

Make a star:

1. Pour the sodium alginate slime into the small container, 10ml is enough.

2. Using a clean pipette, add 2-3 drops of the red coloring to the slime. Then add a small spoonful of glow powder.



3. Stir well with the stirring rod.



4. Put the star frame in the large container.



5. Carefully fill the star frame using the red slime from the last experiment.



6. Pour the calcium chloride bath into the container until the star is below the liquid level.



7. Leave it for around 2 minutes before carefully remove the frame using the stirring rod and the tweezers.



8. Now you have a red star. Carefully pick it up and put it on the tray top.



9. The calcium chloride bath can be reused, pour it back into the bath container.

10. Repeat using the heart shape frame, you may also change the color to green.

11. When done, put the star and heart under a desk lamp for several minutes. Switch the light off and see it glow in the dark!



Fun Slime Making Set

Item no. 28805

Experiment Guide

WARNING! ONLY FOR USE BY CHILDREN OVER 10 YEARS OLD. TO BE USED SOLELY UNDER THE STRICT SUPERVISION OF ADULTS THAT HAVE STUDIED THE PRECAUTIONS GIVEN IN THE EXPERIMENTAL SET.

CAUTION! CONTAINS SOME CHEMICALS WHICH ARE CLASSIFIED AS A SAFETY HAZARD. READ THE INSTRUCTIONS BEFORE USE, FOLLOW THEM AND KEEP THEM READY FOR REFERENCE. DO NOT ALLOW CHEMICALS TO COME INTO CONTACT WITH ANY PART OF THE BODY, PARTICULARLY THE MOUTH AND EYES. KEEP SMALL CHILDREN AND ANIMALS AWAY FROM EXPERIMENT. STORE THE CHEMISTRY SET OUT OF REACH OF SMALL CHILDREN. EYE PROTECTION FOR SUPERVISING ADULTS IS NOT INCLUDED.

Advice for supervising adults

1. Read and follow these instructions, the safety rules and the first aid information and keep them for reference.
2. The incorrect use of chemical can cause injury and damage to health. Only carry out these experiments which are listed in instructions.
3. This chemistry set is for use only by children over 10 years.
4. Because children's abilities vary so much, even within age groups, supervising adults should exercise discretion as to which experiments are suitable and safe for them. The instructions should enable supervisors to assess any experiment to establish its suitability for a particular child.
5. The supervising adult should discuss the warnings and safety information with the child or children before commencing the experiments. Particular attention should be paid to the safe handling of acid, alkalies and flammable liquids.
6. The area surrounding the experiment should be kept clear of any obstruction and away from the storage of food. It should be well lit and ventilated and close to a water supply, a solid table with a heat-resistant top should be provided.

First Aid Information

Most important: In case of injury, get medical assistance immediately.

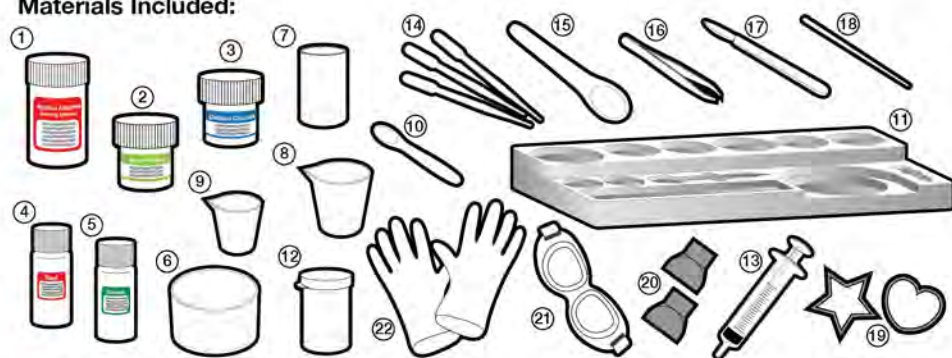
1. In case of contact between chemicals and eye: Flush the eye generously with water, while holding the eye open if necessary. Get immediate medical assistance.
2. In case of swallowing chemicals or solutions: Flush the mouth clean with water; drink fresh water. Do not induce vomiting. Seek medical assistance immediately.
3. In case of skin contact and burns: Wash affected area with plenty of water for 5 minutes.
4. In case of inhalation: Remove person to fresh air.
5. In case of doubt seek medical advice without delay. Bring the chemicals and the container to the doctor, or describe them to the doctor.

