

Lab 5.2 Write-up

Research Question:

What behavior do ionic and covalent compounds exhibit when they are combined as a mixture?

Introduction:

Salt is ionic and water is polar covalent (has a slight charge). The charges of these two molecules interact so that they pull on each other. On the other hand, oil is purely covalent. It has no charges. There is no attractive force between the salt and oil molecules.

Procedure:

Same as in the book

Observation:

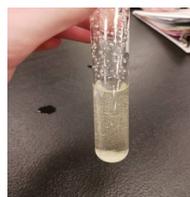
When the water and salt were mixed together, the salt dissolved. There was nothing left of the salt, the water was just foggier than it was before. When the oil and salt were mixed together, the salt did not dissolve at all. You could see all the salt that was inside the oil, and some of the salt stuck on the sides of the tube.



Water



+ Salt



Water + Salt by Oil + Salt

Oil + Salt

Conclusion:

In this experiment we saw salt dissolve in water, but the salt did not dissolve in oil. We know that salt is ionic, so it carries a charge. We also know that water is polar covalent, so it also carries a charge. The charges of the water and the salt pull on each other so that the salt starts to dissolve. The oil is purely covalent (or nonpolar covalent), so it has no charge. Therefore, because the oil has no charges, there is

nothing pulling on the salt. Because the charges don't interact, the salt does not dissolve. Like only dissolves like.

Vocabulary:

An ionic compound is a chemical compound composed of ions held together by electrostatic forces. A covalent compound is a molecule formed by covalent bonds, in which the atoms share one or more pairs of valence electrons. A polar covalent compound is a chemical substance that is bound together by polar covalent bonds (Note for me: polar covalent bonds are formed between two nonmetals that have different electronegativities). A nonpolar (or purely) covalent compound is a type of molecular compound that are formed through the sharing of electrons between atoms. A mixture is a substance that contains different compounds and/or elements. Immiscible is the property where two substances are not capable of combining to form a homogeneous mixture. And lastly, suspension is a heterogeneous mixture.