

Contents

1	Introduction	1
2	Preliminary Investigations of Solvents Used in the Titrimetric Determination of Sulphate	8
2.1	Introduction	9
2.2	Procedure	10
2.3	Results and Discussion	10
3.	Preliminary Investigations of Potential Interfering Ions In Titrimetric Determination of Sulphate	13
3.1	Introduction	14
3.2	Procedure	15
3.3	Results	15
3.4	Discussion	26
4.	Removal of Phosphate Inteference In the Barium Perchlorate Titration of Sulphate	28
4.1	Introduction	29
4.2	Experimental	30
4.3	Results	32
4.4	Discussion	33
5.	Conclusion	36
	References	

<u>List of Tables</u>	<u>Page</u>
Table 1: Relative Distinctness of End-point Using Different Solvent Composition	10
Table 2 : Effect of Li^+ (added as LiCl)	15
Table 3 : Effect of Na^+ (added as NaCl)	16
Table 4 : Effect of K^+ (added as KCl)	16
Table 5 : Effect of Cs^+ (added as CsCl)	17
Table 6 : Effect of NH_4^+ (added as NH_4Cl)	17
Table 7 : Effect of Mg^{2+} [added as $\text{Mg}(\text{ClO}_4)_2$]	18
Table 8 : Effect of Mn^{2+} (added as MnCl_2)	18
Table 9 : Effect of Cd^{2+} (added as CdCl_2)	19
Table 10 : Effect of Al_3^+ (added as AlCl_3)	19
Table 11 : Effect of F^- (added as NaF)	21
Table 12 : Effect of Cl^- (added as HCl)	21
Table 13 : Effect of Br^- (added as NaBr)	22
Table 14 : Effect of I^- (added as KI)	22
Table 15 : Effect of SCN^- (added as KSCN)	23
Table 16 : Effect of NO_3^- (added as HNO_3)	23
Table 17 : Effect of BrO_3^- (added as NaBrO_3)	24
Table 18 : Effect of PO_4^{3-} (added as H_3PO_4)	24
Table 19 : Effect Of pH In Titrimetric Determination Of Sulphate Using Dimethylsulphonazo III Indicator	32

Table 20: Effect Of pH In Titrimetric Determination Of Sulphate In presence Of Phosphate 33

Table 21 : Removal Of Phosphate Interference In The Determination Of Sulphate, Using Magnesium Perchlorate. 34

<u>List of Figures</u>	<u>Page</u>
Figure 1 : Percentage Error In The Titre Value Due To The Presence Of Foreign Cations	20
Figure 2 : Percentage Error In The Titre Value Due To The Presence Of Foreign Anions	25