



# DENTAL CARE PREPARATIONS

**B. PHARM. SEM. VI SUBJECT : PHARMACEUTICS IV**

**Objective Of Course : Student Should Able To Understand Formulation And Evaluation Of Dental Care Preparation**

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# Introduction

1. DEFINITION
2. FUNCTION OF DENTIFRICES





# TOOTH PASTE

1. IDEAL CHARACTERISTICS OF TOOTHPASTE
2. FORMULATION
3. GENERAL METHOD OF PREPARATION
4. PACKING OF PRODUCT
5. EVALUATION OF TOOTHPASTE



# 1. IDEAL CHARACTERISTICS OF TOOTHPASTE

- **CLEANING PROPERTY**
- **SOFTNESS**
- **CONSISTENCY**
- **NON TOXIC**
- **NON SENSITIZED**
- **INERT NATURE FOR PACKING MATERIAL**

## 2. FORMULATION

### ABRASIVE AND POLISHING AGENT

- DEFINITION
- EXAMPLE :

CALCIUM CARBONATE, TRICALCIUM  
PHOSPHATE, DICALCIUM PHOSPHATE,  
ALUMINIUM SULPHATE, MAGNESIUM  
TRISILICATE

# DETERGENTS AND FOAMING AGENT

- DEFINITION
- MECHANISM OF ACTION
- EXAMPLE :

SOAP, SODIUM LAURYL SULPHATE,  
MAGNESIUM LAURYL SULPHATE, SODIUM  
LAURYL SARCOSINATE, DI-ETHYL SODIUM  
LAURYL SULFOSUCCINATE.

# HUMECTANT

- USE OF HUMECTANT
- EXAMPLE :

GLYCERINE, SORBITOL,  
PROPYLENE GLYCOL

# BINDING AGENTS

- IMPORTANCE OF BINDING AGENTS
- EXAMPLE:

HYDROCOLLOIDS, STARCH, LIQUID  
GLUCOSE, SIMPLE SYRUP, KARAYA  
GUM, GUM ARABIC, TRAGACANTH,

OTHER:- MUCILAGE OF CHONDRUS OR IRISH  
MOSS, CMC, SODIUM ALGINATE, BENTONITE,  
VEEGUM, ETC.


# SWEETENING AGENTS

- ❖ CONCENTRATION IS USED 0.052 TO 0.31 %.
- ❖ VARIOUS EXAMPLE
  - SACCHARIN SODIUM
  - GLYCERINE
  - CHLOROFORM
  - SODIUM CYCLAMATE

# FLAVOURS

- **VARIOUS EXAMPLE :**
  - **PEPPERMINTS OIL**
  - **SPEARMINT OIL**
  - **CLOVE OIL**
  - **CINNAMON OIL**
  - **MENTHOL**

# PRESERVATIVES AGENT

- 
- ❖ **IMPORTANCE OF PRESERVATIVE AGENTS**
  - ❖ **ROLE OF HUMECTANTS**
  - ❖ **VARIOUS EXAMPLE**
    - **METHYL PARA-HYDROXYBENZOATE**
    - **PROPYL PARA-HYDROXYBENZOATE**
    - **SODIUM BENZOATE**
    - **FORMALIN**


# COLOURS

- 
- ❖ **IMPORTANCE OF COLOURS**
  - ❖ **FDA APPROVED COLOURS**
  - ❖ **SINGLE COLOURS AND MULTI-COLOURS**
  - ❖ **CUSTOMERS ACCEPTANCE**
  - ❖ **SPECIAL INGREDIENTS**
  - ❖ **EXAMPLE :**
    - **PINK**
    - **RED**
    - **GREEN**

# BLEACHES

- ❖ **IMPORTANCE OF BLEACHES**
- ❖ **EXAMPLE :**
  - **SODIUM PERBORATE**
  - **HYDROGEN PEROXIDE**
  - **MAGNESIUM PEROXIDE**

# LUBRICANTS

- 
- ❖ IMPORTANCE OF LUBRICANTS
  - ❖ EXAMPLE :
    - LIQUID PARAFFIN (1.0 - 2.0%)

