

Ruben Woody
Chemistry
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Experiment 5.2

Research Question:

What is the difference in solubility of ionic compounds in polar covalent and nonpolar covalent compounds?

Introduction:

We are going to find out what happens when we put salt in water. And we will also find out what happens when putting salt in oil.

We are comparing the solubility of ionic compounds in polar covalent and non-polar.

Procedure:

PROCEDURE:

Put enough salt into each test tube to cover the bottom of each. Put in enough so that it is easy to see that the salt is there, but do not put in too much.

Fill one of the tubes $\frac{3}{4}$ of the way with water and the other $\frac{3}{4}$ of the way with vegetable oil.

Cover the tubes with your thumbs and shake them vigorously for several minutes.

Allow them to stand for about a minute.

Hold the test tubes up to a light and look through them. In the one that you filled with water, the salt should have dissolved into the water. What about the one with vegetable oil, however? If you look closely, you should still see all of the salt either lying at the bottom of the tube or suspended in the oil. None of it dissolved.

Clean up and return everything to the proper place.

Results:

I saw that the one with the oil kept it separate and didn't fuse. It stayed on the sides of the tube.

The tube with the salt, over a minute or two, quickly dissolved.

Conclusion:

Polar covalent compounds can dissolve other polar covalent compounds and ionic compounds because both types of compounds contain electrical charges.

Nonpolar covalent compounds, on the other hand, can dissolve only other nonpolar covalent compounds because no electrical charges are present. That's what we discovered.



