**Investigating Polymers Activity**

**Aim:**

To observe how two polymers react when water is added to them.

**Background Info:**

Both polymers you will use are composed of sodium polyacrylate. However, they are cross-linked differently and this will affect how they react to water being added. Both polymers are safe for you to touch and hold.

**Materials:**

|  |  |  |
| --- | --- | --- |
| 1 spoonful (2g) of sodium polyacrylate | 1 spoonful (2g) of Instant Snow Polymer | 40 ml distilled or deionized water  |
| 2 Clear plastic cups | Spoon or electronic scale | Graduated cylinder |

**Method:**

\_\_\_ 1) Gather all of your materials.

\_\_\_ 2) Measure out 1 spoonful of sodium polyacrylate and place it in one of

 the cups.

\_\_\_ 3) Measure out 1 spoonful of Instant Snow Polymer and place it in the

 other cup.

\_\_\_ 4) Measure out 20 ml of water and add it to the cup with sodium

 polyacrylate. Observe what happens and record your observations in

 the results table on the back.

\_\_\_ 5) Measure out 20 ml of water and add it to the cup with Instant Snow

 Polymer. Observe what happens and record your observations in the

 table.

\_\_\_ 6) Compare the two cups and note differences and any guesses for why.

\_\_\_ 7) Clean up your experiment.

**Results:**

|  |  |
| --- | --- |
| **Observations for Sodium Polyacrylate** | **Observations for Instant Snow Polymer** |
|  |  |

**EVAPORATION LAB**

**Aim/Purpose:**

Your group will investigate a variable (something you change) to see how it affects the evaporation rate of the water in the Instant Snow polymer.

**Steps:**

\_\_\_ 1) Come up with at least 3 variables you think may be important in

 changing the rate of evaporation of water from the Instant Snow

 polymer. Show this list to your teacher.

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|  |

\_\_\_ 2) Choose only ONE of these to be your variable.

\_\_\_ 3) Write an ***aim statement***. This will be in the format a cause/effect

 statement. For example, ***“To see the effect of (your variable) on the***

 ***rate of water evaporation”***

|  |
| --- |
|  |

\_\_\_ 4) Write your ***hypothesis***. State as an If, Then, Because statement:

***“If the \_\_\_\_ is changed then the water will evaporate \_\_\_\_. This is because \_\_\_\_\_\_\_”***

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| --- |
|  |

\_\_\_ 5) Gather the following materials:

|  |  |  |  |
| --- | --- | --- | --- |
| 3 Paper plates | Spoon | Graduated Cylinder | Ruler |

\_\_\_ 6) Add one scoop of Instant Snow powder to each of the 3 petri dishes.

 Spread the powder out evenly.

\_\_\_ 7) Measure out 50ml of water and pour it into one of the petri dishes.

\_\_\_ 8) Repeat step 7 for the other two petri dishes.

\_\_\_ 9) Measure the height of the Instant Snow for each of the petri dishes.

 Record this in your table for Day 0.

\_\_\_ 10) If you have a scale, measure the mass for each of the dishes and record

 in your results table.

\_\_\_ 11) Put your petri dishes in their places. Each day you will measure and

 record the height and mass of the Instant Snow.

**Results:**

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Dish 1** | **Dish 2** | **Dish 3** |
| **Day** | Height (cm) | Mass (g) | Height (cm) | Mass (g) | Height (cm) | Mass (g) |
| 0 |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |
| 2 |  |  |  |  |  |  |
| 3 |  |  |  |  |  |  |
| 4 |  |  |  |  |  |  |

**Analysis:**

\_\_\_ 1) Create a ***bar graph*** to display your data. Your height or mass will go on

 the y-axis. Your x-axis will have you petri dishes.

\_\_\_ 2) Look at your results table and graph. Write a ***conclusion*** that answers

 your aim. State why you think this happened?