

## Lab 5.2

**Research Question-** What behavior do ionic and covalent compounds exhibit when combined as a mixture?

**Procedures-** Same as in book.

**Observation-** The water mixed with the salt started to bubble and left big bubbles at the top. The oil did bubble too, but there were no big bubbles at the top. The oil had more bubbles in the solution than water. The water dissolved the salt, while the oil didn't.

**Conclusion-** Salt is ionic; its formula is NaCl. Na is the metal sodium, and Cl is the non-metal chlorine. Water is polar covalent. Both compounds are held together by positive and negative charges, and they will be attracted to each other. Water separates the salt molecules; you see that the salt is dissolved.

Oil is a non-polar covalent. It has no charges. So, it is not attracted by charges to ionic or covalent compounds. Thus, it did not dissolve the salt.

This experiment demonstrates that "like dissolves like."

1. Polar covalent compounds and ionic compounds are compatible.
2. Polar covalent and polar covalent compounds are compatible.
3. Nonpolar and nonpolar are compatible.
4. Nonpolar is not compatible with polar or ionic.

### **Vocabulary-**

Ionic compound: A compound formed by ions.

Covalent compound: A compound formed by atoms that share electrons.

Polar covalent compound: A compound formed when atoms with different electronegativities share electrons in a covalent bond.

Non-polar covalent compound: A compound formed when electrons are shared equally between two atoms.

Immiscible: Liquids not forming a homogeneous(alike) mixture when added together.

Mixture: A substance that contains different compounds and/or elements.

Suspension: A heterogeneous mixture of a finely distributed solid in a liquid.