

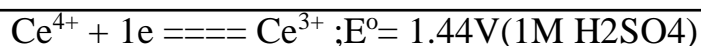


CERIOMETRY TITRATION

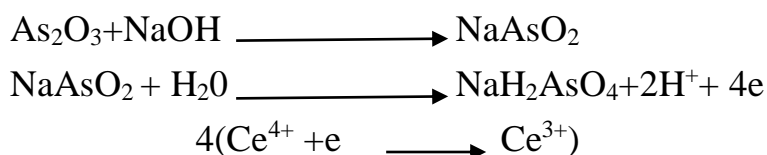
STANDARDISATION OF CERRIC AMMONIUM SULPHATE

PRINCIPLE:

Cerric ammonium sulphate is prepared by dissolving it in a mixture of sulphuric acid and water with the aid of gentle heat. Sufficient amount of sulphuric acid is added to prevent hydrolysis and precipitation of basic salts. The acidic solution of cerric ammonium sulphate is stable and can be stored for several months. Cerric ammonium sulphate is strong oxidizing agent in dil.H₂SO₄.



0.1N ceric ammonium sulphate is standardised by using arsenic trioxide as primary standard in the presence of sulphuric acid as an indicator for standardization of solution.



PROCEDURE OF STANDARDISATION:

Weighed accurately 0.2g of arsenic trioxide, previously dried at 105^oc for 1 hour, and transferred to a 500ml conical flask. Wash down the inner walls of the flask with 25ml of 8% w/v solution of sodium hydroxide, swirl to dissolve, add 100ml of water and mix. Add 30ml of dilute sulphuric acid, 0.15ml of osmic acid solution, 0.1 ml of ferroin sulphate solution and slowly titrate with the cerric ammonium sulphate solution until the pink color is changed to a very pale blue, adding the titrant slowly towards the end point.

Each ml of 0.1M CAS \cong 0.004946 g of As₂O₃

ASSAY OF FERROUS SULPHATE

PRINCIPLE:

Ferrous sulphate can be assayed by titrating with oxidizing agent ceric ammonium sulphate using ferroin solution as an indicator. Ceric ammonium sulphate oxidizes ferrous sulphate in acidic medium preferably in sulphuric acid medium to ferric sulphate

Ferroin sulphate is an indicator used in this titration which is a solution of O-phenanthroline in aqueous solution of ferrous sulphate, having red colour. After oxidizes the indicator to ferric form having blue colour will be the end point or just disappearance of red colour.

PROCEDURE:

Weigh accurately about 0.5gm of ferrous sulphate and dissolved in a mixture of 30ml of water and 20ml of 1M sulphuric acid and titrate with 0.1M ceric ammonium sulphate using ferroin solution as an indicator until the red colour disappears.

Each 1ml of 0.1M ceric ammonium sulphate is equivalent to 0.01519gm of ferrous sulphate