Write in the box the telephone number of your nearest Poison Control Center that can be reached in an emergency:

Safety Rules

- Do read these instructions before use, follow them and keep them for reference.
- Do keep young children, animals and those not wearing eye protection away from the experiment area.
- Do always wear eye protection.
- Do store experimental sets out of reach of young children.
- Do clean all equipment after use.
- Do make sure that all containers are fully closed and properly stored after use.
- Do wash hands after carrying out experiments.
- Do not use equipment which has not been supplied with the set.
- Do not eat, drink or smoke in the experiment area.
- Do not allow chemicals to come into contact with the eyes or mouth.
- Do not replace foodstuffs in the original container.
- Dispose of immediately.

Materials Included:



- | | | |
|------------------------------|-------------------|------------------------|
| 1. 1 Sodium Alginate powder | 8. 1 Large beaker | 15. 1 Large Spoon |
| 2. 1 Glow powder | 9. 1 Small beaker | 16. 1 Pair of Tweezers |
| 3. 1 Calcium chloride powder | 10. 1 Small Spoon | 17. 1 Scalpel |
| 4. 1 Red food colour | 11. 1 Tray | 18. 1 Stirring rod |
| 5. 1 Green food colour | 12. 1 Bottle | 19. 2 Shape molds |
| 6. 1 Large container | 13. 1 Syringe | 20. 2 Nozzles |
| 7. 1 Small container | 14. 3 Pipettes | 21. 1 Pair of Goggles |
| | | 22. 2 Gloves |

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Glowing Worm:

1. Pour the sodium alginate slime into the small container (7), up to 1/4th of the container should be enough. Add 2 drops of green food coloring.



2. Add a small spoonful of glow powder (2).



3. Stir well with the stirring rod.



4. Draw the green slime into the syringe (13) to almost full.



5. Attach the nozzle (20) with small holes to the syringe.



6. Prepare about 30ml of the calcium chloride bath (refer to section 2b). Eject the slime slowly and continuously into it.



7. Put the slime worms under the light for several minutes.



8. When the light is turned off, the worms will glow in the dark with green light! Save the worms in the bottle using the large spoon.



9. Try again using the other nozzle with flat openings to make some glowing tape worms! Wash and clean all the tools after finish.

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5. Use the cut pipette to draw some green slime solution.



6. While holding the pipette above the calcium chloride bath, squeeze the slime drop by drop into it. Do not let the tip of the pipette touch the bath. Drop at different position so that the slime balls will not clump together.



7. Wait a few seconds before using the large spoon to collect one or two slime eggs. Feel and squeeze it with your fingers (with gloves on). Wait half a minute more and repeat your test. Can you feel the difference in texture? Why? (*)



8. Save the slime eggs in the bottle (12).

* **Answer :** The reaction between the sodium alginate slime and calcium chloride bath formed a polymer skin of Calcium Alginate around the sodium alginate droplet. This skin grows thicker in time until all the liquid inside turned into polymer.

Slime Tadpoles:

1. Using a clean pipette, add 2-3 drops of red food coloring into the green sodium alginate slime left from the last experiment.



