East Point College of Pharmacy

East Point Campus, Jnana Prabha, Virgo
Nagar PostBengaluru – 560049, Karnataka

Approved
by
Pharmacy Council of India, New Delhi

Affiliated
to
Rajiv Gandhi University of Health Sciences
Karnataka
Bengaluru – 560041
India

LAB MANUAL

PHARMACEUTICS-I

B. PHARM 1st SEMESTER

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

B Pharmacy

Program Outcomes (PO's)

PO 1- Pharmacy Knowledge

Possess knowledge and comprehension of the core and basic knowledge associated with theprofession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioral, social, and administrative pharmacy sciences; and manufacturing practices.

PO 2- Planning Abilities

Demonstrate effective planning abilities including time management, resource management,delegation skills and organizational skills. Develop and implement plans and organize workto meet deadlines.

PO 3- Problem analysis

Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, whilesolving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions

PO 4- Modern tool usage

Learn, select, and apply appropriate methods and procedures, resources, and modernpharmacy-related computing tools with an understanding of the limitations.

PO 5- Leadership skills

Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfillment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and wellbeing.

PO 6- Professional Identity

Understand, analyse and communicate the value of their professional roles in society (e.g.health care professionals, promoters of health, educators, managers, employers, employees).

PO 7- Pharmaceutical Ethics

Honor personal values and apply ethical principles in professional and social contexts. Demonstrate behaviour that recognizes cultural and personal variability in values,communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions

PO 8- Communication

Communicate effectively with the pharmacy community and with society at large, such as,being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions

PO 9- The Pharmacist and society

Apply reasoning informed by the contextual knowledge to assess societal, health, safety andlegal issues and the consequent responsibilities relevant to the professional pharmacy practice.

PO 10- Environment and sustainability

Understand the impact of the professional pharmacy solutions in societal and environmentalcontexts, and demonstrate the knowledge of, and need for sustainable development.

PO 11- Life-long learning

Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change. Self-access and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

Programme Specific Outcomes (PSO's)	
PSO 1	Acquire a thorough foundational knowledge in pharmaceutical sciences, including pharmacology, pharmaceutics, medicinal chemistry, and pharmacognosy, to excel in further academic pursuits
PSO 2	Gain expertise in the application of contemporary pharmaceutical techniques and technologies, enhancing employability across various sectors including the pharmaceutical industry, academia, and research institutions.
PSO 3	Equip with entrepreneurial skills and knowledge of pharmaceutical business management, including market analysis, product development, regulatory affairs, and financial planning, to initiate and run successful ventures in the pharmacy sector

Course Outcomes (CO's)	
Code: BP109P Pharmaceutics I	
CO 1	Know the history of the profession of pharmacy
CO 2	Understand the basics of formulations of different dosage forms
CO 3	To know the pharmaceutical incompatibilities and pharmaceutical calculations
CO 4	To formulate the granulation techniques.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

Table of Contents

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

INSTRUCTIONS

1. Always wear a good quality, neat and clean white Apron during your practical classes.
2. Being Practical notebook and other accessories and keep it neat and tidy.
3. Plan your Practical's step by step.
4. The students will be provided necessary apparatus for which He/she will be held responsible for any loss, Breakage or Missing articles.
5. Thoroughly clean the apparatus required in the Practical work, uncleaned apparatus may not give good results only specified apparatus required for particular work should be used.
6. Keep the balance in front of you, Clean the Pans, Adjust if necessary. Place a piece of butter paper on either side of the Pans. Always use forceps for lifting the weights. Put weights on the right hand pan and material on the left hand pan.
7. Do not weigh less than 100mg on the dispensing balance because these balance are not very sensitive.
8. The prepared product should have corked, Labelled and Polished. Good quality of paperand adhesive should be used for fixing the label on the container.
9. All the entries must be recorded as soon as the practical work is completed. Observation notebook must be complete in every aspect and it should be submitted on the same day to the teacher concerned off Signature.
10. Put all waste materials in the dust-bin after the work is finished, the students should clean the apparatus and return it. The seats should be cleaned, also see the seats all kept clean during practical work as well.

SYRUPS

Simple Syrups is a saturated solution of Sucrose in purified water. Theconcentration of sugar is 66.7% w/v. the syrups are sweet viscous preparation,the syrups containing medicinal substance are called as **medicated syrup** andthose containing aromatic, flavored substance are known as flavored syrups. **Syrups are very commonly used for the following reasons:**

- Syrups retards oxidation because it is partially hydrolysed into reducing sugar such as Levirate and Dextrose.
- It prevents decomposition of many vegetable substances. Syrups have high osmotic pressure which prevents the growth of bacteria, fungi and molds which are the chief causes of decomposition of solution for vegetable matter.
- They are palatable due to the sweetness of sugar. It is valuable vehicle for the administration of nauseous substances.
- Sugarless syrup may contain sweetening agent and thickening agent.
- Syrups may contain 95% as a preservative (or) as a solvent to incorporate flavouring agent. Antimicrobial agent may be added to the syrups.
- In some situations, other syrups like Dextrose and non-sugar like sorbitol, glycerine or propylene glycol are used. For Diabetic patient's syrups are made of methyl cellulose and hydroxide ethyl cellulose.
- As syrups are viscous in nature only the portion of the dissolved medicaments come in contact with the taste buds while swallowing. The remaining of the drug is swallowed without contact in taste bud. These dissolved property of syrups makes the taste of the drug.
- Syrups can be prepared by any of the three methods.
  1. Dissolving the material
  2. Extraction
  3. Chemical Reaction

ADVANTAGES:

- ✓ They provide a pleasant means of administration of an liquid form of this agreeabledrugs
- ✓ Children's and youngsters due to their pleasant taste like this preparation.
- ✓ Stable, water soluble drugs can be given in the form of syrups.
- ✓ Non medicated syrups can be used as a vehicle for other liquid preparation.
- ✓ Syrups having specific gravity of 1.313 which act as a self preservative.
- ✓ Syrups having rapid onset of action due to high rate of absorption.

DISADVANTAGES:

- ➢ They are not preferred to those patients who are in restricted calorie intake.
- ➢ It is not suitable dosage form for the patient suffering from diabetics.
- ➢ Syrups are supplied usually in glass bottles, thus increases the weight of thecontainer, thus increases the transport charge considerably.

Experiment No. 01

SIMPLE SYRUP IP.1966

Aim: To prepare and Submit 25 ml of Simple Syrup.

Principle:

The solubility of sucrose in one in 0.5 parts of water. The quantity of water is 233ml it is just to dissolve sucrose. It will take very long time to dissolve sucrose. It will take much amount of water, heating enhances the solubility and reduces the viscosity of syrup which permits the proper stirring. Hard syrup is filtered rapidly due to less viscosity.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For25 ml
1	Sucrose	667 gm	16.67 gm
2	Purified Water (Q.S)	1000 ml	25 ml

Procedure:

Heated both the sucrose and the sufficient purified water together. The sucrose isthen dissolved and finally added purified water to produce 25ml.

Category: The pharmaceutical acid (Sweetening agent)

Storage: Syrup should not be exposed to under fluctuations in temperature. Stored inwell closed well filled container, not exceeding 30°C.

SIMPLE SYRUP IP.1966	
	25ml
Licence No	: Reg Number
Batch No	: A-001
Mfg Date	:
Exp Date	:
Category	: Pharmaceutical Aid (Sweetening Agent)
Storage	: Stored in a well Closed Container. Not exceeding 30 c
Mfg By	: .....PHARMA

Report: 25ml of Simple Syrup was prepared and submitted.

Experiment No. 02

FERROUS PHOSPHATE SYRUP IP

Synonym: Chemical Food (Parish Food)

Aim: To prepare and Submit 25ml of Ferrous Phosphate Syrup.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For25 ml
1	Iron Fuming	4.3 gm	0.1 gm
2	Phosphoric Acid	4.8 gm	0.0525 gm
3	Calcim Carbonate	13.6 gm	0.34 gm
4	Potassium bicarbonate	1 gm	0.025 gm
5	Sodium Phosphate	1 gm	0.025 gm
6	Cochineal	3.5 gm	0.0875 gm
7	Sucrose	700 gm	17.5 gm
8	Orange Flavoue Oil	50 ml	1.25 ml
9	Distilled water (q.s)	1000 ml	25 ml

Principle:

The Syrup of Ferrous Phosphate is a solution of Ferrous Phosphate in a syrup base and ferrous phosphate is prepared by the reaction of iron and phosphoric acid. Also,the preparation contains acid phosphate of calcium, potassium and sodium. These are toprepared by chemical reactions. The product is suitably flavored and colored.

$$Fe + 3H_3PO_4 \longrightarrow Fe(H_2PO_4)_2 + H_2$$

$$CaCO_3 + 2H_3PO_4 \longrightarrow Ca(H_2PO_4)_2 + CO_2 + H_2O$$

$$KHCO_3 + H_3PO_4 \longrightarrow KH_2PO_4 + H_2O + CO_2$$

$$Na_2HPO_4 + H_3PO_4 \longrightarrow 2NaH_2PO_4$$

As they are considered amount of release of Co2, a bigger vessel is necessary for carrying out the reaction. The reaction occurs partially due to insufficient amount of phosphoric acid. The excess unreacted acid presence in Iron and phosphate solution completes the further reaction formic acid, Phosphates of non-metals.

