

Vidarbha Youth Welfare Society's  
**INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH**  
Borgaon (Meghe), Wardha (M.S.)

**Assessment of practical records or journals**



  
( Dr. R. O. Ganjivale )  
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**INSTITUTE OF PHARMACEUTICAL EDUCATION AND  
RESEARCH BORGAON (M), WARDHA- 442001**

**NAME** : Mili D. Patel  
**ROLL NO.** : 22  
**CLASS** : B.Pharm 1<sup>st</sup> Year (SEM-I)  
**SUBJECT** : Pharmaceutical Inorganic Chemistry  
**BATCH** : **B**

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University Roll. No. \_\_\_\_\_  
University Enrollment No. \_\_\_\_\_

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### Certificate

This is to Certify that  
Shri/Ku. Mr. Dinesh Patel

of Bachelor of Pharmacy **Part - I (Semester -I)** class has  
completed experiments of  
Subject - **Pharmaceutical Inorganic Chemistry-I**  
in the laboratory of this Institute in the year 2023-2024

*Santosh*  
01/01/24  
Lecturer in-charge

Date : \_\_\_\_\_

*Santosh*

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INSTITUTE OF PHARMACEUTICAL EDUCATION AND RESEARCH BORGAON (MEGHE), WARDHA PRACTICAL NOTE BOOK CONTENTS					
Sr. No.	EXPERIMENT	Date of Experiment	Page	Marks obtained	Remarks
<b>LIMIT TEST</b>					
1.	To perform limit test for chloride in a given sample as per I.P. (Magnesium sulphate)	27/9/23	1-3	07	<i>[Signature]</i> 02/10/23
2.	To perform limit test for sulphate in given sample (sodium bicarbonate)	04/10/23	4-6	07	<i>[Signature]</i> 06/10/23
3.	To perform limit test for iron in given sample (sodium chloride)	06/10/23	7-10	7.5	<i>[Signature]</i> 11/10/23
4.	To perform the limit test for Heavy metal in given sample (sodium chloride).	11/10/23	11-14	7.5	<i>[Signature]</i> 13/10/23
5.	To perform the limit test for Arsenic ion in given sample (ammonium chloride)	13/10/23	15-19	08	<i>[Signature]</i> 20/10/23
<b>DEMO</b>					
<b>SYNTHESIS</b>					
6.	To perform synthesis of basic acid and submit baric acid from barox.	20/10/23	20-22	8.5	<i>[Signature]</i> 27/10/23

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**PRACTICAL NOTE BOOK**  
**CONTENTS**

Sr. No.	EXPERIMENT	Date of Experiment	Page	Marks obtained	Remarks
7	To prepare and submit Ferric sulphate from iron filings or powder	27/10/23	29-35	8.5	8/11/23
8	To prepare and submit potash alum from potassium sulphate & aluminium sulphate	24/11/23	28-36	8.5	8/12/23
	% Purity				
9	To determine swelling power (index) of Bentonite clay	01/12/23	29-31	09	8/12/23
10	To check the acid neutralising capacity of aluminium hydroxide gel.	3/12/23	32-34	8.5	8/12/23
	Identification test				
11	To perform identification test for magnesium hydroxide	6/12/23	35-36	09	8/12/23
12	To perform identification test for ferric sulphate ( $FeSO_4 \cdot 7H_2O$ )	8/12/23	37-39	8.5	8/12/23

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Sr. No.	EXPERIMENT	Date of Experiment	Page	Marks obtained	Remarks
13	TO perform identification test for sodium bicarbonate	10/12/23	40-42	8.5	P 13/12/23
14	TO perform identification test for calcium gluconate ( $C_{12}H_{22}O_{14} \cdot Ca \cdot H_2O$ )	13/12/23	43-45	08	P 15/12/23
15	TO perform identification test for copper sulphate	15/12/23	46-48	09	P 20/12/23
				123	10
				150	
				82	10
					P 20/12/23

