Alkyl Halides from $1^\circ$ and $2^\circ$ Alcohols

Mechanism

**Alcohols and Thionyl Chloride**

Mechanism

**Alcohols and Triphenyl Phosphine Dibromide**
An alternative method of preparing alkyl bromides from alcohols.

If the reagent alcohol is a 2° alcohol there will be inversion of configuration. Tertiary alcohols cannot be converted to alkyl halides by this method.

Care should be taken with 2° alcohols which can produce rearrangement products. To prevent rearrangements the use of sulfonate ester derivatives and a halide ion in a polar aprotic solvent, as an $S_N2$ reaction, is the best choice.