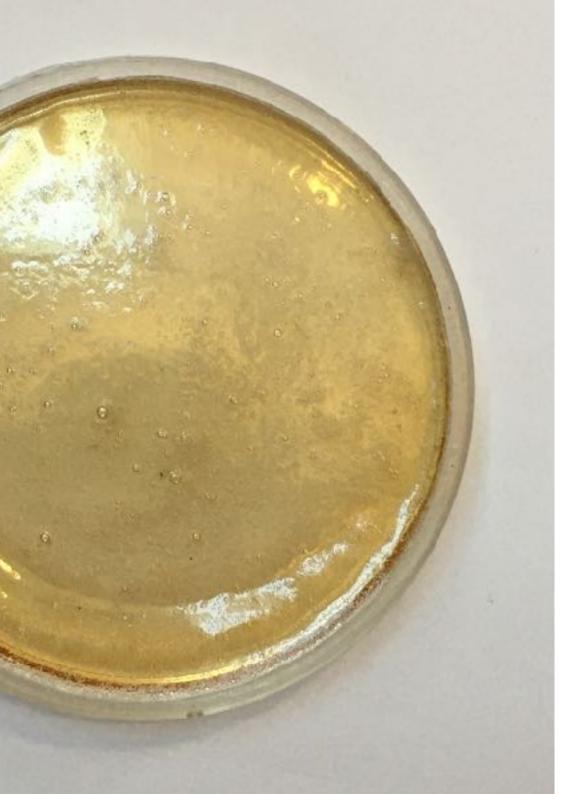


BIO-MATERIAL COOKBOOK



# GELATIN + AGAR



# **BIO RESIN - GELATIN**

#### Recipe

#### Ingredients

48 grams Gelatine 8 grams Glycerine 240 ml Water 1 Tbd Pigment

#### Method

- 1. Warm up water in pot on stove
- 2. Add Glycerine (plasticiser)
- 3. Add Gelatine (polymer)
- 4. Mix gently until smooth
- 5. Simmer 10-15 minutes (86 degrees C max)
- 6. Prepare moulds/ surfaces to cast in
- 7. Prepare colours in separate containers
- 8. Once thickened (like syrup) pour slowly avoiding addition of air) into mould
- 9. Let dry in ventilated dry room

- Many small bubbles
- Yellow / Golden in colour
- Shiny on both sides
- Thick
- Very solid, strong yet flexible
- Transparant



# **BIO FOIL (AGAR)**

#### Recipe

#### Ingredients

4 grams Agar 3 grams Glycerine 400 ml Water 1 tbd Pigment

#### Method

- 1. Warm water in pot on stove
- 2. Add Glycerine (plasticiser)
- 3. Add Agar (polymer)
- 4. Gently mix until smooth (agar can take longer to dissolve add 60 degree C heat to help ingredients mix)
- 5. Simmer for 20 minutes (80 degrees C max)
- 6. Prepare surfaces / moulds (allow for shrinkage in thickness and width)
- 7. Prepare colours in separate pots
- 8. Once mix has thickened (syrup consistency) pour slowly to avoid air bubbles
- 9. Let dry in ventilated, dry room. Necessary to keep piece in mould/ surface for smooth effect.

- Delicate
- Thin (high shrinkage)
- Transparent (90%)
- Very flexible



# BIO FOIL (GELATIN + AGAR)

#### Recipe

# Ingredients

3 grams Agar 20 grams Gelatine 5 grams Glycerine 500 ml Water 1 tbd Pigment

#### Method

- 1. Warm water in a pot on stove
- 2. Add Glycerine (plasticiser)
- 3. Add Agar and Gelatine (polymer)
- 4. Mix gently until smooth
- 5. Simmer for 20 minutes (80 degrees max)
- 6. Prepare surfaces and moulds to cast (allow for shrinkage in thickness and width)
- 7. Prepare colours in separate pots
- 8. Once mixture is thickened (syrup consistency) pour slowly (avoid air bubbles) on chosen surface
- 9. Allow to dry in ventilated, dry room (necessary to keep agar in mould for smooth effect)

- Surprisingly strong/ flexible
- Clear in colour
- Transparent yet blurry in appearance
- Shiny face down, opaque face up
- Blurry texture
- Thin (high shrinkage)



# BIO FOAM (GELATIN, NO SOAP)

# Recipe

# Ingredients

48 grams Gelatine 8 grams Glycerine 240 ml Water 1 tbd Pigment

#### Method

- 1. Warm water in pot on stove
- 2. Add Glycerine (plasticiser)
- 3. Add Gelatine (Polymer)
- 4. Mix gently until smooth
- 5. Boil for 15-20 minutes (86 degrees C max)
- 6. Prepare surfaces / moulds
- 7. Prepare colours in separate pots
- 8. Once mix is thick (syrup) pour slowly (avoid air bubbles)
- 9. Let dry in ventilated, dry room

- Yellow/ golden in colour
- Transparent (100%)
- Very strong and solid, yet can bend
- Some bubbles but not many
- Shiny/ smooth both sides