Procedure:

The required quantity of small pieces of iron forming is added to a mixture of water phosphoric acid taken in a small flask heated gently on a water bath until the ironturnings are dissolved. Calcium carbonate, potassium bicarbonate and sodium phosphateare triturated with remaining quantity of phosphoric acid and water in a vessel. The solution of iron phosphate prepared already is added to this solution. The Cochineal is boiledwith water for 15 minutes. Sucrose is added to it and boiled for 15 minutes. Then cooled, strained and washed with sufficient quantity of distilled water.

The above solution is filtered into the syrup containing iron phosphate, calcium carbonate and sodium phosphate. Then orange flower oil is added. Finally, Sufficient distilled water is added to the required volume.

SHAKE WELL BEFORE USE	
FERROUS PHOSPHATE SYRUP IP	
25ml	
Licence No	**: Reg Number**
Batch No	**: A-002**
Mfg Date	**:**
Exp Date	**:**
Category	**: Haematinics**
Dose	**: 2-8 ml**
Storage	**: Stored in a well closed, Narrow mouthed screw stopped bottle,in cool place.**
Direction	**: Keep medicine away from Children. Do not exceed the Dose**
Mfg By	**: .....PHARMA**

Category: Haematinic.

Dose: 2 to 8 ml.

Storage: It should be stored in a well closed container in a cool place, narrow mouthed,screwed stopped bottle.

Report: 25ml of Ferrous Phosphate Syrup was prepared and submitted.

ELIXIRS

Elixirs are clear, sweetened and flavored alcoholic solutions for oral use.Both water soluble and alcoholic soluble drugs can be formulated in the form of elixir.

The vehicle usually contains a high proportion of sucrose, other sugar as a suitable polyhydric alcohol may also contain ethanol (95%) or a dilute ethanol together with additives such as coloring agent, flavoring agents, Sweetening agents and Preservatives.

Elixirs do not usually supports the growth of microorganisms but as theymay contain a high proportion of syrup, dilute or administer of syrup with other preparation may create on ideal growth of microorganisms. Elixirs containing more than 10-12% of alcohol, do not need preservative.

TYPES OF ELIXIRS:

- MEDICATED ELIXIRS
- NON- MEDICATED ELIXIRS

MEDICATED ELIXIRS:

They contain Therapeutically active compoundExamples:

- Piperazine citrate Elixir BPC
- Paediatric Paracetamol Elixir Bpc
- Diphenyl hydrazine hydrochloride Elixir USP

NON-MEDICATED ELIXIRS:

They do not contain a Medicaments but are used as flavoring vehicle.
Examples:

- Aromatic Elixir USP
- Compound Benzaldehyde Elixir BPC

METHOD OF PREPARATION

Elixirs are prepared by Simple dissolution with agitation and or by administer oftwo or more liquid components. Alcohol soluble ingredients are dissolved in Alcohol, water soluble ingredients are dissolved in water. And then the aqueous solution is addedto the alcoholic solution to avoid separation of alcohol soluble ingredients.

The final volume is then made with the solvent specified.

Experiment No. 03

PIPERAZINE CITRATE ELIXIR BPC

Aim: To prepare and Submit 25 ml of Piperazine Citrate Elixir.

Principle:

Piperazine citrate is a water soluble substance and can be easily dissolved in water. The taste of the solution can be improved by adding peppermint spirit, glycerinand syrup. The preparation may be suitably colored with addition of Green's and Tartrazine solution.

PIPERAZINE CITRATE ELIXIR BPC

℞

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For25 ml
1	Piperazine Citrate	187.5 gm	4.68 gm
2	Peppermint spirit	5 ml	0.125 ml
3	Green's & tartrazine solution	15 ml	0.375 ml
4	Glycerol	100 ml	205 ml
5	Syrup	500 ml	12.5 ml
6	Purified Water (q.s)	1000 ml	25 ml

Procedure:

The required quantity of Piperazine citrate is dissolved in about 10 ml purified water. Peppermint spirit, green's and tartrazine solution, glycerol and syrup areadded. Finally, sufficient purified water is added to produce the required volume.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

SHAKE WELL BEFORE USE
PIPERAZINE CITRATE ELIXIR BPC
25ml **Licence No : Reg Number** **Batch No : A-003** **Mfg Date :** **Exp Date :** **Category : Anthelmintic** **Dose** **For Threadworm : 4-15ml in divided dose** **For Roundworm : Single dose upto 30ml** **Storage : Stored in a cool place.** **Direction : Repeat after one week in serious infection.**
Mfg By : .....PHARMA

Category: Anthelmintic.

Storage: It should be stored in a well closed container in a cool place protected fromlight.

Dose:

- 5-15 ml for seven consecutive days for pinworms
- Up to 30 ml as single dose for roundworms.

Report: 25 ml of piperazine citrate elixir was prepared and submitted.

Experiment No. 04

PARACETAMOL PAEDIATRIC ELIXIR BPC

Aim: To prepare and Submit 20 ml of Paracetamol Pediatrics Elixir.

Principle:

Paracetamol is not suitable to make a solution in water which would have 1 dose in 5 ml. But it is readily soluble in alcohol, propylene glycol and glycerol. The mixture of these solvents serves as acceptable solvent for paracetamol. The solution is suitably preserved, flavored and sweetened.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For20 ml
1	Paracetamol	24 gm	0.48 gm
2	Amaranth Solution	2 ml	0.04 ml
3	Chloroform Spirit	20 ml	0.4 ml
4	Conc. Raspberry Juice	25 ml	0.05 ml
5	Alcohol (95%)	100 ml	2 ml
6	Propylene Glycol	100 ml	2 ml
7	Invert Syrup	257 ml	5.14 ml
8	Glycerol (Qs)	1000 ml	20 ml

Procedure:

The required quantity of paracetamol is dissolved in a mixture of alcohol, propylene glycol and chloroform spirit. Concentrated raspberry juice is diluted with invert syrup. The diluted raspberry juice and amaranth solution are added.

Finally, sufficient glycerol is added to produce the required 20ml. The mixture is thoroughly mixed.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

PARACETAMOL PAEDIATRIC ELIXIR BPC 1973	
	20ml
Licence No	**: Reg Number**
Batch No	**: A-004**
Mfg Date	**:**
Exp Date	**:**
Category	**: Analgesic & Antipyretic Dose**
	: 2.5ml of 4-6 Hours interval
	(According to the age of Patient)
Storage	**: Stored in a well closed container in cool place.**
Mfg By	**: .....PHARMA**

Category: Analgesic and Antipyretic.

Storage: It should be stored in a well closed container in a cool place.

Dose: 2 to 5 ml at 4-6 hour interval.

Report: 20 ml of Paracetamol Pediatrics Elixir was prepared and submitted.

LINCTUSES

The linctus's are viscous liquid preparations, sweetened with syrup, designed to soothe sore mucous membranes in the treatment of cough. The high proportion of syrup (also glycerin) has a demulcent effect on the membranes of the throat. The dose volume is kept at minimum, usually 5 ml and should be taken undiluted and slowly to prolong the demulcent action.

As they are viscous preparations, the complete transfer from the measure tothe bottle is difficult. There would be significant volume on the inside of the measuredespite of careful draining. Like suspensions and emulsions, the volume adjustmentshould be done in tared or calibrated bottle in which medicine is to be supplied. Thelinctus's should be labelled with ***"Sip and Swallow Slowly without Addition of water".*** They need to be measured using the supplied spoon to avoid inaccuracy of dose.

The domestic measures (spoons) capacity varies widely and hence it is recommendedto use supplied measuring spoon or device. They should be stored at constant temperature as temperature fluctuation may cause sucrose crystallization from the linctus's.

Experiment No. 05

TERPIN HYDRATE LINCTUS IP.1966

Aim: To prepare and Submit 25 ml of Terpin Hydrate Linctus.

Principle:

Linctus are sweet, viscous, Liquid, oral preparation consists of Simple solution or admixture containing a high proportion of Syrup. Add sometimes Glycerin which is additionally giving sweet taste and viscosity to the preparation.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For25 ml
1	Terpin hydrate	17 g	0.425 gm
2	Sweet Orange Peel Tincture	20 ml	0.5 ml
3	Benzaldehyde	0.05 ml	0.00125 ml
4	Glycerin	400 ml	10 ml
5	Syrup	100 ml	2.5 ml
6	Alcohol	430 ml	10.75 ml
7	Purified Water (q.s)	1000 ml	25 ml

Procedure:

Dissolve the terpin hydrate in the alcohol, add the rest of the ingredients and sufficient quantity of purified water to make 25ml. Mix and filter, if necessary.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

TERPIN HYDRATE ELIXIR IP 1966	
25ml	
Licence No	**: Reg Number**
Batch No	**: A-005**
Mfg Date	**:**
Exp Date	**:**
Category	**: Treatment of Cold**
Dose	**: 5ml of 4-6 Hours interval (According to the age of Patient)**
Storage	**: Stored in a well closed container in cool place.**
Mfg By	**: ..... PHARMA**

Category: Suppresses the Cough (helps to loosen mucus)

Dose: Usual dose is 5 ml which is equivalent to 85 mg of Terpin Hydrate.

Storage: It should be stored in a well closed container in a cool place avoiding markedfluctuation in temperature.

