

Do it yourself!



# Zero-Waste Seaweed Coatings for Cosmetics

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GUIDELINE!



PART OF THE  
**EU MISSIONS**

**RESTORE OUR OCEAN & WATERS**

Co-funded by  
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NATIONAL INSTITUTE  
OF CHEMISTRY

## Equipment and accessories

shampoo balls  
STANDARD

approx. 250 balls

🕒 45 min

1 large metal bowl

2 small metal bowls

1 wooden bowl

1 spoon

2 small sieves

1 tray

Dehydrator/dryer

Handheld stick blender

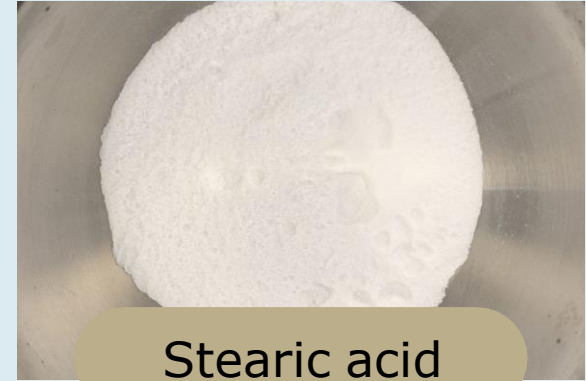
Press gun

# Ingredients

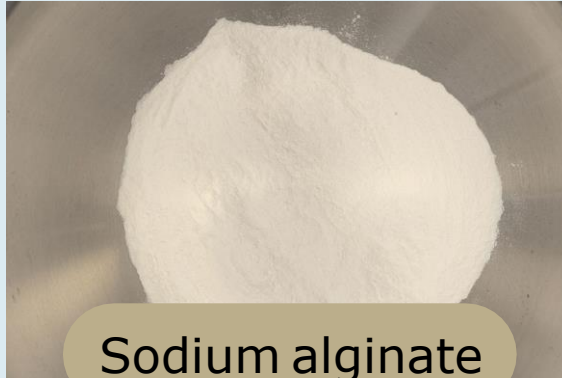
Tapioca starch  
Stearic acid  
Sodium alginate  
Water (aqua)  
Calcium Chloride  
Menthol



