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 **THAMES & KOSMOS**

**WARNING** — THIS  
SET CONTAINS CHEMICALS  
THAT MAY BE HARMFUL IF  
MISUSED. READ CAUTIONS  
ON INDIVIDUAL CONTAINERS  
CAREFULLY. NOT TO BE  
USED BY CHILDREN EXCEPT  
UNDER ADULT SUPERVISION.

**WARNING.** Not  
suitable for  
children under 3  
years. Choking  
hazard — small  
parts may be  
swallowed or inhaled. Keep  
the packaging and instructions  
as they contain important  
information.



# Ooze Labs

## Fast-forming Hot Ice Crystals



Ooze Labs: Hot Ice Crystals  
No. 575002 KIN 1617488  
Made in Taiwan

575002-02-161220

## 1. SETTING UP THE OOZE TUBE

### CONTENTS

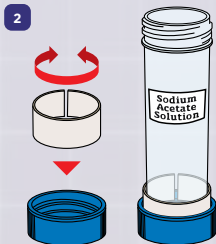
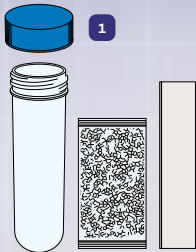
Test tube, lid, packet of crystal salt (sodium acetate, 30 g, 1.06 oz., EG-No. 204-823-8, No. 775017), cardboard strip

### YOU WILL ALSO NEED

*Permanent marker, water, clean glass jar with lid, pot, stove, hot pad, scissors, paper label, pencil, tape, stirring tool*

### HERE'S HOW

1. Remove the contents from the tube.
2. Use the cardboard strip to make a test tube holder by rolling it into a circular tube and fitting it into the cap. Place the test tube into the holder. Label the test tube with "sodium acetate solution," using a piece of paper, a pencil, and a strip of tape.

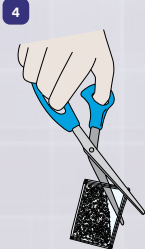


## 2. PREPARATION

3. Fill the test tube with 4 ml of water. To measure this, use the test tube guide printed here to make a mark on the test tube. Fill the test tube up to the line with water. (You can also just eyeball it.)



4. Open the packet of crystal salt using a pair of scissors. Do not use your teeth. Be careful not to get any of the powder in your eyes or mouth.



TEST TUBE FILLING GUIDE

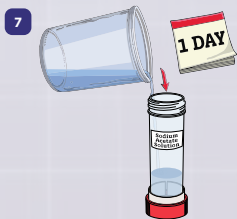
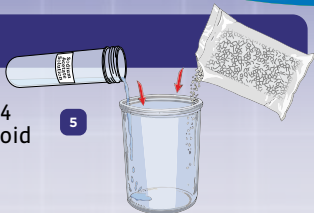
4 ml =

1 cm



### 3. MAKE THE SOLUTION

5. Slowly pour the crystal salt and 4 ml of water into the glass jar. Avoid creating dust. Save a few of the crystals in the bag.
6. Fill the pot with a few centimeters of water and place the pot on the stove. Set the jar with the crystal salt in the pot. Set the pot on the stove on medium heat. Stir with a stirring tool until the crystals are completely dissolved. Be careful not to burn yourself!
7. Let the solution cool a little. Slowly pour it into the labeled test tube and put on the lid. Do not screw the lid on tightly. Let the solution cool undisturbed overnight.

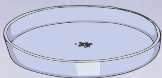


## 4. GROW THE CRYSTALS

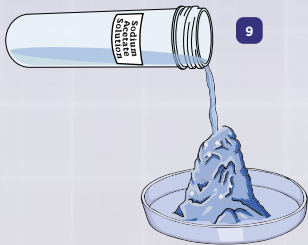
The next day, look at the cooled crystal salt solution. If there is enough water in the solution and the solution has not been disturbed, you will see nothing but a transparent liquid with no crystals in it.

8. Sprinkle the crystals you saved in the bag onto the lid of the jar.
9. Slowly pour the solution from the test tube over the crystals on the lid. What happens? When the solution crystallizes, feel the solidified crystals. What do you notice?

8



9



**TIP!** If the solution crystallized during the night follow steps 5 and 6 to reheat the solution to melt the crystals. If you see thin crystals forming on the sides or bottom of the test tube, or a thin layer of crystal on the surface of the liquid just add a few drops of water and reheat the solution. Just don't let the solution become contaminated.

## WHAT'S HAPPENING?

**Sodium acetate** has a vinegary odor because it is the sodium salt of acetic acid, which is the main component of vinegar. It is nontoxic and is used as a food preservative. Like table salt (sodium chloride), it dissolves in water.