Report: 25 ml of Terpin Hydrate Linctus was prepared and submitted.

Experiment No. 06

IODINE THROAT PAINT

Synonym : Mandle's Paint

Aim: To prepare and Submit 25 ml of Iodine Throat Paint.

Principle:

Throat paints are the viscous liquid preparations used for the mouth andthroat infections. Glycerin is commonly used as a base because being viscous it adheres to mucous membrane for a long period and it possesses a sweet taste.

S.NO	INGREDIENTS	Official Formula For 100ml	Working Formula For 25ml
1	Iodine	1.25 gm	0.31 gm
2	Potassium Iodide	2.5 gm	0.62 gm
3	Purified water	2.5 ml	0.62 ml
4	Peppermint oil	0.42 ml	0.10 ml
5	Alcohol	3.75 ml	0.93 ml
6	Glycerin (q.s)	100 ml	25 ml

Procedure:

In this preparation Iodine act as an Antiseptic and Potassium iodide dissolve the Iodine. Peppermint oil act as the flavoring agent and produces a cooling effect. Alcoholis used as a solubilizing agent for the peppermint oil. As the preparation contains Iodine, It should be prepared glass apparatus. Potassium iodide & Iodine are dissolved in water using glass mortar and pestle with a small portion of glycerin. To this, Peppermint oil dissolved in alcohol is added and mixed and then sufficient glycerin is added to produce the required volume.

DO NOT SWALLOW
FOR EXTERNAL USE ONLY
IODINE THROAT PAINT
25ml **Licence No : Reg Number** **Batch No : A-006** **Mfg Date :** **Exp Date :** **Category : Antiseptic, Astringent & Anti Inflammatory** **Storage : Stored tightly closed Air tight container in a cool place**
Mfg By : .....PHARMA

Storage: It should be stored in a tightly closed Air tight container in a cool place.

Category: Antiseptic, Astringent & Anti Inflammatory.

Direction: For External Use Only, Do Not Swallow

Report: 25 ml of Iodine Throat Paint was prepared and submitted.

STANDARD:

Sterile solution should comply with test for sterility.

CONTAINER:

- ✓ Sterile solution should be readily distinguishable from container used for Intra-venousfluids. The containers should be well closed to exclude Microorganisms. An easily breakable seal should cover the closures germicidal aqueous solution are prone to contamination with resistance microorganism and hence the following care should betaken.
- ✓ Closures of cork containing core liners must not be used.
- ✓ The content should preferably not used latter than 1 week after opening the container.

ADVANTAGES:

- ❖ Should are readily absorbed and more quickly effectively then solid dosage forms.
- ❖ Solutions can be easily administered to infants, children and old patients.
- ❖ The uniform distribution of the drug is easily achieved in liquid preparation.

DISADVANTAGES:

- ❖ Drug in solution form may be unstable.
- ❖ Drug having unpleasant taste may not be suitable for administration in the form ofSolutions.

Experiment No. 07

STRONG SOLUTION OF AMMONIUM ACETATE IP.1966

Synonym: Liquor Ammonia Acetates Fortis

Aim: To prepare and Submit 20 ml of Strong Solution of Ammonium Acetate.

Principle:

Glacial acetic acid is partially neutralized by Ammonium bicarbonate. The reaction takes place is as follows.

$$CH_3COOH + NH_4HCO_3 = CH_3COONH_4 + H_2O +$$

$$CO_2\,CH_3COOH + NH_4OH = CH_3COONH_4 +$$

$$H_2O$$

Ammonium Acetate is produced by mixing of Glacial Acetic Acid and Sodium bicarbonate. But the reaction is not complete when acetic is incompletely neutralised. Strong Ammonia is added to carefully to make the solution almost neutral.

S.NO	INGREDIENTS	Official Formula For 100ml	Working Formula For 20ml
1	Glacial Acetic Acid	453ml	9.03ml
2	Ammonium Bicarbonate	470gm	9.4gm
3	Ammonium Solution	100ml	2ml
4	Purified Water (Qs)	1000ml	20ml

Procedure:

Glacial Acetic Acid and Ammonium bicarbonate is dissolved in 15ml of purifiedwater. Strong Ammonia is added to the above solution until a drop of resulting solutiondiluted with 10 drops of water gives a full Blue colour. With 1 drop of Bromothymol Blue and full Yellow colour, with 1 drop of solution of Thymol Blue. Then sufficient purified water is added to produce the required volume (20 ml).

STRONG AMMONIUM ACETATESOLUTION IP 66
20ml **Licence No** : Reg Number **Batch No** : A-007 **Mfg Date** : **Exp Date** : **Category** : Diuretic & Diaphoretic **Dose** : 1–4ml **Storage** : Stored should be kept in lead-free glass containers **Direction** : Strong Ammonium Acetate Solution diluted to eight times its volume with freshly boiled and cooled Purified Water, shall be dispensed or supplied.
Mfg By : ..... PHARMA

Category: Diuretics & Diaphoretic (A substance that promotes sweating).

Dose: 1 - 4 ml

Storage: It should be stored in a lead free glass bottle.

Report: 20 ml of Strong Solution of Ammonium Acetate was prepared and submitted.

Experiment No. 08

CRESOL WITH SOAP SOLUTION IP.1966

Synonym : LYSOL

Aim: To prepare & Submit 25 ml of Cresol with Soap Solution.

Principle:

Only 2% v/v of Cresol in soluble in water. But officially it contains 50% alcoholand cresol. This is effected by solubilization of Cresol by soap miscellus. The soap is prepared by Saponification of Fatty acid present in vegetable oil with potassium hydroxide solution, which has a saponification value not greater than 205, then the Iodine value not less than 100, The Solution obtained in clear and shiny miscellus andthey are not seen by naked eye.

S.NO	INGREDIENTS	Official Formula For 1000ml	Working Formula For 25ml
1	Cresol	500ml	12.5ml
2	Vegetable Oil	180gm	4.5gm
3	Pottasium Hydroxide	42gm	1.05gm
4	Purified Water (Qs)	1000ml	25ml

Procedure:

Potassium hydroxide is dissolved in 10 ml of purified water in glass beaker. Thenadded vegetable oil in this solution. Then the mixture is heated on a water bath until asmall portion dissolved in water without separation of oil phase. Cresol is added to theabove soap solution and mix it thoroughly and sufficient purified water is added to makeup to volume of 25ml.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

FOR EXTERNAL USE ONLY

CRESOL WITH SOAP SOLUTION IP 66

25ml

Licence No : Reg Number

Batch No : A-008

Mfg Date :

Exp Date :

Category : Disinfectant

Storage : Stored in Stainless steel vessels in cool place.

Mfg By : .....PHARMA

Category: Disinfectant.

Storage: It should be stored in a well closed container protected from Light.

Report: 25 ml of Cresol with Soap Solution was prepared and submitted.

Experiment No. 09

AQUEOUS IODINE SOLUTION IP 1966

Synonym: Lugol's Solution

Aim: To prepare and Submit 25 ml of Aqueous Iodine Solution.

Principle:

Iodine react with Potassium Iodide to form a Polyiodide. The Polyiodides are moresoluble are formed in concentrated solution. Hence rapid solution of Iodine is affected byusing potassium iodide in concentrated solution instead of Alcohol uses as diluent because itis taken internally.

$$I2 + KI \longrightarrow KI_3$$

Aqueous Iodine solution contains 5% w/v Iodine and 10% w/v of Potassium Iodide.

S.NO	INGREDIENTS	Official Formula For 1000ml	Working Formula For 25ml
1	Iodine	50gm	1.25gm
2	Potassium Iodide	100gm	2.5gm
3	Purified Water (Qs)	1000ml	25ml

Procedure:

The required quantity of Potassium Iodide and Iodine are dissolved in limited quantity of purified water. Shake well to be dissolved it completely Finally make up thevolume with purified water. (Do not use metal spatula to handle Iodine and protect thebalance pan using a weighing paper).

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

SHAKE WELL BEFORE USE
AQUEOUS IODINE SOLUTION IP 66
25ml **Licence No : Reg Number** **Batch No : A-009** **Mfg Date :** **Exp Date :** **Category : Sources of Iodine** (Respiratory Problems, Hyperthyroidism) **Dose : 0.3 – 1ml** **(Diluted with water or milk)** **Storage : Stored in a well closed Iodine resistant container** **Direction : One Teaspoon full to be taken every Night**
Mfg By : ..... PHARMA

Category: As a source of iodine and also shows Germicidal action. This solution isoften administered as preventive measure in Hyperthyroidism. (Source of Iodine).

Dose: 0.3 to 1 ml.

Storage: It should be stored in a well closed iodine resistant container.

Report: 25 ml of Lugol's Solution (Aqueous Iodine Solution) was prepared andsubmitted.

SUSPENSIONS

Suspensions are referred as solid liquid dispersion. They are heterogeneous system in which poorly soluble drugs in the finely particle size are distribute in the vehicle.

They are mostly liquid preparation made for external preparation to the skin. They are intended to provide protective or therapeutic value of their constitution. They are intended to dry on their skin soon after application leaving a thin coat of themedicament on the skin surface. The most common vehicles of the lotions are aqueous, since the dispersed phase gets separated over time on standing. They need to be shaken well before use for uniform mixing for the patient.

