

Hydrophilic Polymer

What Do I Need?

- 15g sodium polyacrylate or 1 diaper
- 3 yogurt cups
- water
- stick
- 2 clear tall cups
- ½ C measuring cup



What Do I Do?

1. To prepare for this trick, cut the lining of an unused diaper. Remove the cotton-like substance from inside the lining – this is the sodium polyacrylate. Without anyone’s knowledge, place the sodium polyacrylate (SPA) into only one of the yogurt cups.
2. You will need a brave volunteer for this trick.
3. Place the three yogurt cups on the table. Show your volunteer that you are adding ¼ cup water to one of the containers (the one containing the SPA). Do not let them see that there is already a substance in the container.
4. Shuffle the cups around on the table to mix them up and ask your volunteer to choose the one that they would like poured over their head.
5. Turn the cup upside down over their head. Nothing comes out. Place the cup upside down on the table.
6. Ask them to choose the next cup. Repeat until all cups have been chosen and turned upside down.
7. Show your volunteer the cup with the SPA and explain your trick.

Now Try This!

Compare the absorbency of sodium polyacrylate to cotton by adding ½ C water to a container holding cotton balls and ½ C water to a container holding SPA. Which would you rather have poured over your head? How much water can you add to the sodium polyacrylate?

What’s Going On?

Sodium polyacrylate is used in diapers for absorbency. It is a hydrophilic, or water loving, polymer and can hold up 500 times its weight in water. Remember that polymers are long chains of molecules linked together. The sodium polyacrylate forms chains around the water molecules and holds onto them like a net creating a hydrogel.

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