Only a small amount of water is added because the sodium acetate crystals store water. At 58 °C, they release their **water of crystallization** and melt, yielding a clear solution. As you heat the water up, you are able to dissolve more of the sodium acetate in the water than you could if the solution were cold. When you let the solution cool, there is more sodium acetate in the solution than it can normally hold; the solution is now **supersaturated**.

Now the solution only needs a little bit of energy in order to start forming crystals because it is in a metastable state. So, if the solution comes in contact with a nuclei crystal, the sodium acetate will rapidly crystallize out of solution. This is what happened when you poured the solution onto the seed crystals.

When you touched the crystal, you probably felt that it was warm. This is because the process of forming the sodium acetate crystals is an **exothermic reaction**, meaning that it releases heat. This is why sodium acetate is also used in some liquid hand warmers!



## SAFETY INFORMATION

### **Warning.**

Not suitable for children under 6 years. For use under adult supervision. Contains some chemicals which present a hazard to health. Read the instructions before use, follow them and keep them 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 experiments. Keep the experimental set out of reach of children under 6 years old.

### **Warning.**

Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled. Keep the packaging and instructions as they contain important information.

### **Poison Control Centers (United States)**

In case of emergency, your nearest poison control center can be reached everywhere in the United States by dialing the number:

**1-800-222-1222**

### **Information for Supervising Adults**

Dear Parents,  
With this set you and your child will be entering the fascinating world of growing crystals. Please assist their children with advice and assistance in their new hobby.

- a) Read and follow these instructions, the safety rules and the first aid information, and keep them for reference.
- b) The incorrect use of chemicals can cause injury and damage to health. Only carry out those experiments which are listed in the instructions.
- c) This experimental set is for use only by children over 6 years.
- d) 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.

e) 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 crystal salt and its solution, and the use of hot water and the kitchen stove.

f) The area surrounding the experiment should be kept clear of any obstructions 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.

g) Substances in non-reclosable packaging (magic water packets) should be used up (completely) during the course of one experiment, i.e. after opening the package.

It is best to have some paper towels on hand during the experiments, in case anything gets spilled. We wish you and your child a lot of fun with the hot ice crystals!

### **First Aid Information**

Advice in case any accidents should happen during experimentation.

- In case of eye contact: Wash out eye with plenty of water, holding eye open if necessary. Seek immediate medical advice.
- If swallowed: Wash out mouth with water, drink some fresh water. Do not induce vomiting. Seek immediate medical advice.
- In case of inhalation: Remove person to fresh air.
- In case of skin contact and burns: Wash affected area with plenty of water for at least 10 minutes.
- In case of doubt, seek medical advice without delay. Take the chemical and its container with you.
- In case of injury always seek medical advice.
- In case of cuts: Do not touch or rinse with water. Dress the wound with a germ-free, dry first-aid bandage. Foreign objects such as glass splinters should only be removed from the wound by a doctor.

## SAFETY INFORMATION

### Notes on handling the crystal salt (sodium acetate)

Please note the following hazard and precautionary statements for the chemical contained in this kit:

**SODIUM ACETATE:** Avoid breathing dust. Do not get in eyes or on skin. Do not ingest.

Store locked up. Keep out of reach of children and animals.

**IF SWALLOWED:** Get immediate medical advice/attention and have product container or label of chemical substance at hand.

Any crystal salt that inadvertently gets onto skin should be rinsed off immediately under running water. Be careful not to inhale dust and powder while experimenting.

### Storage and disposal of included substances

Store the crystals/solutions out of reach of small children; e.g., in the closed test tube. The crystals melt and liquefy when they get warm up (e.g., in direct sunlight or from household heaters). Dispose of liquid waste down the drain (rinse it down with water), and put solid waste in the household garbage.

### Safety Rules

1. Read these instructions before use, follow them and keep them for reference.
  2. Keep young children and animals away from the experimental area.
  3. Store this experimental set and the final crystal(s) out of reach of children under 6 years of age. The same applies to any additionally required materials.
  4. Clean all equipment after use.
  5. Ensure that all empty containers and/or non-reclosable packaging (crystal salt packets) are disposed of properly.
  6. Wash hands after carrying out experiments.
  7. Do not use any equipment which has not been supplied with the set or recommended in the instructions for use.
  8. Do not eat or drink in the experimental area.
  9. Do not allow chemicals to come into contact with the eyes or mouth.
  10. Do not apply any substances or solutions to the body.
  11. Do not grow crystals where food or drink is handled or in bedrooms.
  12. Take care while handling hot water and hot solutions. Be particularly careful with hot burners, and don't forget to turn them off after use!
  13. Ensure that during growing of the crystal the container with the liquid is out of reach of children under 6 years of age. All filled containers should have a label indicating what they contain.
- Also note the information on the crystal salt packet, along with the information about handling the crystal salt (sodium acetate) and the safety information accompanying the individual experiments.

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