ADVANTAGES:

- Certain drugs which are unstable in solution form a stable system.
- The disagreeable taste of certain drugs in solution form is negligible in then they aregiven in suspension form.
- The taste of certain drugs is improved with record to portability. If their solubility isreduced or they are made insoluble or poorly soluble.
- Mostly oral suspension has aqueous vehicles which might be flavoured (or)sweetened to the taste of the patient.

DISADVANTAGES:

- They require suspending agent to suspend the fine particles of dispensed phase.
- The rate of Sedimentation of dispensed phase can be reduced but cannot be madeto zero. The settled particles after a long period, may formed to cake which cannotbe redisposed even after gentle shaking of the suspension.
- Most of the suspending agents are Hydrocolloid.
- Suspending agent increase the Viscosity and reduce the rate of sedimentation ofdispersed particles.

TYPES:

1. Suspension containing Diffusible solids.
2. Suspension containing In diffusible solids.
3. Suspension containing Poorly wet table solids.
4. Suspension containing percolate forming liquid.
5. Dispersion of oil in Inhalations.
6. Suspension produced by chemical reaction.

Experiment No. 10

CALAMINE LOTION IP.1966

Aim: To prepare & Submit 25 ml of Calamine Lotion.

Principle:

Calamine and Zine oxide are in diffusible in nature. Therefore, it requires addition of suspending agent (Bentonite). Trituration expelled the entrapped in interface of finally divided in diffusible powder. Suspending powder of Bentonite is improved by the peptizing effect of sodium citrate could make it solution much thickerand difficult to pour from the bottle. It helps of preventing excessive floating of shakingglycerin has multiple functions keeps skin moist, promote, adherence of residual powder on skin surfaces and improve the stability, liquefied phenol is used as preservative. Rose water is a perfumed vehicle.

S.NO	INGREDIENTS	Official Formula For 100ml	Working Formula For 25ml
1	Calamine	150gm	3.75gm
2	Zinc Oxide	50gm	1.25gm
3	Bentonite	30gm	0.75gm
4	Sodium Citrate	5gm	0.125gm
5	Liquified Phenol	5ml	0.125gm
6	Glycerine	50ml	1.25ml
7	Rose Water (Qs)	1000ml	25ml

Procedure:

The Calamine, Zinc oxide and Bentonite is triturate in a mortar. The above powdermixture is triturated with the addition of small portion of solution of sodium citrate andRose water.

The liquid phenol and glycerol in above dissension is added and mixed well andthe above dissension is transferred to the measuring cylinder through measuring cloth.The small quantity of rose water is rinsed twice, the rinses is transferred to measuringcylinder containing dispersion. Finally, the Rose water is added to adjust the final volume.

FOR EXTERNAL USE ONLY

CALAMINE LOTION IP 66

25ml

Licence No : Reg

NumberBatch No : A-

010

Mfg Date :

Exp Date :

Category : Astringent / Soothing

agentStorage : Stored in cool place.

Always away from Light

Direction : Apply on affect parts.

Mfg By : ..... PHARMA

Category: Astringent & Protective.

Storage: It should be stored in a well closed air tight container with Light resistant and avoid exposture to excessive heat.

Report: 25 ml of Calamine Lotion was prepared and submitted.

Experiment No. 11

MAGNESIUM HYDROXIDE MIXTURE BP.1993

Synonym: Milk of Magnesia, Cream of Magnesia.

Aim: To prepare & Submit 20 ml of Magnesium Hydroxide Mixture.

Principle:

Magnesium Hydroxide mixture is a suspension of Magnesium Hydroxide inwater. Magnesium Hydroxide is prepared by two Chemical reactions.

1. Precipitate Reaction

$$MgSO_4 + H_2O + 2NaOH \longrightarrow Mg(OH)_2 + Na_2SO_4 + 7H_2O$$

2. Hydration Reaction

$$MgO + 2H_2O \longrightarrow Mg(OH)2$$

The reaction is byproduct of sodium sulphate is to be removed through several washing.

S.NO	INGREDIENTS	Official Formula For 100 ml	Working Formula For20 ml
1	Magnesium Sulphate	47.5 gm	0.95 gm
2	Sodium Hydroxide	15 gm	0.3 gm
3	Light Magnesium Oxide	52.5 gm	1.05 gm
4	Chloroform	2.5 ml	0.05 ml
5	Citric Acid	1 gm	0.02 gm
6	Water (Qs)	1000ml	20 ml

Procedure:

The required of Sodium hydroxide is dissolved in purified water. Light magnesiumoxide is triturated in a mortar with a sodium hydroxide solution to form a smooth cream.The above suspension was poured into a thin stream of solution in of $MgSO_4$ in purifiedwater with stirring continuously during mixing. The precipitate formed was allow to settled and the clear liquid is formed. The residue is transferred to a calico strainer andwashed thoroughly with water to remove sulphate. The washed precipitate is mixing withpurified water and chloroform and citric acid are dissolved in it. Finally, sufficient quantityof purified water is added to make up the required volume.

SHAKE WELL BEFORE USE
MAGNESIUM HYDROXIDE MIXTUREBP 1993
20ml **Licence No : Reg Number** **Batch No : A-011** **Mfg Date :** **Exp Date :** **Category : Antacid / Lexative Storage** **: Stored in a refrigerator/ Cool Place.** **Iodine resistant container** **Direction : Use within Three months after opening**
Mfg By : ..... PHARMA

Category: It is used as Antacid and Laxative.

Dose:

Antacid : 5 - 10 ml

Laxative : 15 - 30 ml

Cathartic : 2 - 4 ml

Storage: It should be stored in a well closed container in a cool place but not to be kept inrefrigerator

Labelling :

- Shake well before use
- Measure the dose using measuring cylinder.
- Discard any unused mixture three months after opening

Report: 20 ml of Magnesium Hydroxide Mixture was prepared and submitted.

Experiment No. 12

ALUMINIUM HYDROXIDE GEL

Aim: To prepare & Submit 25 ml of Aluminum Hydroxide Gel.

Principle:

Aluminum Hydroxide gel is a aqueous suspension of hydrated aluminumoxide together with varying quantities of basic Aluminum carbonate and bicarbonate. It contains not less than 3.5% w/w and not more than 4.4% w/w of aluminum oxide. It may contain glycerin, sorbitol, sucrose or saccharin as sweetening agent, peppermint oil or other suitable flavors. It may also containsuitable antimicrobial agents.

S.NO	INGREDIENTS	Official Formula For 100 ml	Working Formula For25 ml
1	Aluminum Hydroxide gel	6.4 gm	1.6 gm
2	Sodium Benzoate	1 gm	0.25 gm
3	Peppermint Water (Qs)	100ml	20 ml

Procedure: Weigh Accurate amount of Aluminum Hydroxide and sodium bicarbonateand transfer them in 100 ml beaker and add 20 ml peppermint water in parts with constant stirring unless a uniform dispersion is obtained.

Transfer the dispersion in a measuring cylinder. Rinse the beaker with remainingpeppermint water and transfer the rinsing to measuring cylinder. Make up the volume bypeppermint water to 25 ml.

The final dispersion is transferred to appropriate glass bottle and label.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

SHAKE WELL BEFORE USE
ALUMINIUM HYDROXIDE GEL
25ml **Licence No : Reg Number** **Batch No : A-012** **Mfg Date :** **Exp Date :** **Category : Antacid** **Storage : Stored in a Well closed container.** **Dose : 2 Teaspoonfuls 5-6 times/day**
Mfg By : ..... PHARMA

Category: It is used as Antacid.

Dose: 2 Teaspoonful's 5-6 times/day.

Storage: It should be stored in a well closed container.

Report: 25 ml of Aluminum Hydroxide Gel was prepared and submitted.

EMULSION

An Emulsion is a Mixture of two immiscible liquids in which one liquid is dispersed in the form of a tiny globules in the second.

The system being emulgent by the addition of the third substance called as Emulsifying agent (Emulgent).

The liquid in which in the form of globules is said to be in dispersed on interrupted phase. The liquid in which globules are dispersed is said to be continuous phase or dispersion medium.

TYPES OF EMULSION:

- **O/W EMULSION:**

In this type of oil phase are more correctively, relatively non polar phase is dispersed in fine globules essentially in the continuous water phase (Polar phase). They are referred as oil in water type of emulsion.

- **W/O EMULSION**

In this type of emulsion, an essential water phase dispersed in fine globules in continuous oil or more collectively relatively non-polar phase. They are referred as water in oil type of Emulsion.

IDENTIFICATION TEST FOR EMULSIION:

1. DROP DILUTION TEST**:**

The test is based on the fact that an emulsion is miscible with its external phase, as a result if water is added to o/w type emulsion, it will readily have dispersed in a emulsion, but if oil is added it will not be dispersed. The reverse is true with w/o type emulsion.

2. DISSOLUBILITY TEST:

This test is based on the fact that a Dye dispersed uniformly throughout an emulsion, if the dye is soluble in the external phase.

Eg: Amaranth, a water soluble dye readily tints an o/w type emulsion but not in w/o type emulsion. An oil soluble dye readily tints in w/o type emulsion, but not o/w type emulsion.