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Date - 27/09/23

Experiment No. 1

**Aim:-** To perform limit test for chloride in a given sample as per IP (Magnesium sulphate)


**Reaction:-**

$$\text{NaCl} + \text{AgNO}_3 \xrightarrow{\text{Dil. HNO}_3} \text{AgCl} + \text{NaNO}_3$$

sodium chloride (soluble) + silver Nitrate (soluble) → silver chloride (Precipitate) + sodium Nitrate


**Diagram:-**

1 gm sample + 10ml distilled water + 10 ml of dil. nitric acid + 1 ml 0.1 M AgNO<sub>3</sub>



Test Nessler cylinder

50ml (mark) volume make up with distilled water



Standard Nessler cylinder

Volume make up to 50 ml with distilled water

← 50ml (mark) ← 10ml standard salt + 10 ml dil. nitric acid + 1 ml of 0.1 mol AgNO<sub>3</sub> solution

Limit Test for chloride

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Date:-  
27/03/23

Experiment No. 01

01

Aim :- To perform limit test for chloride in a given sample as per I.P. (Magnesium sulphate)

Reference :- 1) Indian pharmacopoeia published by Ministry of Health and Family Welfare, Government of India, vol. II, page no. 1985, A-15

2) Ministry P.B. Ilango, "Practical handbook of Pharmaceutical Inorganic Chemistry," Nizall Prakashan, page no. 1-4.

3) Baghel V.S., Kabra R., Kabra A., 'A Practical Book of Pharmaceutical Inorganic Chemistry' Peerey (Medical publisher) Page no. 201-203

Requirement :-

1) Apparatus : Measuring cylinder, Nessler's cylinder, Volumetric flask, beaker, glass rod, spatula, pipette.

2) chemicals : Sodium chloride, silver Nitrate, dilute nitric acid, sample (Magnesium sulphate)

Principle :- These test is based on reaction between chloride ion and silver nitrate in presence of dilute nitric acid. It is Argentometric titration reaction. In this reaction, chlorides are precipitated as silver chlorides. When a small quantity of chloride ion is present in solution, silver chloride shows opalescence (turbidity). While in large amount it precipitate, opalescence (turbidity) of test is compared with standard solution to limit test for chloride.

Nitric acid are used to prevent precipitation

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Experiment No. 01  
 Observation Table :-

Sr. No.	Content in Nessler cylinder	Observation	Inference
1.	Test solution 1 gm $MgSO_4$ + 10ml distilled water + 10 ml dil. $HNO_3$ acid + Make volume upto 50ml distilled water + Add 1 ml 0.1 M $AgNO_3$ solution	Test solution shows more turbidity.	Limit test fails
2.	Standard solution 10ml sodium chloride + 10ml dil. $HNO_3$ acid + Make upto 50ml with distilled water + 1 ml 0.1 M $AgNO_3$ solution.		

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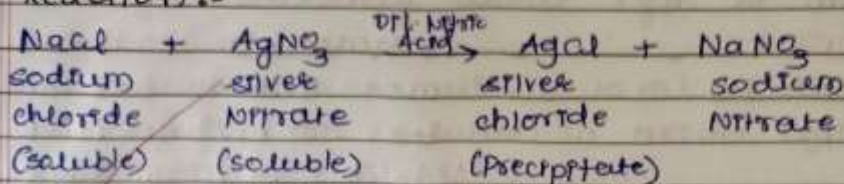


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02

of silver chloride in chloride limit test.

Reactions-



Procedures-

a) Preparation of reagents and solutions

i) chloride standard solution

Take 5 ml of 0.0324% weight by volume (w/v) solution of sodium chloride, in 100 ml volumetric flask and make up to the mark with distilled water.

ii) silver nitrate solution (0.1 M): Dissolve 1.69 gm of silver nitrate in 60 ml with distilled water in 100 ml of volumetric flask and make up to 100 ml with distilled water.

b) Preparation of standard solution

i) Take nessler cylinder and label as standard.

ii) Place 10 ml of standard sodium chloride solution in nessler cylinder.

iii) Add 10 ml dil. nitric acid in it.

iv) Make up to volume 50 ml with distilled water.

v) stir immediately with glass rod and allow to stand for 5 to 10 minutes.

vi) observe opalescence (turbidity) developed and compared with the test solution.