Tapioca starch



Stearic acid



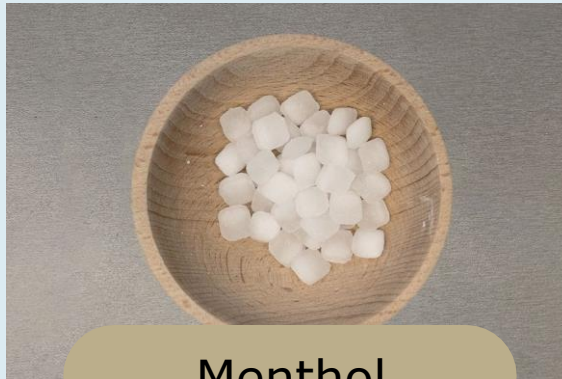
Sodium alginate



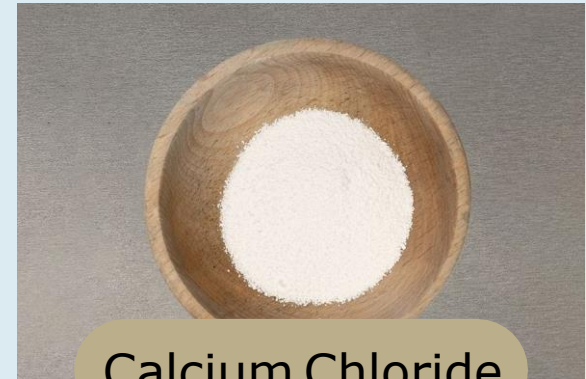
Water



Dehydrated  
liquid shampoo

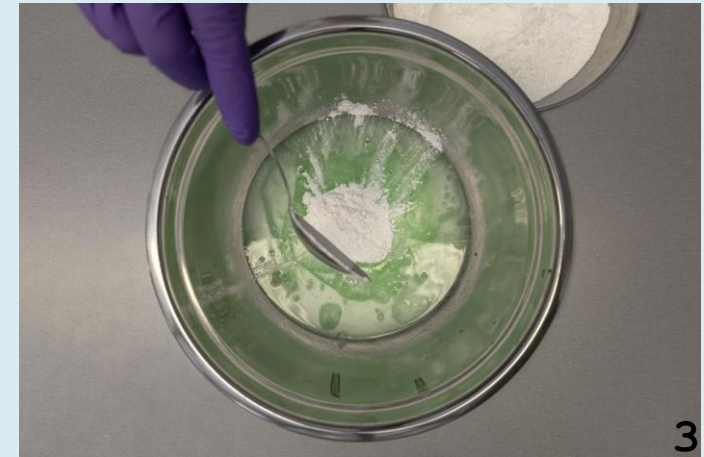
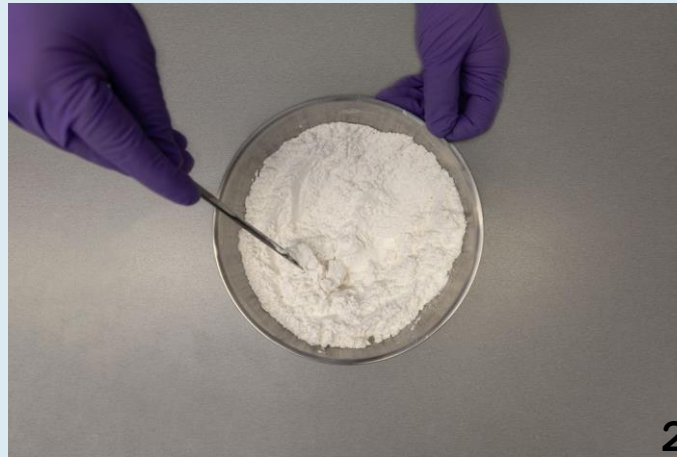


Menthol



Calcium Chloride

# Mixing of the shampoo dough

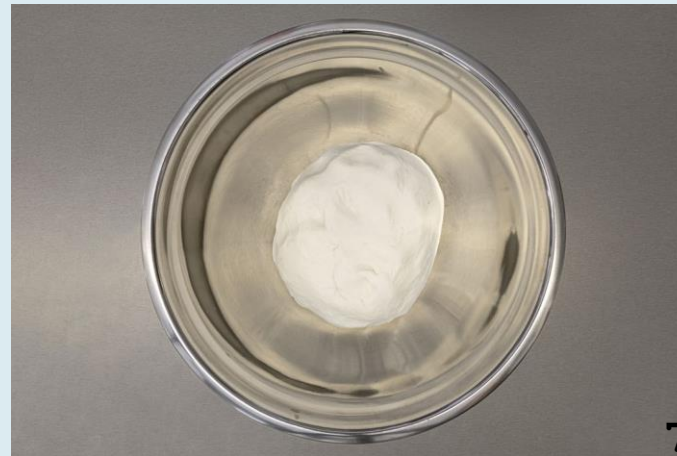
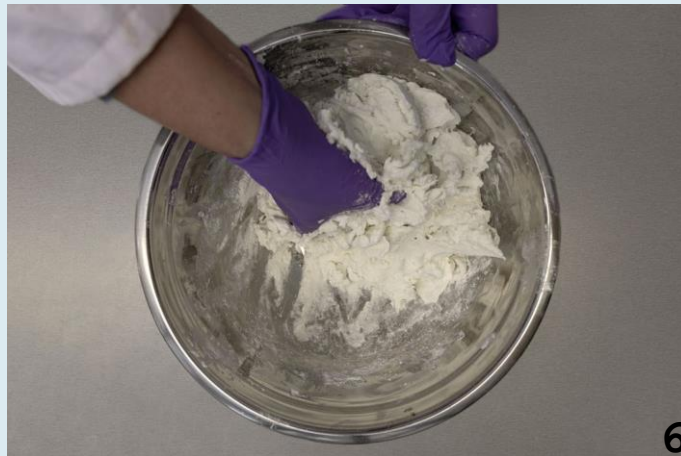
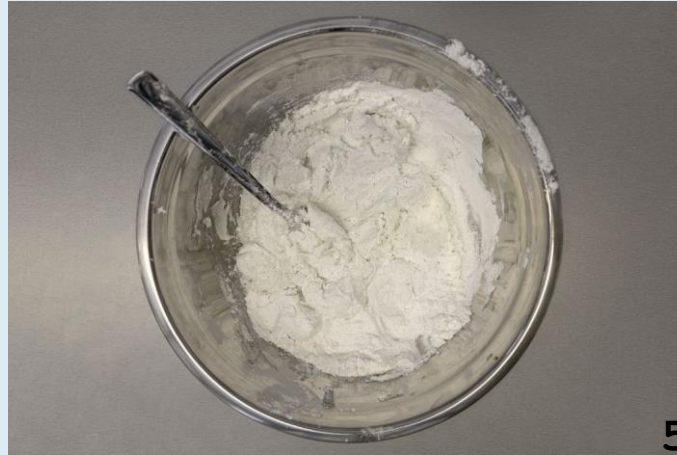


1 750 g of dehydrated shampoo (water content below 40%).