3. DIRECTION OF CREAMING TEST:

This test is based on the fact that creaming is the process of sedimentation of dispersed droplets (Either upward or Downward) due to difference in density of internal and external phase. In most of the Pharmaceutical emulsion, the density of oil or liquid phase is less than that of aqueous phase. Thus if emulsion cream upward it is o/w type anf if emulsion cream dowmward, it is w/o type of emulsion.

4. ELECTRICAL CONDUCTIVITY TEST:

This is based on the fact that water or aqueous solution conduct on electrical current while oil do not. If electrodes place in an emulsion conduct on electrical current indicate oil in water type emulsion. But if they do not conduct an electric current, it indicate w/o type of emulsion.

5. FLOURSCENCE TEST:

This test is based on the fact that mainly oils, fluorescence when exposed ultraviolet light. If a drop of emulsion is examine in fluorescence light under a microscope, the entire field fluorescence, a w/o type emulsion is indicate. If a spotty fluorescence is obtained o/w type of emulsion is indicate.

Experiment No. 13

TURPENTINE LINIMENTS IP.1966

Synonym: Turpent Lin (Or) Lin Turpent

Aim: To prepare and Submit 20 ml of Turpentine Liniments.

Principle:

TYPE: Emulsion (Oil in Water) type liniment using soft soap as a emulsifying agent.

Turpentine oil is not soluble in water. It is volatile in nature and has exposure to air. It undergoes rapid changes especially in the presence of moisture, it becomes viscous, yellow and require on acidic reaction due to this reaction. Freshly rectified oil is used. Turpentine oil and camphor are active medicaments with rubifacients and counter irritant properties.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For20 ml
1	Soft Soap	90 gm	1.8 gm
2	Camphor	50 gm	1 gm
3	Turpentine oil	650 ml	13 ml
4	Water (Qs)	1000 ml	20 ml

Procedure:

The soft soap is mixed in water. The solution of camphor in water is made. Gradually add a camphor solution to soap mixture by titrate, until the preparation wasobtained. The sufficient quantity of water is added to produce the required volume.

FOR EXTERNAL USE ONLY

TURPENTINE LINIMENT IP 66

20ml

Licence No : Reg NumberBatch No : A-013

Mfg Date :

Exp Date :

Category : Rubefacient & CounterirritantStorage : Stored in a well closed Non plastic container

Direction : One Tablespoon to be taken twice a day.

Not to be applied on broken skin.Apply with rubbing or Massaging

Mfg By : ..... PHARMA

Category: Rubifacient and Counter irritant.

Caution: Not to be applied on Broken skin.

Storage: It should be stored in a well closed glass container. The plastics are to be avoided,as turpentine reacts with some plastics.

Report: 20 ml of Turpentine Liniments was prepared and submitted.

Experiment No. 14

LIQUID PARAFFIN EMULSION

Aim: To prepare and Submit 20 ml of Liquid Paraffin Emulsion.

Type: O/W

Principle:

The liquid paraffin emulsion is formulated with acacia as an emulsifying agent. Tragacanth increases the viscosity and stabilizes the emulsion. Glycerin increases the viscosity and imparts demulcent action. Sodium benzoate is added in the dissolved state as a preservative. It is easy to mix glycerin and sodium benzoate rapidly in dissolved state instead. They would have added directly into the emulsion.

While preparing a primary emulsion, it is to be made first and to which other ingredients may be added and diluted to the required volume.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For20 ml
1	Liquid Paraffine	500 ml	10 ml
2	Acacia	125 gm	2.5 gm
3	Tragacanth	5 gm	0.1 gm
4	Sodim Benzoate	5 gm	0.1 gm
5	Vanilline	0.5 gm	0.01 gm
6	Glycerin	125 ml	2.5 ml
7	Chloroform	2.5 ml	0.05 ml
8	Water (Qs)	1000 ml	20 ml

Procedure:

Liquid paraffin was measured accurately in a dry measure and determined into alarge perfectly dried mortar. Acacia and tragacanth powders are dispersed in o/w bytrituration.

Required amount of water is measured and added at once (in 1 quantity) to a mortar, containing dispersed Gum in oil with trituration. The trituration is continued inone direction only until

a primary emulsion was formed, the appearance of clicking sound was the indicator of formation of primary emulsion.

The primary emulsion was slightly diluted and transferred to a measure. Vanillin and sodium benzoate are dissolved in mixture of Glycerine and water. The solution was added with mixing, finally the volume was adjusted by adding sufficient purified water.

SHAKE WELL BEFORE USE
LIQUID PARAFFIN EMULSION
20ml **Licence No : Reg Number** **Batch No : A-014** **Mfg Date :** **Exp Date :** **Category : Laxative / Lubricant** **Storage : Stored in a Well closed container, in cool place.** **Dose : 8–30 ml** **Direction : Preferably to be taken at Bed Time**
Mfg By : ..... PHARMA

Category: Laxative.

Dose: 8 to 30 ml.

Storage: It should be stored in a well closed container in a cool place, but not to be storedin a refrigerator.

Report: 20 ml of Liquid Paraffin Emulsion was prepared and submitted.

POWDERS

Powders are the solid dosage forms supplied either in the bulk are as in individual dose in the fine state of subdivision of drugs of with or without the diluents, intended for internal or external use.

Internally they can be taken orally, administrative though nose as snuffs or blown into a cavity of body as insufflations. Externally they can be used as dusting powders for applications over the skin. The powders can be used to dissolve in waterfor oral or extend application.

ADVANTAGES:

- It is often advantages to dispense crude vegetables drugs as powders because of the insolubility of these materials and their susceptibility of microbial attack, when wet.
- A powder is a convenient form to dispensed a bulky drug that has a large dose.This is reflected in BPC which induces several compounds bulk powders used for relatively mild conditions, such as indigestion constipation and diarrhoea.
- Small children cannot swallow tablets and capsules and although these problem is usually overcome by prescribing; powders are used occasionally.
- Faster dispersion and absorption of medicaments in the alimentary tract can be expected from powders than from tablets and capsule, which must first disintegrate and dissolve.
- Most stable dosage forms as compared to liquid dosage form.
- They are more easy to carry than liquids.
- They are mos economical to prepare as they do not require special techniques or machine.

DISADVANTAGES:

- Drugs sensitive to the atmospheric conditions like air, moisture and light arenot suitable for dispensing in the form of powders.
- Drugs which are hygroscopic, deliquescent, oxidizing and efferent in natureand arise problems for dispensing process.

- Drugs which are bitter unpalatable, corrosive, and nauseous are not suitablefor powders.
- Drugs which are volatile in nature are not advisable to dispense in the form ofpowders.
- So dispense powders is times consuming process since it involves a number ofoperations like milling, sieving, mixing, drying etc.

CLASSIFICATION:

Powders are classified as

1. **Divided powders -** Simple & Compound powders
2. Bulk powders.
3. **Powder for internal use.**
4. Powder for external use.
5. **Special Powders.**

According to BP, powders have also been classified as:

1. COARSE POWDERS:

- A Powder all the particles of which passes through a sieve with normal mesh aperture of 1700 um. (sieve no:10) and not more than 40% by weight passes through a sieve with nominal aperture of 355 ums. (sieve No: 60)

2. MODERATEY COARSE POWDER:

- In this, all the particles of a powder pass through a sieve with nominal mesh aperture of 710 um (sieve: no: 22) and not more 40% by weight passes through a sieve with nominal aperture of 250 um (sieve: no :600).

3. MODERATELY TINE POWDERS:

- All particles pass through a no: 44 and not more than 40% by weight pass through a sieve with nominal aperture of 125 um (sieve : no:120)

4. FINE POWDERS:

- All particles pass through sieve with a nominal mesh aperture of 180 ums (no: 85) and not more than 90% by weight pass through a sieve nominal aperture of 125 u (no: 120)

5.VERY FINE POWDERS:

- All particles pass through sieve with a nominal mesh aperture of 125 ums(no:120) and not more than 40%by weight pass through sieve with nominal aperture of 45 ums (no:325)

6. MICROFINE POWDERS:-

- A powder in which not less than 90% of its pass through a sieve with nominal mesh diameter of 45 ums (no:325)

7. SUPERFINE POWDERS:-

- A powder in which not less than 90% of its particles by nominal aperture notless than 90% of its particles by nominal aperture not less than 10 um in size.

While mixing the powder, the geometric dilution method is followed. The followingsteps are recommended.

Adding the lowest bulk radiant to the mortar

Adding the quantity of an second ingredient that approximately double the bulkready in the mortar

Mixing by trituration.

Adding the quantity that approximately double the that double the bulky mortar isused.

Mixing after each addition.

Experiment No. 15

ORAL REHYDRATION SALTS (ORAL DIVIDED POWDER)

Aim: To prepare and Submit 2 packets of Oral Rehydration Salts (ORS), each for making100 ml solution.