2. Use the stirring rod to mix the color into grey.



3. Use the pipette with cut tip in the last activity (clean it with water first) to draw some grey slime.



4. Squeeze the slime into the calcium bath to make the tadpole head and tail.

5. The containers and tools get dirty after this experiment. Make sure you wash and clean them all.



Ingredients Detail:

Sodium Alginate:

Name	ID	% by weight
Sodium Alginate $\text{NaC}_6\text{H}_7\text{O}_6$	CAS: 9005-38-3 EINECS: 232-680-1	>99

Glow Powder (Zinc Sulfide, Copper Chloride-doped):

Name	ID	% by weight
Zinc Sulfide ZnS , Copper Chloride-Doped	CAS: 68611-70-1 EINECS: 271-904-2	>99

Calcium Chloride:

Name	ID	% by weight
Calcium Chloride CaCl_2	CAS: 10043-52-4 EINECS: 233-140-8	>99

The following chemicals are classified as Hazardous Materials. Please observe the following statements (Risk and Safety advice).

CALCIUM CHLORIDE CaCl_2 (CAS: 10043-52-4 EINECS: 233-140-8) : Xi (IRRITANT)

WARNING: R36: Irritating to eyes. S22 Do not breathe dust. S24 Avoid contact with skin.



WARNING

Introduction:

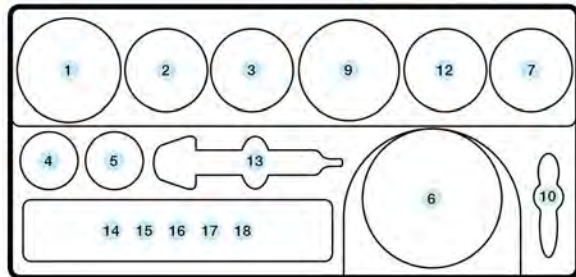
Slime is a unique play material composed of a cross-linked polymer. It is classified as a liquid and is typically made by combining polyvinyl alcohol solutions with borate ions in a large mixing container. It often has a green color, and is cold and slimy to touch. In this kit we make slime with another type of polymer commonly used in the food industry, called "Sodium Alginate". It is a naturally occurring polymer extracted from the brown seaweed called kelp.

Polymers and Monomers

A polymer is a very large molecule made up of many smaller molecules all connected together to form a very long chain. The word "poly" in "polymer" means "many" and "mer" means "unit". These smaller molecules which make up a polymer are called monomers. The word "mono" in "monomer" means "one". Polymers are special because they display properties of both a solid and a liquid. A polymer can take the shape of its containers like a liquid does, yet it can be held in our hands and picked up like a solid. Polymer molecules chain themselves together (they can stretch and bend like chains) and that makes them special. Plastic bottles, bicycle tires, rubber bands, sneaker soles, even protein are all forms of polymers.

Preparation:

1. For safety reasons, it is important to keep your working area clean and tidy. The kitchen sink is a good place to do your experiments because you can clean the tools and dispose of the waste easily. Set up the work bench by putting the chemicals and apparatus in the proper position in the provided tray, as shown below:



2. Working Solutions:

a. **Sodium Alginate:** Open the sodium alginate powder packet (1) and put 2g (about one-third package) of it into its bottle (1). Measure 100ml of warm water in the large beaker (8) and pour all the water into the bottle. Stir well or close the cap tightly and shake well until all powder is dissolved. Seal the powder packet with tape and keep it for reserve. Keep the bottle cap closed. This is your sodium alginate slime solution.



b. **Calcium Chloride:** Use the large spoon (clean and dry it first) to crush the calcium chloride granules into fine powder. Add 5 small spoonsful (10) of this powder to the small beaker (9). Pour 30ml of water into this beaker and stir well until all calcium chloride is dissolved. Pour the solution into the large container (6). This is your calcium chloride bath.



Fake Cavier:

What happen if we drip some sodium alginate slime into the calcium chloride bath? Let's find out.

1. Pour the sodium alginate slime into the small container (7), up to 1/4th of the container should be enough.



3. Stir well with the stirring rod.



2. Using a clean pipette, add 3-4 drops of the green coloring to the slime. Add more if you prefer deeper green look.



4. Ask an adult to help you cut another pipette near the thicker part with a pair of scissors. This will make the drops bigger.

