

# Preparation of Chromium (III) Potassium Sulfate Dodecahydrate

? Q1/ Give the properties of chromium Alum

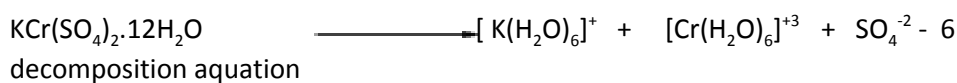
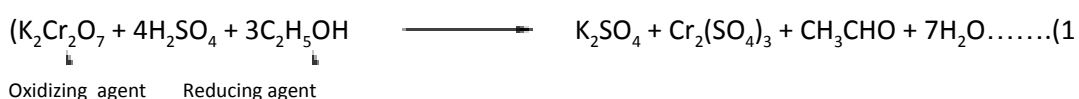
Sol/ 1-The formula is  $\text{KCr}(\text{SO}_4)_2 \cdot 12\text{H}_2\text{O}$

Its aqueous solution is dark green and turns violet when heated to 50C -2

Soluble in water -3

.Solid Crystalline regular Octahedral with flattened corners -4

The basic idea of preparation chromium alum is oxidation & Reduction according to this -5  
-:aquation



?Q2/ Compare between Potassium Alum & Chromium Alum

Q3/ Give the reason why we use ethanol or which stap in this preparation change the color  
?and why

Sol/ Ethanol is reducing agent , the color change from orang to green by added ethanol...that means ethanol reduce chromium  $\text{Cr}^{+6}$  by oxidation prosses to chromium  $\text{Cr}^{+3}$

While potassium dichromate as oxidation agent change ethanol to acetaldehyde by  
.reduction prosses according to aquations 1,2

?Q3/ Why water bath temperature must be 70C

.Sol/ To prevent solvent (ethanol) from evaporation

?Q4/ Draw the structure of chromium Alum