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*[Faint, mirrored handwritten text, likely bleed-through from the reverse side of the page]*

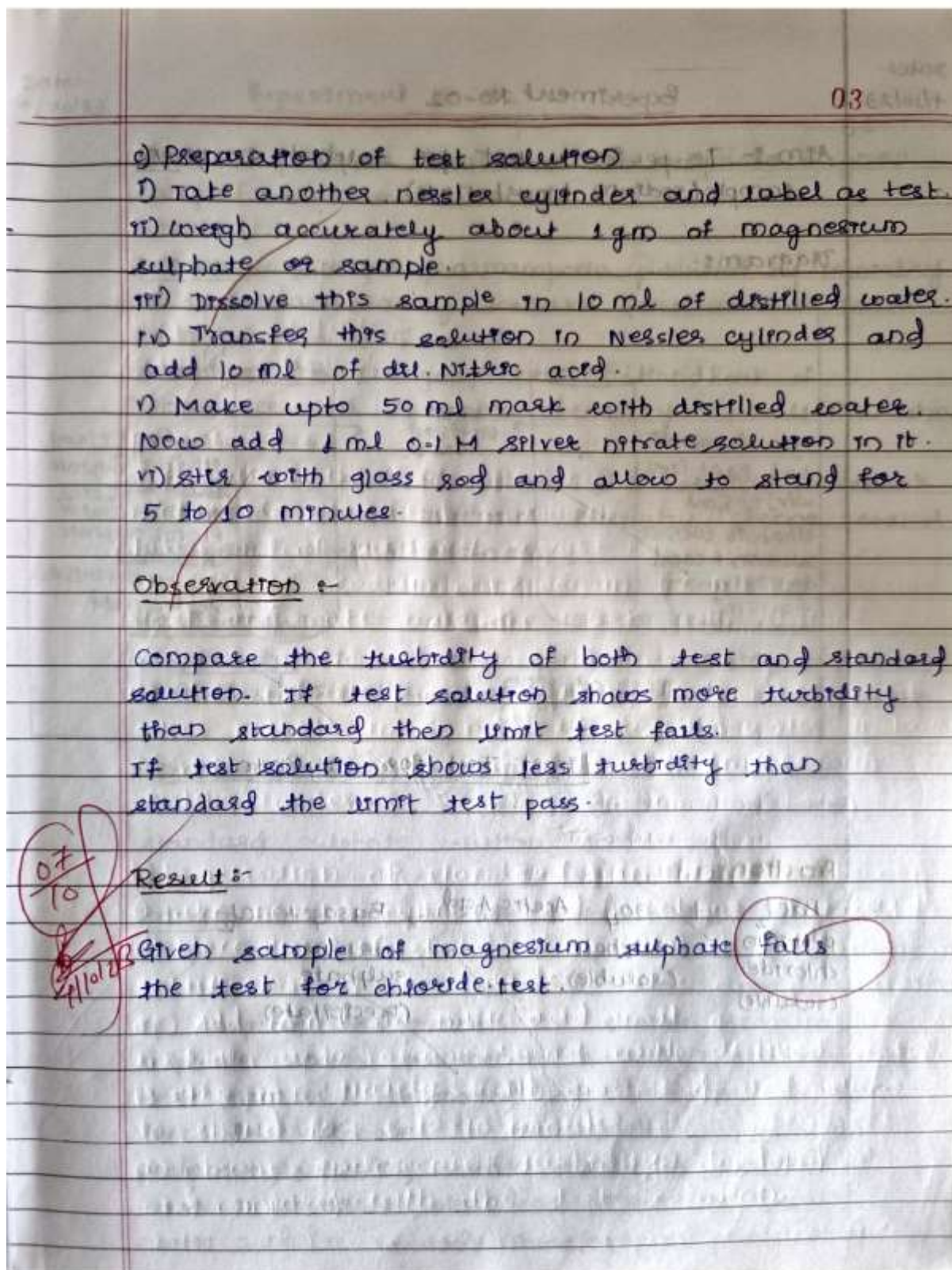
**Result:-** Given sample of magnesium sulphate fails the test for chloride test

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