

What is modified starch in sweets?

From the sweeties.net wiki

Modified starch is ordinary starch, from plants such as maize, potatoes or wheat, that has been treated to change the way it behaves. The word modified refers to what happens to the starch after it has been extracted, not to the plant it came from. On an ingredients list it usually appears simply as modified starch.

Why modify starch?

Starch on its own is useful but fussy. It can break down when it is heated, when it meets acid, when it is stirred hard, or simply over time, and it can behave differently when it is cooled or frozen. Starches are modified to make them more stable against all of these things, and to change their texture, how thick they make a liquid, and how quickly they set.

In food, modified starches work as thickeners, stabilisers and emulsifiers. In medicines they help tablets break apart, and in paper making they are used as a binder.

How it is done

The oldest way of modifying starch is malting grain, which people have done for thousands of years: the grain's own enzymes change its starches. Today starch is modified physically, with enzymes, or chemically, using simple substances such as acids and alkalis. Different treatments give different results:

- **Acid treated starch**, also called thin boiling starch, is made by treating starch with an acid, which breaks down the starch molecules and makes it less thick when cooked.
- **Oxidised starch**, E1404, is treated with sodium hypochlorite, which also thins it.
- **Starch phosphates**, such as distarch phosphate, E1412, have their molecules linked together, which changes their texture.
- **Hydroxypropylated starch**, E1440, holds its thickness better.
- **Pregelatinised starch** thickens without heat, which is how instant desserts set with cold milk.

Most of the modified starches used in food have E numbers between E1404 and E1452: see [what are E numbers in sweets?](#)

Modified starch in sweets

Starch does several jobs in sweets. Acid treated starch forms the shell of jelly beans. Starch is one of the gelling agents that can be used instead of gelatine to make gummy sweets suitable for vegetarians and vegans, along with pectin and agar: see [what is pectin?](#) Modified starch also turns up in some old sweets: Parma Violets, the violet flavoured tablets made by Swizzels in Derbyshire, list sugar, stearic acid, modified

starch, glucose syrup and a colour from plants among their ingredients.

Plain starch has another job in the sweet factory. Many jelly sweets are shaped in trays of starch, usually wheat, rice or corn starch, which is why some come out dusty: see [why are Jelly Babies covered in powder?](#)

Starch sugars

Starch can also be broken down much further, into sugars. Glucose syrup, maltodextrin and dextrose are all made from starch: see [what is dextrose in sweets?](#)

Is it bad for you?

The modified starches used in food are approved additives. They are also one of the typical ingredients of ultra processed foods. If you need to avoid a particular source, such as wheat, check the label and see [are sweets gluten free?](#)

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