Principle:

The ORS is a mixture of sodium chloride, potassium chloride, sodium bicarbonate and anhydrous glucose. The ingredients are mixed in mortar by trituration and each unitis to be packed separately. A slight excess is required as there will be some losses dueadherence to pestle and mortar. The entire amount can't be transferred from the mortar.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For 200 ml
1	Sodium Chloride	2.63 gm	0.52 gm
2	Glucose (Unhydrous)	13.5 gm	2.7 gm
3	Potassium chloride	1.5 gm	0.3 gm
4	Trisodium citrate dihydrate	2.9 gm	0.58 gm

Procedure:

- ✓ Weigh Sodium Chloride, Glucose (anhydrous), Potassium chloride and Trisodium citrate dihydrate.
- ✓ Mix all the salts by adding them in Geometrical dilution.
- ✓ Store the powder mixture in a air tight container.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

ORAL REHYDRATION SALT POWDER	
For 200ml	
Licence No	**: Reg Number**
Batch No	**: A-015**
Mfg Date	**:**
Exp Date	**:**
Category	**: Electrolyte Replenisher**
Storage	**: Stored in a Air tight container,**
Dose	**: Depending on extent of dehydration**
Adult	**:** 200-400 ml solution after every loose stool
Direction	**: Whole pocket of salts mix with 200ml of water**
Mfg By	**: ..... PHARMA**

Category: Rehydrating agent and Electrolyte Replenisher in diarrhea.

Storage: It should be stored in a Air tight container.

Dose : Depending on extent of dehydration

Adult: 200-400 ml solution after every loose stool.

Direction: Whole pocket of salts mix with 200ml of water

Report: 2 packets of Oral Rehydration Salts (ORS) was prepared and submitted.

Experiment No. 16

EFFERVESCENT GRANULES (SODIUM PHOSPHATE USP)

Aim: To prepare and Submit 100 gm of Effervescent Granules.

Principle:

Effervescent preparation provides effervescence of carbon di oxide gas when added to water by a chemical reaction between alkali metal carbonates or bicarbonateswith tartaric or citric acids.

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For 100 gm
1	Sodium Phosphate	200 gm	20 gm
2	Sodium bicarbonate	460 gm	46 gm
3	Tartaric Acid	230 gm	23 gm
4	Citric acid monohydrate	110 gm	11 gm

Procedure:

- Powder citric acid and mix intimately with dried sodium phosphate and tartaricacid. Add sodium bicarbonate to above mixture and mix gently. The final powderis placed on a plate of glass or in a suitable dish previously heated on a water bath. Stirr the mixture with help of spatula constantly till it becomes damp.
- Pass damp mass through sieve No.6 Gry granules at a temperature not exceeding54 C. Pass the granules appropriate sieve.
- Pack dried uniform sized granules in a wide mouthed bottle.

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

EFFERVESCENT GRANULES	
For 100gm	
Licence No	: Reg Number
Batch No	: A-016
Mfg Date	:
Exp Date	:
Category	: Purgative and Mild Diuretics
Storage	: Air tight container in a cool place
Dose	: 3 divided dose for 2 hours interval
Mfg By	: ..... PHARMA

Category: Purgative and Mild Diuretics.

Storage: Keep the Air tight container in a cool place.

Dose : 3 divided dose for 2 hours interval.

Report: 100 gm of Effervescent Granules was prepared and submitted.

Experiment No. 17

DUSTING POWDER (ZINC OXIDE, STARCH & TALC)

Aim: To prepare and Submit 10 gm of Dusting Powder.

Principle:

This is mixture of Zinc Oxide, Starch and Talc. The mixing is carried out using geometric dilution method.

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For10 gm
1	Zinc Oxide	250 gm	2.5 gm
2	Starch	250 gm	2.5 gm
3	Talc	500 gm	5 gm

Procedure:

Zinc oxide and starch powder are mixed in a mortar. Then sterilized talc is addedand mixed by trituration. Then mixed powders are passed through a fine sieve (sieveno. 18) Finally mixed and packed.

FOR EXTERNAL USE ONLY

DUSTING POWDER

10gm Licence No : Reg

NumberBatch No : A-017

Mfg Date :

Exp Date :

Category : Adsorbent & Dusting powderStorage :Well closed screw capped

Plastic container withperforated lid.

Direction : Not to be applied to raw or weeping surfaces

Mfg By : ……. PHARMA PVT LTD

Category: Adsorbent & Dusting powder.

Storage: It should be stored in a well closed screw capped plastic container withperforated lid.

Report: 10 gm of Dusting Powder was prepared and submitted.

Experiment No. 18

DIVIDED POWDER

Aim: To prepare and Submit 10 gm of Divided bulk powder

Principle:

Menthol and camphor are solids but when mixed together they become liquidmass. Any of the two methods can be used to prepare free flowing powders:

(A) Mixing of camphor and menthol separately with adsorbent before mixing themtogether.

(B) Mixing the resultant liquid mass with the adsorbent

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For10 gm
1	Methanol	100 mg	25 mg
2	Camphor	200 mg	50 mg
3	Zinc Sterate	800 mg	200 mg
4	Zinc oxide	8 gm	2 gm
5	Talc	31 gm	7.75 gm

Procedure:

Menthol and camphor are mixed together in mortar to make liquid. Zinc stearate,zinc oxide and talc are mixed by geometric dilution. The powder mixture is added to theliquid mass by geometric dilution and then mixed well by trituration.

FOR EXTERNAL USE ONLY

DIVIDED POWDER

10gm

Licence No : Reg Number

Batch No : A-018

Mfg Date :

Exp Date :

Category : Anti-pruritic

Storage :Stored in a Well closed container

Mfg By : ……. PHARMA PVT LTD

Category: Anti-pruritic.

Storage: It should be stored in a well closed container.

Report: 10 gm of Divided bulk powder was prepared and submitted.

SUPPOSITORIES

The suppositories are solid medicated dosage forms of various weights and shape. Usually medicated for insertion into body orifices other than oral cavity (Rectal,Vaginal and Urethral). After insertion suppository soften melt dispense or dissolve atthe body temperature. And release medicaments in the body cavity fluids for local or systemic actions.

These vaginal suppositories are also known as pessaries and urethralsuppositories are known as Bougies. Suppositories are generally used to carry medicaments such as emollient, local anaesthetic, astringent, Tranquillizers, anti-septic,Hypnotics, antispasmodics.

They are available as conical, rod, pencil, cylindrical, diamond and bullet shape.

ADVANTAGES

1. They offer a convenient means of administration drug.
   (A) Irritate the GIT.
   (B) Induce nausea and vomiting in patient.
   (C) Are destroyed by the gastric acid and enzyme of GIT.
   (D)Undergoes first pass metabolism.
2. These offer as easy mean of administration for children and old person
3. They can also used for administration of drugs to unconscious patients.
4. They can be used for quick local action at the site of inversion.
5. Suppositories are also used for the systemic absorption of drug and prolonged drugabsorption.

DISADVANTAGES

1. Suppositories having melting point lower than 37c the measure problem of melting in tropical countries like India.
2. Insertion of suppositories into body cavities is relatively difficult and require special trainee.
3. They cause unpleasant sensation on insertion into body cavity.
4. Formulation and manufacturing is comparatively difficult including packing in our country

TYPES OF SUPPOSITORIES

(I) Rectal suppositories

(II) Vaginal suppositories (Passaries)

(III) Urethral suppositories (Bougies)

(I) Rectal Suppositories

The rectal suppositories are cylindrical with one (or) both ends. Tappered relation,buffer shape, Torpedo like little finger and generally they are level by ½ inches by length.

(II) Vaginal Suppositories (Passaries)

These are generally uniform globular (or) cone shape

(III) Urethral Suppositories (Bougies)

These usually slender, pencil shape with diameter of 3-6 mm and length is 140 mm

CLASSIFICATION OF SUPPOSITORY BASES:

(I) Fatty (Or) Oil bases – Theobromo oil, Hydrogenated oil.

(II) Aqueous water soluble bases – Glycerogelatin, Polyethylene glycol.

(III) Emulsifying agent wax – Massa esternum, Witespol, Massupol.

METHOD OF PREPARATION:

(I) Fusion Method.

(II) Cold compression method

DISPLACEMEVNT VALUE:

The quantity of drug which displace the one part of base.

Experiment No. 19

GLYCERO GELATIN SUPPOSITORIES IP.1966

Aim: To prepare and Submit 3 child's size Glycerol-Gelatin Suppositories.

Principle:

Glycero-Gelatin Base is 1.2 times denser than the theobroma oil base (cocoa butter). But the capacities of the suppositories moulds are stated based on the theobromaoil. The total quantity of the base required should be multiplied by 1.2 to get the required quantity of glycerol-gelatin base.

The base (in this case also medicament) is prepared by dissolving gelatine in boilingwater and then mixing with hot glycerine (100°C).

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For 100 gm
1	Gelatin	16 gm	1.6 gm
2	Glycerine	70 gm	7.0 gm
3	Purified Water (Qs)	1000 gm	100 gm

Procedure:

The required quantity of glycerin is heated in a dish to 100°C.

About 4.5 ml purified water (it is slightly higher than required which can be adjusted later) is taken in a tared dish and heated to boiling and removed from source ofheating. The gelatin powder is added to this hot water with stirring to dissolve. The gelatin solution may be kept heating but charring to be avoided.

The hot glycerol is added to the gelatin solution and the solution is stirred untilhomogenous. The stirring should be gentle to avoid entrapment of air bubbles.

Then weight is adjusted either by evaporation or by adding hot water (and mixing). The molten mass is poured into the previously lubricated mold to fill.

After lubrication the mould is closed and invertedon a clean tile to drain excess lubricant.)