2 Mix 500 g of Tapioca Starch.

3 Add mixed powder to shampoo; approx. 1/3 at a time.





4-6 First, mix the ingredients with a spoon, then knead with your hands.

7 The shampoo dough is ready when it no longer sticks to your hands or the bowl.

## Making of shampoo balls



8

8

Spread tapioca starch with a sieve on a wooden surface.



9

Use a spoon to transfer the shampoo dough into the press gun.

10-11

Apply pressure to the press gun handle to make lines of shampoo dough.



12



13



14

12-14

Cut the shampoo dough into equal pieces,  
approximately 1-1.5 cm wide.

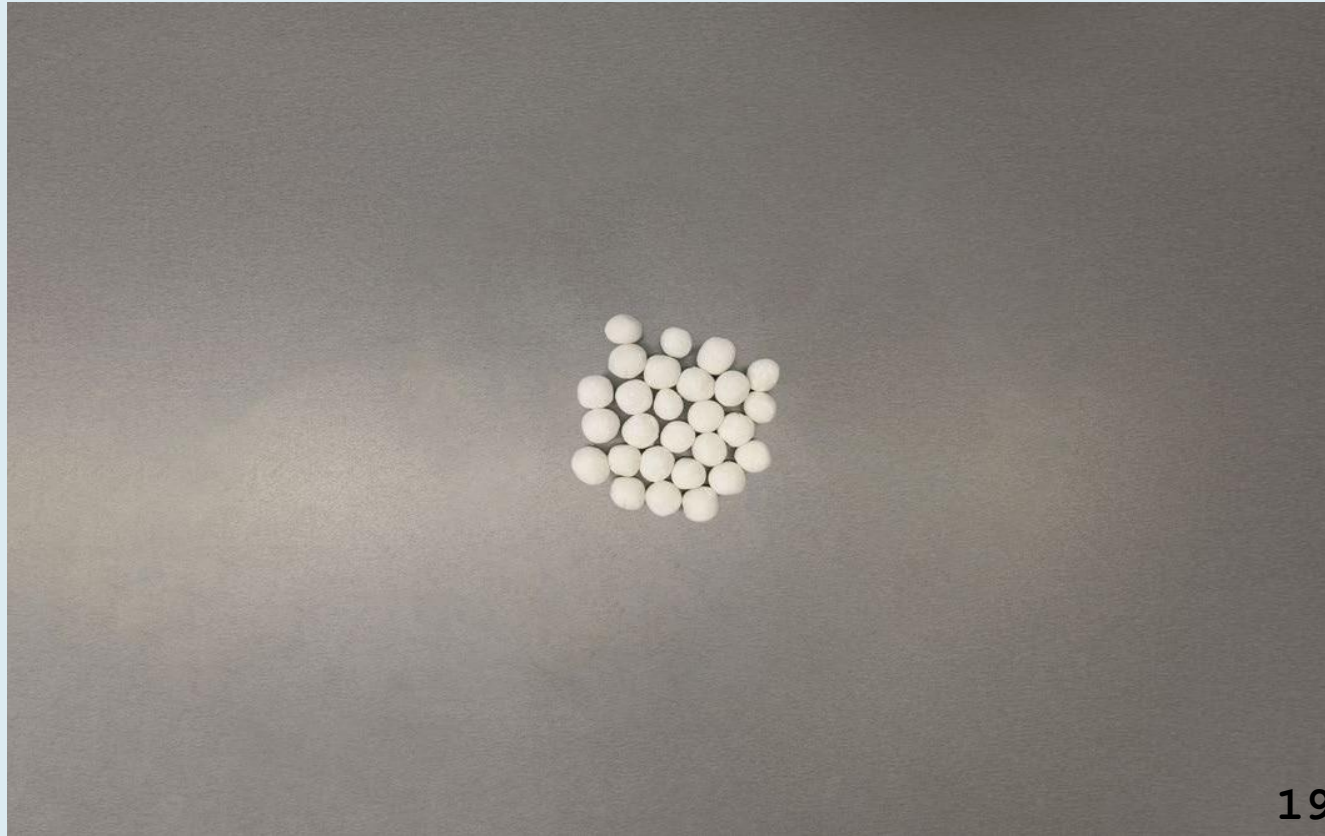




Take one piece  
in your hand and  
use the other  
hand to shape it  
into a ball.

