

illustrate the chemical bond if arsenic element is combined with sodium (Na)

Answer:

In sodium arsenide is covalent polar bond. Because, this bond complete two different atoms (As and Na) with different electronegativity (electronegativity using the Pauling scale are: $\chi(\text{Na})=0.93$ and $\chi(\text{As})=2.18$). So, the As pulls harder on the electrons, and electrons spend more time near the As. The result of this pattern of unequal electron association is a charge separation in the molecule, where one part of the molecule, the As, has a partial negative charge and the Na have a partial positive charge. You should note this molecule is not an ion because there is no excess of proton or electrons, but there is a simple charge separation in this electrically neutral molecule.

