

What is carmine?

From the sweeties.net wiki

Carmine is a deep red colour made from insects. It is also sold as cochineal, cochineal extract or carmines, and in Europe it is the food additive E120. It is used to colour sweets, icings, desserts, jams, drinks, dairy products and lipstick.

Made from insects

Carmine comes from the cochineal, a small scale insect native to tropical South America and Mexico. It lives on the pads of prickly pear cacti, feeding on the plant's juices. The insects produce carminic acid to put off predators, and it makes up about 17 to 24 per cent of their dried weight.

The insects are brushed off the cactus pads and dried. The powdered bodies are boiled, and the extract is treated with alum to make a red solid known as carmine lake or crimson lake. It takes about 70,000 insects to make one pound of cochineal dye, just under half a kilogram. Today Peru is the largest producer, followed by Mexico, Chile, Argentina and the Canary Islands.

A red with a history

Cochineal was used to dye cloth in the Americas long before Europeans arrived, and the Aztecs used carmine. It became an important export in the 16th century, when Spain and Portugal controlled the world trade.

Britain wanted a supply of its own, because the dye mattered to its clothing industry and was used, for example, to colour the red coats of British soldiers. In 1788 Captain Arthur Phillip collected cacti infested with cochineal in Brazil on his way to found the first European settlement in Australia, at Botany Bay. The plan failed twice over. The insects soon died, but the cacti thrived and eventually overran about 100,000 square miles of eastern Australia, until a South American moth was brought in to control them in the 1920s.

When synthetic dyes arrived in the late 19th century, cochineal fell out of use. Worries about the safety of artificial food colours brought it back, and farming the insect has become profitable again.

Why it is used in food

Carmine is one of the most stable natural colours, resisting light, heat and oxidation, and it is even more stable than many synthetic colours. It turns up in sweets, icings, desserts, jams, fruit drinks, cheeses and meat products.

Why it causes rows

Because it is made from insects, carmine is not suitable for vegans, and many vegetarians avoid it too. Many Muslims consider food containing it forbidden, since all insects except the locust are considered haram. Many Jews avoid it as well, though some authorities allow it because the insect is dried and reduced to powder.

That has led to some very public rows. In March 2012, after a vegan barista raised the alarm, it emerged that Starbucks had started using cochineal extract to colour its Strawberries and Creme Frappuccino, a smoothie and some cakes. After complaints from vegans and vegetarians, the president of Starbucks in the United States, Cliff Burrows, announced in April 2012 that the company would switch to lycopene, a colour from tomatoes.

Carmine can also cause allergic reactions in some people, including sudden swelling. In the United States, the Center for Science in the Public Interest asked the Food and Drug Administration to make labels say that carmine comes from insects and can cause severe allergic reactions. The FDA declined, and food makers were allowed to list it simply as cochineal extract or carmine.

Is it safe?

In 2015 the European Food Safety Authority reviewed E120. It kept the acceptable daily intake set in 1983, equal to 2.5 milligrams of carminic acid per kilogram of body weight a day, and found that carminic acid is not genotoxic. Because no safe threshold can be set for allergic reactions, it advised that the proteins that can trigger them should be removed during manufacture.

How to spot it

Under European labelling rules, every food additive has to be listed in the ingredients, by name or by E number, so look for carmine, carmines, cochineal or E120. Plant colours can do a similar job, such as lycopene from tomatoes, E160d, which Starbucks switched to, and the anthocyanins found in fruit and in vegetables such as black carrots, E163: see [what is black carrot concentrate?](#)

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