

# Bright, Pearly whites!

Peppermint, spearmint, lemon and cinnamon...they come in a variety of flavours. But no matter what the flavour or the brand, they all make the same promises – to fight germs, prevent cavities and even boosting confidence. But have you ever wondered what goes into a toothpaste tube as you brush your teeth while still half asleep?

The oldest formula for toothpaste is preserved on a dusty papyrus! Yes, toothpaste can be traced back to the Egyptians who mixed salt, pepper and mint leaves to clean their teeth. The modern equivalent became popular only in the 1900s and today factory-produced toothpastes are a combination of active and inactive ingredients. **See box**

## Most toothpastes have two kinds of ingredients.



### Active Ingredients these have a direct impact on teeth.

- Fluoride (sodium monofluorophosphate) – anti-decay, anti-caries
- Zinc citrate trihydrate – anti plaque
- Tetra sodium pyrophosphate – tartar control

### Inactive Ingredients these are added to stabilise and preserve the paste.

- Hydrated silica – polishing and cleaning
- Sorbital – prevents paste from drying out.
- Sodium lauryl sulfate – foaming agent.
- Cellulose – thickens mixture
- Sodium benzoate – preservative
- Titanium dioxide – whitens paste
- Water

1 All the ingredients are put into a mixer.

2 Mixing rods inside thoroughly combine the ingredients

3 The paste is poured into the storage tank, which holds it while it is pumped into the filling machine.

4 The filling machine is loaded with empty tubes made from plastic or aluminum lined with a thin layer of plastic. Tubes are capped but open at the opposite end to permit filling. A pump is used to fill the tube.

6 The used packaging material (card-board, plastic and metal) is discarded after use. They can be recycled.

5 The tube is sealed closed, crimped, stamped and transferred to the cartoning machine.



## What did people use before the advent of tube toothpaste?

An 18th century European toothpaste formula required dragon's blood, cinnamon and burnt alum! But there were simpler alternatives and several are still used today. What are they?

1. Neem and Babool — chewing twigs of these trees to clean teeth is very common in India. It controls gum diseases.

2. Miswak — another kind of twig popular in the Arab region is derived from the roots of the Arak tree popularly known as the toothbrush tree. It has astringent properties and natural



antibiotics.

3. Tree twigs — In West Africa lime tree and orange tree twigs were in vogue.

4. Mango leaves — are used in southern India. The midrib is removed from a fresh mango leaf and then it is folded and rolled into a cylindrical pack. One end of this pack is bitten off and the raw surface is rubbed on the teeth.