# BIO FOAM (GELATIN + SOAP)

# Recipe

# Ingredients

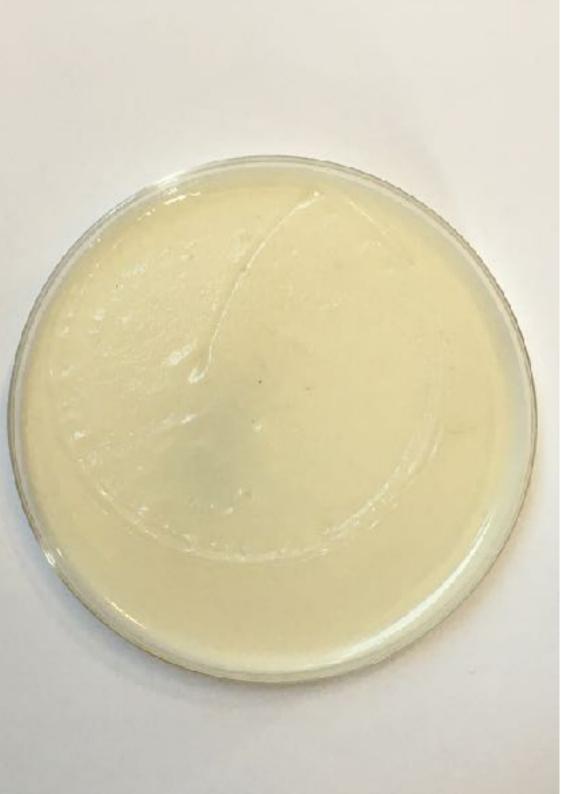
| 48  | grams | Gelatine  |
|-----|-------|-----------|
| 8   | grams | Glycerine |
| 240 | ml    | Water     |
| 1   | tbsp  | Soap      |
| 1   | tbd   | Pigment   |

#### Method

- 1. Warm water in pot on stove
- 2. Add Glycerine (plasticiser)
- 3. Add Gelatine (Polymer)
- 4. Mix gently until smooth
- 5. Add a tablespoon of dishwashing soap
- 6. Boil for 15-20 minutes (86 degrees C max)
- 7. Prepare surfaces / moulds
- 8. Prepare colours in separate pots
- 9. Once mix is thick (syrup) pour slowly (avoid air bubbles)
- 10. Let dry in ventilated, dry room

- White / opaque in colour
- Many bubbles
- Firm yet flexible
- Strong and dense
- Shiny, smooth surface face down
- Matt, bubble surface face up
- Holds bend and slowly goes back to shape

# ALGINATE



# FLEXIBLE BIO PLASTIC

#### **THICK**

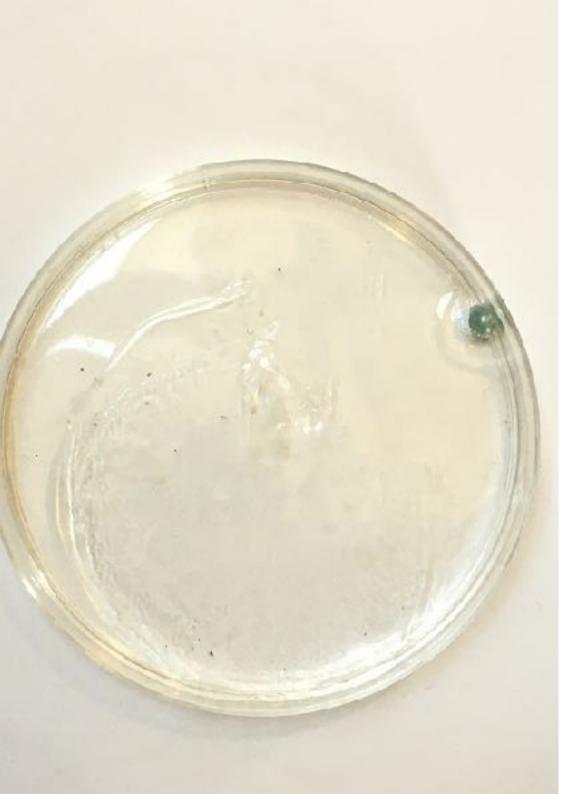
# Recipe

100 grams Glycerine
60 grams Alginate
1 litre Water
50 grams Sunflower oil

#### Method

- 1. First mix liquid and liquid (glycerine with water)
- 2. Slowly add alginate
- 3. Add sunflower oil
- 4. Mix using electric blender and combine well, until there are no bits
- 5. Let mixture sit for 12 hours minimum to avoid air bubbles
- 6. If using syringe, fill it in preparation
- 7. Add colour
- 8. Pour into mould / surface
- 9. Use calcium chloride mixed with water to cure and seal alginate

- White and milky in colour due to sunflower oil
- Opaque due to sunflower oil (emulsion)
- Very thick consistency
- Flexible



# **BIO SHEET + YARN**

#### **MEDIUM**

# Recipe

100 grams Glycerine30 grams Alginate1 litre Water

#### Method

- 1. First mix liquid and liquid (glycerine with water)
- 2. Slowly add alginate
- 3. Mix using electric blender and combine well, until there are no bits
- 4. Let mixture sit for 12 hours minimum to avoid air bubbles
- 5. If using syringe, fill it in preparation
- 6. Add colour
- 7. Pour into mould / surface
- 8. Use calcium chloride mixed with water to cure and seal alginate

- Transparent and clear in colour
- Flexible
- Medium thickness consistency



# FLEXIBLE BIO FOIL

#### THIN

# Recipe

75 grams Glycerine30 grams Alginate1 litre Water

#### Method

- 1. First mix liquid and liquid (glycerine with water)
- 2. Slowly add alginate
- 3. Mix using electric blender and combine well, until there are no bits
- 4. Let mixture sit for 12 hours minimum to avoid air bubbles
- 5. If using syringe, fill it in preparation
- 6. Add colour
- 7. Pour into mould / surface
- 8. Use calcium chloride mixed with water to cure and seal alginate

- Transparent
- Slight grey colour (wine residue from blender)
- Flexible
- Thinner consistency