

Tabitha Crane

Chemistry

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### Lab 5.2

Research Question: What behavior do ionic and covalent compound exhibit when they are combined as a mixture?

Procedure: Same as in book

Observations: The water looked a little cloudier, but you could not see a difference. However, the salt was suspended in the oil.

Conclusion: In the water, the salt dissolved. Salt is ionic. Its chemical formula is NaCl, and it has a metal and nonmetal chemically bonded. Water is polar covalent. It carries a slight charge of attraction. The charges of these two molecules interact so that they pull on each other. Therefore we see the salt dissolved in the water. Nothing happened to the salt in the oil, because the oil is purely covalent. It has no charges. There is no attractive force between the salt and oil molecules. So, we see that the salt did not dissolve. This experiment demonstrates that like dissolves like. Ionic and polar covalents will dissolve. Polar and polar covalents will dissolve. Two nonpolar will dissolve. Nonpolar is incompatible with polar and ionic.

Vocabulary: Ionic compound - a chemical compound composed of ions held together by ionic bonding. Covalent compound - a molecule formed by covalent bonds, in which the atoms share one or more pairs of valence electrons. Polar covalent compound - a compound formed when a shared pair of electrons are not shared equally. Nonpolar covalent compound - a type of chemical bond that is formed when electrons are shared equally between two atoms. Mixture - a material composed of two or more simpler substances. Immiscible - the property where two substances

are not capable of combining to form a homogeneous mixture. Suspension - a homogenous mixture where the particles are visible.