# **SPECIAL INGREDIENTS :**

## **1. PANCREATIN**

- a. IT IS USED TO REMOVAL OF TARTAR WITHOUT ANY DAMAGE TO THE TOOTH ENAMEL.**

## **2. LIQUID SILICON**

- a. TO FORM THIN WATER REPELLENT FILM**
- b. EAZY SPREADING OVER TEETH**
- c. CONCENTRATION IS USED 0.5-45%**

# **SPECIAL INGREDIENTS :**

## **3. CHLOROPHYLL**

- a. IT IS USED AS DEODORIZING EFFECT IN HALITOSIS. PANCREATIN.**

## **4. SODIUM LAURYL SARCOSINATE**

- a. IT IS USED AS FOAMING AGENT, ANTI-ENZYME , BACTERIOSTAT, ANTI-CARIOGENIC ACTIVITIES.**
- b. HEXOKINASE INHIBITOR.**

## **5. ALKALI AND UREA**

- a. -USED TO NEUTRALIZE ACID IN SALIVA AND TO PREVENT DECOMPOSITION OF CARBOHYDRATE AND FORMATION OF ACID.**


# **SPECIAL INGREDIENTS :**

## **6. STRONTIUM CHLORIDE**


- a. IT IS USED FOR TREATMENT OF HYPERSENSITIVITY.**
- b. IT IS ALSO HELP IN PREVENTING TOOTH DECAY.**




# GENERAL METHOD OF PREPARATION

- 
1. WEIGHING OF ALL INGREDIENTS
  2. MIXING OF SOLID-SOLID
  3. SIEVING
  4. ADDITION OF VEHICLE
  5. MIXING OF PASTE
  6. TRANSPORTATION
  7. FILLING & PACKING INTO CONTAINER
  8. LABELING AS PER D & C ACTS 1945.

# EVALUATION OF TOOTHPASTE

- 
1. ABRASIVENESS
  2. PARTICLE SIZE
  3. CLEANSING PROPERTY
  4. CONSISTENCY
  5. pH OF PRODUCT
  6. FOAMING CHARACTER
  7. LIMIT TEST FOR ARSENIC AND LEAD
  8. VOLATILE MATTER AND MOISTURE
  9. EFFECT OF SPECIAL INGREDIENTS

# FORMULA



1.	CALCIUM CARBONATE	56.0 GM
2.	SODIUM LAURYL SULPHATE	1.0 GM
3.	GLYCERINE	22.0 GM
4.	GUM TRAGACANTH	1.5 GM
5.	WATER	19.4GM
6.	SACCHARINE	0.1 GM
7.	FLAVOURS	Q.S
8.	PRESERVATIVE	Q.S

# TOOTH POWDER


## INTRODUCTION

- ❖ **OLDEST AND SIMPLE PREPARATION**
- ❖ **DIFFERENCE BETWEEN TOOTH PASTE AND TOOTH POWDER**
- ❖ **MANUFACTURING PROBLEM OF TOOTH POWDER**


# COMPOSITION

1. ABRASIVE AGENT
2. SURFACTANT OR DETERGENT
3. SWEETENING AGENT
4. FLAVOUR
5. COLOUR IF REQUIRED

# GENERAL PROCEDURE OF MANUFACTURING


- 
1. WEIGHING OF ALL INGREDIENTS
  2. MIXING OF SOLID-SOLID
  3. SIEVING
  4. TRANSPORTATION
  5. FILLING & PACKING INTO CONTAINER
  6. LABELING AS PER D & C ACTS 1945.

# FORMULA FOR TOOTH PASTER



1. CALCIUM CARBONATE	76 GM
2. KAOLIN	11.9 GM
3. SODIUM LAURYL SULPHATE	2.0 GM
4. POWDERED PUMICE	10.0 GM
5. SACCHARIN SODIUM	0.1 GM
6. FLAVOUR	Q.S
7. COLOUR	Q.S

# EVALUATION OF TOOTHPASTE

- 
1. ABRASIVENESS
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  5. FOAMING CHARACTER
  6. LIMIT TEST FOR ARSENIC AND LEAD
  7. VOLATILE MATTER AND MOISTURE
  8. EFFECT OF SPECIAL INGREDIENTS

# THANK YOU

KINDLY SUBMIT

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