EAST POINT COLLEGE OF PHARMACY
East Point Campus, Jnana Prabha, Virgo Nagar Post,
Bengaluru – 560049, Karnataka

FOR RECTAL USE ONLY

GLYCERO GELATINE SUPPOSITORY IP 66

Licence No : Reg Number
Batch No : A-019
Mfg Date :
Exp Date :
Category : Laxative
Storage : Stored in a Cool place Direction : Lubricate with water and insert through rectam at bed time

Mfg By : ……. PHARMA PVT LTD

The molten mass is allowed to set (solidify). On solidification the suppositoriesare removed, wrapped individually and supplied.

Storage: It should be stored in tight container in a cool temperature protecting from humidity/moisture.

Category: Laxative.

Direction: Lubricate with water and insert through rectum at bed time

Report: 3 Glycero gelatine Suppositories was prepared and submitted

Experiment No. 20

BISMUTH SUBGALLATE SUPPOSITORIES BPC

Aim: To prepare and Submit 3 suppositories each containing 1 gm of BismuthSubgallate.

Principle:

Bismuth Subgallate suppositories are prepared with Cocoa Butter as base. The displacement value of Bismuth Subgallate is 3 with respect to Cocoa Butter. This is taken into account while calculating the base required. The displacement value of themedicament is the number of parts by weight of the medicament that displaces one partby weight of the base.

S.NO	INGREDIENTS	Official Formula For1 Suppository	Working Formula For6 Suppositories
1	Bismuth Subgallate	300 mg	1.80 gm
2	Cocoa Butter (Qs)	1 gm	6 gm

Procedure:

The suppository mould was cleaned and lubricated. The lubricated mould is inverted over ice cube to drain excess lubricant and cool the mould.

The required quantity of drug (Passed through 180 mesh) and cocoa butter. Select dry clean mold and place it on a clean tile. Shred the cocoa butter in a small beaker or porcelain dish. Put finely powdered drug on a clean warm tile.

Place the beaker containing cocoa butter on the water bath until about 2/3" of thecontent gets melted and then takes out from the water bath. The rest amount is meltedwith constant stirring. Pour about half of the melted base on the medicaments on thewarm tile and start levitation as quickly as possible.

Transfer the dispersion to the remaining melted base in the beaker and stir to form a homogeneous mixture. Continuous stirring until the mixture begins to thicken,and then fill each cavity of the mould to overflowing. Leave 2 to 3 minutes until the

CALCULATION:

Displacement value of Bismuth Subgallate	: 3
Weight of Cocoa Butter for 1 Suppository	: 1 gm
Weight of Cocoa Butter for 6 Suppository	: 1 X 6 = 6
Weight of 1 Suppository	: 300 mg
Weight of 6 Suppositories	: 6 X 300 = 1.8 gm
Cocoa Butter displaced by 1.8 gm of drug	: (1 X 1.8) / 3 = 0.6 gm
Required Cocoa butter base	: (6 X 1) – 0.6 = 5.4 gm

Working Formula :

Bismuth Subgallate	: 2.4 gm
Cocoa Butter	: 5.4 gm

FOR RECTAL USE ONLY

BISMUTH SUBGALLATE SUPPOSITORY

Licence No	**: Reg Number**
Batch No	**: A-020**
Mfg Date	**:**
Exp Date	**:**
Category	**: Hemorrhoids**
Storage	**: Stored in a Cool place**
Direction	**: To be taken Rectally at bed time**
Mfg By	**: ..... PHARMA**

Mass just set and then remove the excess from the mould with a sharp knife or a razorblade. Leave the mould in a cool place for 10 minutes.

Finally open the mold and tap it slowly on tissue paper. Wrap each suppository inthe butter paper lined with lubricant and wrapped individually and submitted.

Category: Haemorrhoids.

Storage: It should be stored in a cool place.

Direction: To be taken Rectally at bed time

Report: 3 suppositories containing 1 gm of Bismuth Subgallate was prepared andsubmitted

Experiment No. 21

ZINC OXIDE SUPPOSITORIES

Aim: To prepare and Submit 3 suppositories each containing 120 mg of Zinc Oxide.

Principle:

Boric acid suppositories are prepared with theobroma oil as base. The displacement value of boric acid is 1.5 with respect to theobroma oil. This is taken into account while calculating the base required. The displacement value of the medicament is the number of parts by weight of the medicament that displaces one partby weight of the base.

S.NO	INGREDIENTS	Official Formula For1 Suppository	Working Formula For6 Suppositories
1	Zinc Oxide	120 mg	720 mg
2	Theobromo Oil (Qs)	1 gm	6 gm

Procedure:

The suppository mould was cleaned and lubricated. The lubricated mould is inverted over ice cube to drain excess lubricant and cool the mould.

The required quantity of shredded Theobroma oil (5.76 g) is heated in a china dishover a water bath until two-third of the base is melted. Then the china dish is removed fromthe heating source. This would avoid over heating but the remaining base will melt automatically with that heat.

The finely powdered required quantity of Zinc Oxide was mixed with half of meltedbase on a warm tile using a flexible spatula. Then the Zinc Oxide mixed base is quicklytransferred to the melted base in china dish and mixed to make homogenous mixture.

When the mixture is about to thicken, the mass is poured into the chilled mouldtaking care to overfill each cavity. Over filling is necessary as there will be contractionon cooling leading to depression.

Each Suppository containing 120 mg of Zinc oxide

CALCULATION:

Displacement value of Zinc Oxide	5
Weight of Theobromo oil for 1 Suppository	: 1 gm
Weight of Theobromo oil for 6 Suppository	: 1 X 6
= 6Weight of 1 Suppository	: 120
mg	
Weight of 6 Suppositories	: 6 X 120 = 720 mg
Base Required for Suppositories	= Total amount of base – Total amount of drug/Displacement value.
	= 6 – 0.72 / 1.5 = **5.52 gm**

FOR RECTAL USE ONLY	
ZINC OXIDE SUPPOSITORY	
Licence No	**: Reg Number**
Batch No	**: A-021**
Mfg Date	**:**
Exp Date	**:**
Category	**: Astringent**
Storage	**: Stored in a Cool place**
Direction	**: Unwrap & Insert rectally at bed time**
Mfg By	**: ..... PHARMA**

On solidification the excess is trimmed off horizontally using a sharp knife. Thenthe suppositories are removed, wrapped individually and submitted.

Category: Astringent.

Storage: It should be stored in a tight container in a cool place.

Direction: Unwrap and Insert rectally at bed time

Report: 3 suppositories containing 120 mg of Zinc oxide was prepared and submitted.

OINTMENT

Ointment is a homogeneous, viscous, semi-solid preparation, most commonly a greasy, thick oil (oil 80% - water 20%) with a high viscosity, that is intended for external application to the skin or mucous membranes. Ointments have a waternumber that defines the maximum amount of water that it can contain.They are used as emollients or for the application of active ingredients to the skin for protective, therapeutic, or prophylactic purposes and where a degree of occlusion is desired.

Ointments are used topically on a variety of body surfaces. These include the skin and the mucous membranes of the eye (an *eye ointment*), chest, vulva, anus, and nose. An ointment may or may not be medicated.

Ointments are usually very moisturizing, and good for dry skin. They have a low risk of sensitization due to having few ingredients beyond the base oil or fat, and low irritation risk. There is typically little variability between brands of drugs. They are often disliked by patients due to greasiness.

The vehicle of an ointment is known as the *ointment base*. The choice of a basedepends upon the clinical indication for the ointment.

TYPES OF OINTMENT:

(I) MEDICATED OINTMENT
(II) UN MEDICATED OINTMENT

(I) MEDICATED OINTMENT

These ointment containing drugs which shows local or systemic effects.These are of several types.

1. Dermatological Ointments
2. Opthalmic Ointments
3. Rectal Ointments
4. Vaginal Ointments
5. Nasal Ointments

(II) UNMEDICATED OINTMENT

These ointment do not containing any drugs. They are useful as Emollient,Protectants.

Eg: Petroleum Jelly Dermatological Ointments

THE DIFFERENT TYPES OF OINTMENT BASES ARE:

- ✓ Hydrocarbon bases, e.g. hard paraffin, soft paraffin, microcrystalline wax andceresin
- ✓ Absorption bases, e.g. wool fat, beeswax
- ✓ Water-soluble bases, e.g. macrogols 200, 300, 400
- ✓ Emulsifying bases, e.g. emulsifying wax, cetrimide
- ✓ Vegetable oils, e.g. olive oil, coconut oil, sesame oil, almond oil and peanut oil.

The medicaments are dispersed in the base and are divided after penetrating theliving cells of the skin.

The water number of an ointment is the maximum quantity of water that 100g of a base can contain at 20 °C.

Ointments are formulated using hydrophobic, hydrophilic, or water-emulsifying bases to provide preparations that are immiscible, miscible, or emulsifiable with skinsecretions. They can also be derived from hydrocarbon (fatty), absorption, water- removable, or water-soluble bases.