15-18

*Tip: Lightly dust  
your hands with  
starch before  
starting.*



19

19

Place the balls on a surface and avoid them touching each other.

# Preparing coating solution 1

Hand Blender



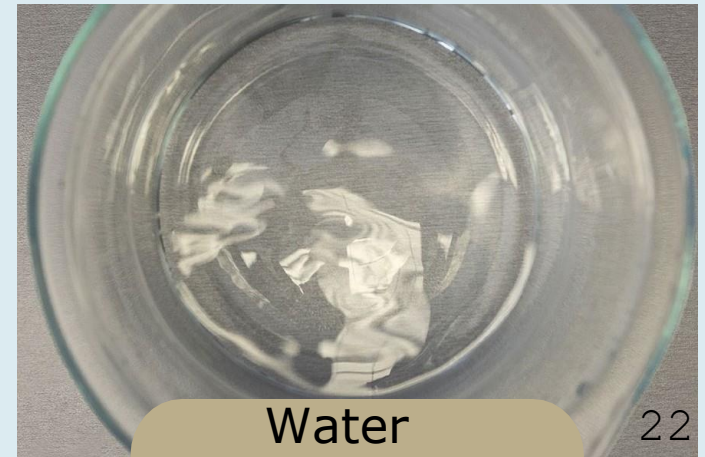
Sodium alginate  
20 g

20



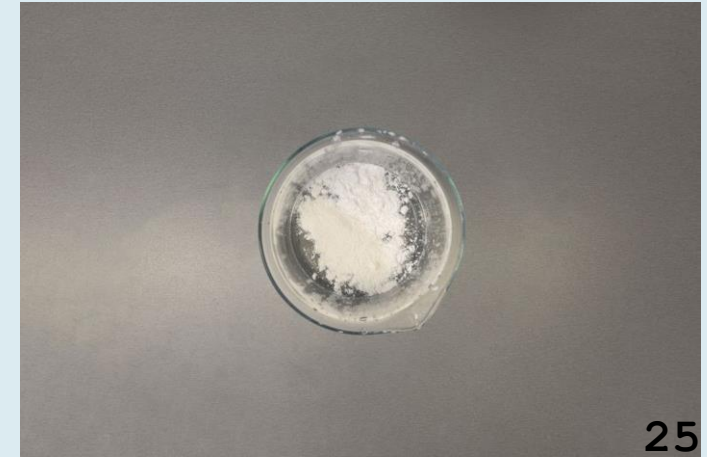
Tapioca starch  
5 g

21



Water  
500 ml

22



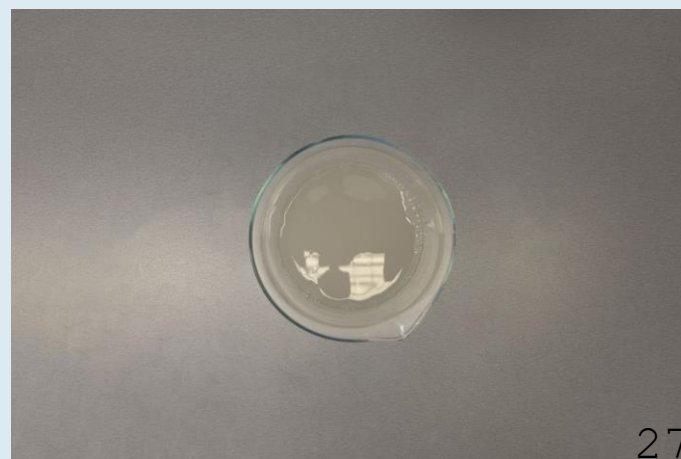
23-25

Add sodium alginate and tapioca starch to the water.





26 Blend until fully  
dissolved  
(approximately  
3 minutes).



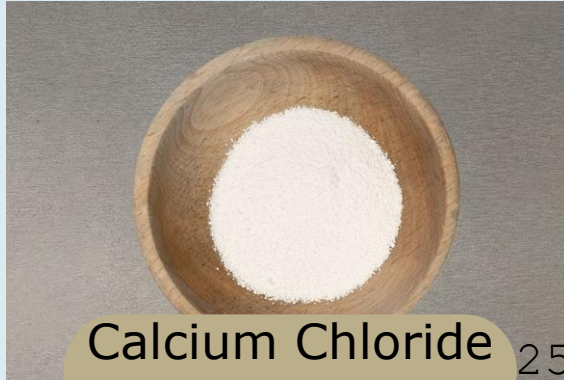
27 Coating  
solution 1.

