Reaction of a 1° Alcohol with Hydrogen Halides

Mechanism

Sometimes the reagent is shown as HBr, etc. Works well with NaCl / H₂SO₄ and NaBr / H₂SO₄. There's always the alkene by an E2 mechanism.

Ether formation is also a side product of the reaction as shown below. To avoid this side product the use of excess reagent guarantees a higher yield of the 1° alkyl halide. Remember protonated alcohols are very poor nucleophiles.