

Universal Solvent - Water

Universal Solvent – Water

Water is called the **universal solvent** because more substances dissolve in water than in any other substance.

This is important because as water moves, it is breaking down and carrying valuable chemicals, minerals, and nutrients.

Water is the best solvent because of its chemical composition.

Water molecules are each made of two hydrogen atoms and one oxygen

atom. This gives them a positive electrical charge on their hydrogen side and a negative electrical charge on their oxygen side. Since opposite charges attract, water molecules can attract many other different types of molecules as it has both charges.

Saltwater – Dissolving Salt in Water

Water is so heavily attracted to other substances, like salt, that it will break it down and dissolve the other substance, changing its chemical composition. When salt is added to water, the salt molecule made of one sodium and one chlorine atom are separated. This means the single atoms are floating by themselves in the water.

The positive sodium atoms from the salt attracts the negative oxygen atoms from the water and the negative chlorine atoms from the salt attract the positive hydrogen atoms in the water. The attraction is strong, creating new saltwater molecules that are bonded together, forming a homogenous solution.

Insoluble Substances

Some substances, like oil, will not dissolve in water. These insoluble substances have atoms that are very strongly attracted or bonded to each other. Therefore, the water molecules cannot separate them, so we will see both the water and oil molecules.

How Does Salt Dissolve in Water

