ALKENES

Alkenes are an organic compound, a **homologous series of hydrocarbon** with double carbon-carbon bond.

Their generic formula is CnH2n
Due to their their double bond, alkenes are unsaturated and are more reactive as they react in ways that alkanes cannot. Two main types of reaction that occur in Alkenes are **hydration** and **electrophilic addition of alkenes.**

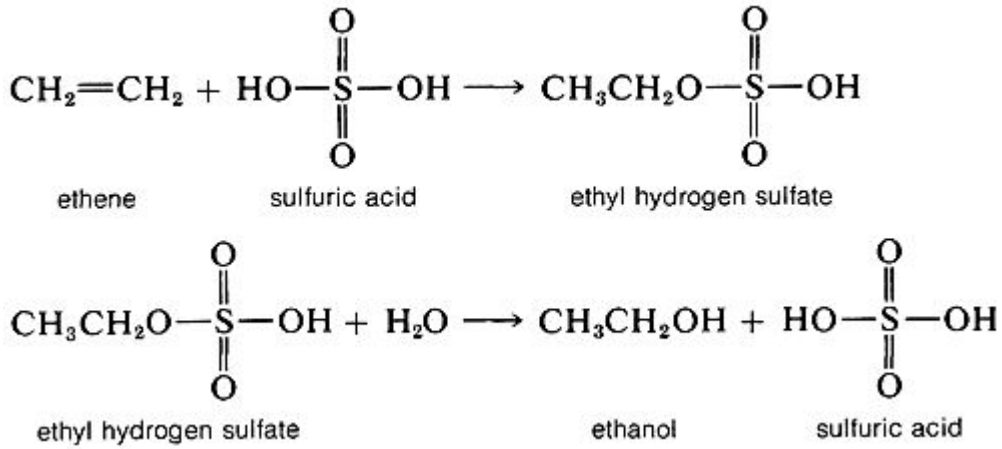
HYDRATION

A hydration reaction occurs when a substance reacts in the presence of water.
During ethanol production, the alkene is treated with sulfuric acid to produce alkyl sulfate esters.
The reaction can be written as:

H2SO4 (sulfuric acid)+ C2H4 (ethene) -----> C2H5-O-SO3H
(ethene with addition of OH)

The ester is hydrolyzed (made to react with water) in order to produce restore sulfuric acid and give off ethanol.
C2H5-O-SO3H+H2O--------> H2SO4+C2H5OH (ethanol)

The ethene can have five hydrogens after the double bond is broken in the reaction.



Source: http://www.organicchemistry.com/hydration-reactions/