THE OINTMENT CAN BE PREPARED BY THE FOLLOWING TECHNIQUES:

I. Chemical Reaction Method

II. Emulsification Method

III. Fusion Method

IV. Levigation / Trituration Method

Experiment No. 22

SULPHUR OINTMENT BP.80

Aim: To prepare and Submit 10 gm of Sulphur Ointment BP.80

Method Of Preparation:

- LEVIGATION / TRITURATION METHOD

Principle:

Sulphur ointment, yellow ointment, the special smell of Sulphur. Kill scabies mites, bacteria, fungi, and can remove grease and soften the epidermis, dissolve keratin, and its mechanism after the exposure of the Sulphur with the skin and tissue secretions, hydrogen sulfide, and even five Sulphuric acid, results. For scabies, acne, seborrheic dermatitis, rosacea, simple pityriasis and chronic eczema, neurodermatitis, psoriasis, tinea capitis, tinea corporis, Tinea. The formulations of the drug with other treatments for acne, scaling, drugs, detergents, retinoic acid, and other alcoholic and used to increase skin irritation, dry skin.

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For 10 gm
1	Wool fat 50g	50 gm	0.5 gm
2	Hard paraffin	50 gm	0.5 gm
3	Cetostearyl alcohol	50 gm	0.50 gm
4	White soft paraffin	850g	8.5 gm

Procedure:

Hard paraffin and cetostearyl alcohol on water-bath. Wool fat and white soft paraffin are mixed and stirred until all the ingredients are melted.If required decanted or strained and stirred until cold and packed in suitable container.

Category: Absorption ointment base

Procedure:

The required amount of Simple Ointment was mixed with Sufficient quantityof Powdered Sulphur which has placed on porcelain dish. Levitation was done to obtain a smooth ointment. Then transfer into a suitable container and dispense with neat label.

S.NO	INGREDIENTS	Official Formula For 1000 gm	Working Formula For 10 gm
1	Sublimed Sulphur	100 gm	1 gm
2	Simple Ointment	900 gm	9 gm

FOR EXTERNAL USE ONLY

SULPHUR OINTMENT BP.80

10gm

Licence No : Reg NumberBatch No : A-022
Mfg Date :
Exp Date :
Category : Scabicibe
Storage : Keep a well-closed containerin a cool place
Direction : Apply as Directed

Mfg By : .....PHARMA

Category: Scabicide.

Storage: Keep a well-closed container in a cool place

Direction: Apply as Directly

Report: 10 gm of Sulphur Ointment was prepared and submitted.

Experiment No. 23

NON-STAINING IODINE OINTMENT BPC.59

Aim: To prepare and Submit 10 gm of Non-Staining Iodine Ointment BPC.59.

Procedure:

Powdered Iodine in a glass pestle mortar and add to Arachis oil in a glass stopperedconical flask. Stir well. Heat the above mixture at about 50 C on a water bath till the brown color changes to greenish black color.

Melt yellow soft paraffin and add to the Iodized oil. Mix well. Pour into a warm potand allow cooling without further stirring.

S.NO	INGREDIENTS	Official Formula For 100 gm	Working Formula For10 gm
1	Iodine	50 gm	5 gm
2	Arachis oil	150 ml	15 ml
3	Yellow soft paraffin (Qs)	100 gm	10 gm

FOR EXTERNAL USE ONLY

NON-STAINING OINTMENT BPC.59

10gm

Licence No : Reg Number
Batch No : A-023
Mfg Date :
Exp Date :
Category : Counter - Irritant
Storage : Keep a well-closed containerin a Cool place
Direction : Rub on Affected Part

Mfg By : .....PHARMA

Category: Counter - Irritant

Storage: Keep a well-closed container in a cool place

Direction: Rub on Affected Part

Report: 10 gm of Non-Staining Iodine Ointment was prepared and submitted.

Experiment No. 24

ACECLOFENAC CARBOPOL GEL

Aim: To prepare and Submit 10 gm of Aceclofenac Carbopol Gel.

Procedure:

Dissolve Aceclofenac in a solvent mixture of Propylene glycol and acetone. Add propyl paraben in the solvent mixture. Add carbopol 394 to the above drug solution and stirr with 500 rpm for Half an hour. Neutralize the solution with Triethanolamine by adding drop by drop with constant stirring. Test the pH after the addition of each drop of Triethanolamine. Stop adding Triethanolamine after achieving pH of 6.8 to 7.0. Stir the gel gently with spatula until thefoam of Gel.

S.NO	INGREDIENTS	Official Formula For100 gm	Working Formula For10 gm
1	Aceclofenac	1 gm	0.1 gm
2	Carbopol 934	1 gm	0.1 gm
3	Propylene glycol	15 gm	1.5 gm
4	Triethanolamine	0.5 gm	0.05 gm
5	Acetone	30 gm	3 gm
6	Propyl Paraben	0.5 gm	0.05 gm
7	Purified Water (Qs)	100 gm	10 gm

FOR EXTERNAL USE ONLY

ACECLOFENAC CARBOPOL GEL

10gm Licence No : Reg

Number Batch No : A-024

Mfg Date :

Exp Date :

Category : Anti-Inflammatory

Storage : Keep a cool & dark place in a appropriate container

Direction : Apply as directed by the Physician

Mfg By : .....PHARMA

Category: Anti - Inflammatory

Storage: Keep in a cool & dark place in a appropriate container.

Direction: Apply as directed by the physician

Report: 10 gm of Aceclofenac Carbopol Gel was prepared and submitted.

GARGLES AND MOUTHWASHES

Gargles and mouthwashes usually contain astringent herbs that tighten the mucous membranes of the mouth and throat. The astringency can be made more palatable by adding a little licorice or a pinch of cayenne pepper to the preparation. Since gargles and mouthwashes are made from infusions, decoctions or diluted tinctures, they can safely be swallowed, unlike commercial preparations. However, do not exceed the maximum daily dosage of an herb.

Gargles and mouthwashes are used for sore throats, canker sores, gingivitis, and other oral inflammations.

Experiment No. 25

POVIDONE-IODINE GARGLES

Aim: To prepare and Submit 100 ml of 1% w/v Povidone-Iodine Gargles.

Procedure:

Weigh 1 gm of Povidone-Iodine and transfer to 100ml of measuring cylinder. Add boiled and cooled purified water to the measuring cylinder to dissolve thePovidone-Iodine. Stirr well. Transfer the solution in the appropriate amber colored bottle & Label it.

S.NO	INGREDIENTS	Official Formula For 1000 ml	Working Formula For 100 ml
1	Povidone-Iodine	10 gm	1 gm
2	Purified water (Qs) (Boiled & Cooled)	1000 ml	100 ml

FOR EXTERNAL USE ONLY

GARGLE FOR 30 SECONDS

POVIDONE-IODINE GARGLES

100ml

Licence No : Reg Number
Batch No : A-025
Mfg Date :
Exp Date :
Category : Oral Antiseptic Solution
Storage : Stored in a Cool & Dark place
Direction : Dilute the solution with eqzul volume of warm water before use

Mfg By : .....PHARMA

Category: Oral Antiseptic Solution

Storage: Stored in a Cool & Dark Place

Direction:

- Dilute the solution with equal volume of warm water before use.
- Gargle for 30 seconds

Report: 100 ml of Povidone-Iodine Gargles was prepared and submitted.

Experiment No. 26

Chlorhexidine Gluconate Mouthwash

Aim:

prepare and Submit 100 ml of 0.12% w/v of Chlorhexidine Gluconate Mouthwash.

S.NO	INGREDIENTS	Official Formula For 100 ml	Working Formula For 100 ml
1	Chlorhexidine Gluconate	0.12 gm	0.12 gm
2	PEG-40 (Sorbitan Diisostearate)	0.1 gm	0.1 gm
3	Sorbitol	5 ml	5 ml
4	Alcohol	5 ml	5 ml
5	FD & C Blue no.1	Qs	Qs
6	Peppermint water (Qs)	100 ml	100 ml

Procedure:

Weigh Chlorhexidine Gluconate and PEG-40 sorbitan Diisostearate accuratelyand dissolve in alcohol in 100 ml measuring cylinder. Add sorbitol in 50ml of peppermint water in a separate beaker. Stir well with the glass rod.

Add solution obtained at stage 2 to the alcoholic solution od stage 1 in parts with constant stirring. Add remaining quantity of peppermint water to make up the volume up to 100 ml & Filter.

Transfer the solution to appropriate bottle & Label it.

FOR EXTERNAL USE ONLY

KEEP OUT OF THE REACH OF CHILDREN

CHLORHEXIDINE GLUCONATE MOUTHWASH

100mlLicence No

: Reg Number Batch No :

A-026

Mfg Date :

Exp Date :

Category : Germicide

Storage : Stored in a Cool & Dark placeDirection :

- **Swish in mouth undiluted for 30 seconds, thenspit out.**
- **Use after brakfast & Before bed time.**

Mfg By : ..... PHARMA

Category: Germicide

Storage: Stored in a Cool & Dark Place

Direction:

- Swish in mouth undiluted for 30 seconds, then spit out.
- Use after breakfast & Before bed time.

Report: 100 ml of Chlorhexidine Gluconate Mouthwash was prepared & submitted.

Vision and Mission of the Institution

Vision

The East Point College of Pharmacy aspires to be a globally acclaimed institution, **recognized** for **excellence in** pharmaceutical education, research and nurturing students for **holistic development.**

Mission

M1 Create pharmacy graduates through **quality education**

M2 Promote innovation, **creativity**, and excellence **in teaching**, learning, and **research**

M3 **Inspire** integrity, teamwork, critical thinking**, personal** development, and ethics in **students** and lay **the** foundation for lifelong learning

M4 **Serve** the **healthcare, technological, scientific**, and **economic** needs of then **society**.