

Is chewing gum made of plastic?

From the sweeties.net wiki

It sounds like a scare story, but it is essentially true: most modern chewing gum is made with a gum base of synthetic polymers, the same families of materials used to make rubbers and some plastics.

What is gum base?

Every piece of gum has two parts. There are the things that dissolve as you chew, such as sugar or sweeteners, flavourings and softeners, and there is the part that does not dissolve, which gives gum its chew. That part is the gum base. It makes up about 20 to 25% of ordinary chewing gum, about 25 to 30% of sugar free gum and about 15 to 20% of bubble gum.

From tree sap to petroleum

Gum used to be made from natural materials. The Maya and Aztecs chewed chicle, the sap of a tropical tree, and early American gum was made from spruce resin and later from chicle too. Today those natural bases have largely been replaced by synthetic, petroleum based ones.

The exact recipe for a gum base is usually a trade secret. In the United States, the food regulator allows 46 different substances under the heading gum base. The most commonly used include butadiene styrene rubber, polyvinyl acetate, polyethylene, paraffin and petroleum waxes. Other ingredients include softeners made from tree resins, fats, fillers such as calcium carbonate or talc, and preservatives.

So is it plastic?

Some of those ingredients are very close relatives of everyday plastics and rubbers. Polyvinyl acetate, for example, is also the main ingredient of the white wood glue many people know as PVA. Butadiene styrene is a synthetic rubber. So while nobody would call gum a plastic bag, it is fair to say that the chewy part of most gum is a synthetic polymer.

This is also why gum is so good at being gum. The polymers repel water, so saliva cannot break them down and the gum lasts for ages. And because they attract oils, gum sticks stubbornly to pavements, hair and shoes: see [why chewing gum is so hard to get off pavements](#).

Is it safe?

Gum base ingredients are approved for use in food, and the amounts involved are small. Research has shown that chewing gum releases tiny particles, microplastics and nanoplastics, into saliva as it is chewed, which are then swallowed. Possible health effects of swallowing microplastics are still being investigated, and there is no settled answer yet. In 2010 the Canadian government concluded that exposure to vinyl

acetate, a chemical once flagged as a concern in some gum bases, was not considered harmful to human health.

The natural alternative

If you would rather avoid synthetic gum base, some gums are made with natural chicle or other plant gums. Researchers have also experimented with gum bases made from corn protein that would break down naturally. For the full ingredient list of a typical gum, see [what chewing gum is made of](#).

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