



2.1 Decapsulating Brineshrimp Cysts

Equipment:

- Brineshrimp cysts
- Synthetic sea salt
- Sodium Hydroxide solution
- Sodium Thiosulphate
- Bleach
- 1 x 2000ml beaker
- Weighing balance

Decapsulation Method:

1. Remove brineshrimp package from fridge in B03. Take the cysts downstairs to SB06. Collect all the equipment and chemicals needed from under the sink and weighing balance from corridor storage.
2. Then using the weighing balance, measure out 180g of brineshrimp cysts and place into an empty 2000ml beaker.
3. Cysts must then be hydrated using RO water. Fill each beaker to 2000ml marker and stir gently for 20 seconds. Stir every 10 minutes for 60 minutes.
4. In the last 15 mins of hydration make up salt water (35 g/L salinity = 140 g in 4 L of RO water)
5. Make up NaOH (40%) - 40g in 100mls
6. Make up 6% bleach solution (for 1 beaker – you will need 940 mL of 6% bleach). To work out how much bleach:

$(\text{final concentration}/\text{actual concentration}) \times \text{final volume} = \text{mL of bleach}$

ie $6/10 \times 940 = 564$ mL of bleach and then top up with 376 mL of RO water.

7. Collect the empty flasks from room B.
8. Strain beaker through the small green strainer until completely drained. Place the hydrated cysts back into 2000 ml beaker.
9. Add saltwater (35g/lit) up to 1000ml.

10. Place large sieve into sink making sure that the water is running at a constant speed to allow cysts to be rinse properly.
11. Then add 60ml NaOH (40%) solution and stir well.
12. Add 940 mL bleach (6% sodium hypochlorite) and continuously stir, using 3ml pipette, until the cysts become a brick red/orange colour. Note – wear eye protection while using bleach.
13. Tip beaker of cysts into the large sieve making sure to stir continuously to rinse the cysts; ensure the tap water is running through the sieve
14. Rinse thoroughly using cold tap water until the bleach smell has been eliminated. Remove the sieve with cysts from sink
15. Fill the sink 1/3 of the way full with warm water then add sodium thiosulfate ($\text{Na}_2\text{S}_2\text{O}_3$) – 1 capful per 0.5 sink. Mix well to make sure it dissolves. Place the large sieve full of cysts into this solution making sure that the cysts are covered by the solution. Agitate slowly for 10 seconds. This is an instant reaction, which neutralises the bleach.
16. Thoroughly rinse again using RO water to remove the sodium thiosulfate and leave to drain for approximately 5 – 10 minutes. Remove the excess water as much as you can; this can be done by tapping the side of the sieve.
17. Weigh the cysts out into 50 g and transfer the cysts into a flask using the funnel and wash the cysts into flask using 35 g/L salt water solution.
18. Once flasks are full, bring them back up to room B03 and store in the fridge. Use within 14 days.
19. Rinse all equipment and leave to drain before putting back into room SB06 sink area.