## Preparing coating solution 2



Stearic  
acid 40 g

24



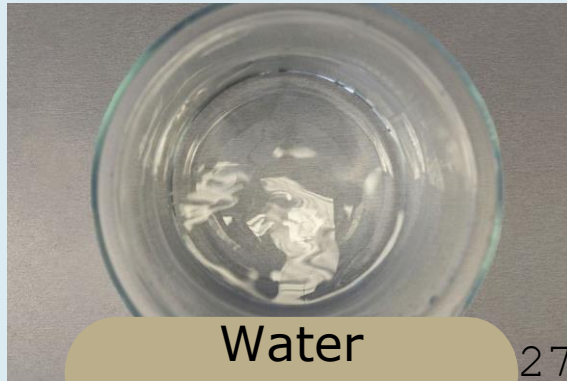
Calcium Chloride  
10 g

25



Menthol  
1 g

26



Water  
300 g

27



96% Ethanol  
700 g

28

## Preparing coating solution 2

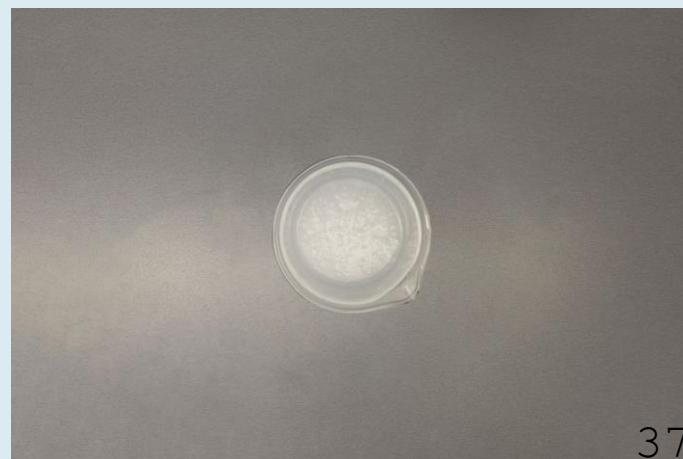


33-35

Add all ingredients into one beaker.



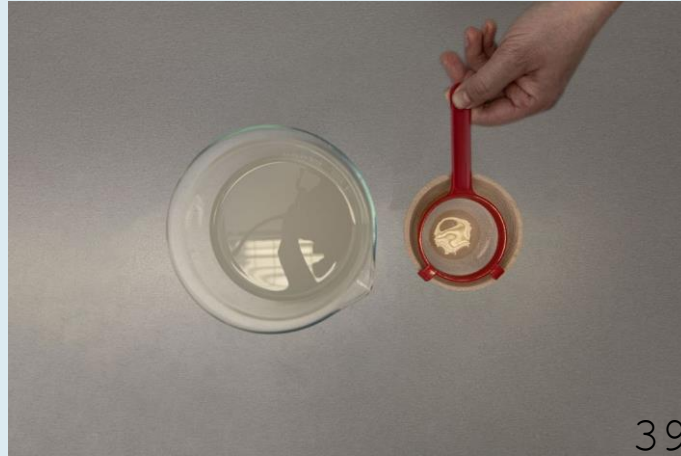
36 Blend until  
fully dissolved.



37 Coating  
solution 2.



## Coating the shampoo balls



38 Add 3  
tablespoons of  
Coating Solution  
1 to a small  
wooden bowl.

39-41 Wet the sieve with  
Coating Solution  
1, then add the  
shampoo balls.



42

Prepare a larger bowl with Coating Solution 2.

43-44

Swirl the shampoo balls in the sieve to achieve a glossy finish, then transfer them to the bowl with Coating Solution 2. Let them sit for at least 10 seconds.



45 Use another sieve to pick up the coated shampoo balls.



46 Place the shampoo balls in a container to dry for a few minutes.



47 As a final step, use an oven at 45°C with ventilation mode for 15 minutes.

*Optional:*

*Repeat steps 33-40 multiple times for a thicker coating.*

# Zero-Waste Packaging Options



48



49



50

48

Refillable  
container – for  
home use.

49

Shelf storage  
without packaging  
– a minimal-waste  
option.

50

Paper box –  
ideal for  
travel.



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Gender dimension  
was considered in  
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document. The  
colors and fonts  
used are dyslexia-  
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## MACHINE



Contact:  
Uroš Novak  
[uros.novak@ki.si](mailto:uros.novak@ki.si)