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# Diploma in Pharmacy 1<sup>st</sup> Year

## Pharmaceutics

### Experiment

#### To formulate toothpaste.

#### Aim:

To formulate toothpaste.

#### Reference :

‘ Dr. Gupta G.D , Dr. Sharma Shailish , Dr. Sharma Neelam ’  
“Practical Manual of Pharmaceutics” Published by Nirali Prakashan, Page  
no 99 – 102

#### Apparatus and Materials Required :

Calcium carbonate, sodium lauryl sulphate, glycerine, gum tragacanth, water, saccharine, dry mixer, beaker, and measuring cylinder.

#### Theory :

Toothpastes are used to freshen-up the mouth and breath as well as remove stains from the teeth. As the toothpaste has mild abrasives and flavourings agents in them they are helpful in solving dental problems. They are the most widely used type of dentifrices.

#### Procedure :

Toothpastes can be prepared by any of the following two methods:

- 1) **Dry Gum Method** : The steps involved are:
  - i) Apart from the surfactants, the remaining solid components, like abrasive agent, binding agent, etc, should be mixed together in the dry mixture (an agitation mixer with slowly rotating blades).
  - ii) The liquid components like humectants and water should be added to the dry mixture obtained.
  - iii) All the ingredients should be mixed to obtain a smooth paste.
  - iv) Lastly, the surfactants and flavouring agents should be added to the homogenous paste under vacuum.

2) **Wet Gum Method** : The steps involved are:

- i) The liquid components should be mixed together to form a liquid phase. )
- ii) The binding agent should be added to the liquid phase obtained with uniform stirring to form mucilage.
- iii) Then the solid ingredients except the surfactants should be mixed uniformly with the mucilage in an agitation mixture to form a homogenous paste.
- iv) Lastly, the surfactants, flavouring agents, and colouring agents should be added to the homogenous paste under vacuum.

## Formulation

S.No	Ingredients	Quantity	Category
1)	Calcium carbonate	35.00	Abrasive
2)	Sodium lauryl sulphate	01.50	Surfactant
3)	Glycerin	30.00	Anti-crusting agent
4)	Methyl cellulose	01.00	Gelling Agent
5)	Sodium saccharine	00.30	Sweetener
6)	Methyl paraben	00.10	Preservative
7)	Propyl paraben	00.02	Preservative
8)	Titanium dioxide	00.05	Opacifies
9)	Menthol	01.50	Flavouring Agent
10)	Purified water	q.s.	Vehicle

## Result :

Toothpaste was formulated and submitted.

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