The Oxidation of Secondary Alcohols

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Oxidation of secondary alcohols produces ketones. Chromic acid H₂CrO₄ is often used as the oxidizing reagent and it is formed *in situ* by the addition of acid to solutions of chromate CrO_4^{2-} or dichromate $Cr_2O_7^{2-}$ salts. For example, 2-propanol CH₃CH(OH)CH₃ is oxidized to acetone, CH₃COCH₃, by potassium dichromate K₂Cr₂O₇ and sulfuric acid H₂SO₄ (Scheme 1). The structures of 2-propanol (left) and of its oxidation product 2-propanone (right) are shown in Figure 1. This reaction is a laboratory method for the synthesis of acetone and other processes are used for the industrial production of acetone.



Scheme 1. Oxidation of 2-propanol.



Figure 1. Molecular models of 2-propanol and acetone.