Lift up and let shape dry with the frame letting the air to pass from both sides.

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