German Federal Institute for Risk Assessment

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Salmonella and chocolate products

→ Changes compared to the version from 13 April 2026: Information has been added regarding the *Salmonella* Bochum outbreak.

On 16th of April 2026, the Robert Koch Institute (RKI) reported a foodborne outbreak of salmonellosis in Germany. As a result of this outbreak, 40 cases of *Salmonella* Bochum infections were reported in several German states (as of 14th April 2026), mainly in the eastern states, primarily affecting children aged 15 years and younger. One person (aged over 60) has died in connection with this outbreak. Isolated cases have been reported from neighbouring European countries.

According to the RKI, interviews with those affected have indicated that hazelnut nougat cream is a possible source of the infection. On the 9th of April 2026, a manufacturer of chocolate products issued a product recall for certain batches of a hazelnut nougat cream. The reason was the detection of *Salmonella* in the product during internal quality control. Food microbiology laboratories are currently working intensively to use genetic profiling to trace contamination back from the patient to the source of contamination without any gaps.

After *Campylobacter* bacteria, *Salmonella* is the most common bacterial cause of intestinal diseases in Germany. High-risk foods include, in particular, undercooked or raw meat and products made from it, unpasteurised eggs and egg products, and plant-based foods.

Chocolate products have repeatedly played a significant role in disease outbreaks in the past. In fatty products such as chocolate spread, even small amounts of bacteria can be enough to cause illness. The illness known as salmonellosis is often accompanied by diarrhoea and abdominal pain, but fever, nausea and vomiting are also possible. Children in their early years and people whose immune systems are weakened, for example due to old age or pre-existing medical conditions, are particularly at risk.

Presence and detection of salmonella in chocolate products

Salmonella is rarely detected in chocolate products. Nevertheless, there have been known disease outbreaks caused by *Salmonella* in chocolate. The most recent disease outbreak in Germany linked to chocolate, of which the BfR has awareness, occurred in 2022 and was caused by the *Salmonella* Typhimurium strain. In 2025, the food warning portal published by the German Federal Office of Consumer Protection and Food Safety (BVL) listed only one instance of a vegan chocolate product being recalled due to the detection of *Salmonella*. The BfR is not aware of any cases of illness in connection with the 2025 food warning.

Chocolate products not only protect the *Salmonella* during passage through the stomach – in high-fat products they are very well protected against the acidic conditions in the human stomach and largely reach the intestines alive –, but also provide a particularly favourable environment for survival, offering good protection against adverse environmental conditions. *Salmonella* can survive in chocolate for up to several years. Due to the low water content of chocolate and the protective effect of the fat, they exhibit very high heat resistance. Bacterial proliferation is generally not possible due to the high sugar content and the consistency of the products. Normally, between 10,000 and 100,000 bacteria are required to cause an infection. Protected by the high-fat matrix, fewer than 1,000 cells in chocolate products can lead to an infection. A further complicating factor with chocolate is that children are a key target group for these products.

The detection of *Salmonella* in chocolate and cocoa is also a challenge. Special methods had to be developed to reliably detect *Salmonella* in cocoa-containing products, as various reactions are interfered with by the ingredients in cocoa.

There are nearly 2,700 different strains of *Salmonella*, known as serovars. Unlike with contaminated eggs, where *Salmonella* Enteritidis is predominantly found, there is no discernible pattern in chocolate products suggesting that certain serovars occur more frequently than others. In known outbreaks of salmonellosis caused by the consumption of contaminated chocolate products, serovars such as *S*. Napoli, *S*. Oranienburg or *S*. Typhimurium have been found. *S*. Durham has been detected in cocoa powder, *S*. Eastborne in cocoa beans and *S*. Nima in chocolate coins. In recent years, the National Reference Laboratory for Salmonella at the BfR has detected the serovars *S*. Hull or *S*. Salford (isolates from chocolate), *S*. Nigeria (isolate from cocoa shells), *S*. Typhimurium (isolate from pralines) and *S*. Senftenberg and *S*. Weltevreden (isolates from cocoa).

The serovar *S*. Bochum, which is rarely detected, has been identified as the causative agent of the current outbreak, which may be linked to chocolate products. No further outbreaks caused by *S*. Bochum have been reported in recent years. In Germany, no *S*. Bochum has been detected at any stage of food production since 2011 as part of zoonosis monitoring. The National Reference Laboratory for *Salmonella* at the BfR receives *S*. Bochum isolates from diagnostic testing for typing only sporadically from testing facilities in Germany. These isolates originate from various sources, including animal feed, fertilisers, pork, minced meat and sausages, and were isolated more than ten years ago. International reports on findings of *S*. Bochum are also very rare: Isolations of *S*. Bochum from bovine faeces (2025, Ivory Coast), bats (2019, Ivory Coast), and animal feed/cocoa bean husks (1998, France) as well as chicken liver (2017, from Brazil) have been described.

Information regarding the current product recall

The batches specified by the manufacturer in the product recall should under no circumstances be consumed or used for processing in any other way in the kitchen, but must be disposed of immediately. Although *Salmonella* is a particular hazard to vulnerable consumer groups, its occurrence can also occur in otherwise healthy individuals.

If the occurrence of diarrhoea is accompanied by typical symptoms of salmonellosis[1] – particularly in children – it is recommended that a doctor be consulted. Products such as nut nougat cream should be considered as a potential source of infection and the remaining product should be kept available for analysis.

In Germany, responsibility for food monitoring authorities lies with the German federal states ("Laender"). The German Federal Office of Consumer Protection and Food Safety (BVL) receives reports from the German federal states regarding foodstuffs that may pose health risks to consumers. It is the national contact point for the European Rapid Alert System for Food and Feed.

Further information on human salmonellosis is published by the relevant public health authorities and the Robert Koch Institute (RKI).

[1] Typical symptoms of salmonellosis according to Infektionsschutz.de: Sudden diarrhoea, headaches and abdominal pain, general malaise and, occasionally, vomiting are common symptoms of salmonella infection. A mild fever is also frequently present. The symptoms often persist for several days and then subside on their own. In rare cases, the disease can take a severe course, such as a bloodstream infection (sepsis), sometimes accompanied by a high fever.

Further information on the BfR website about *Salmonella*

Questions and answers on protection against *Salmonella* infection
https://www.bfr.bund.de/fragen-und-antworten/thema/fragen-und-antworten-zum-schutz-vor-infektionen-mit-salmonellen/ (in German)

About the BfR

The German Federal Institute for Risk Assessment (BfR) is a scientifically independent institution within the portfolio of the German Federal Ministry of Agriculture, Food and Regional Identity (BMLEH). It protects people's health preventively in the fields of public health and veterinary public health. The BfR provides advice to the Federal Government as well as the Federal States ('Laender') on questions related to food, feed, chemical and product safety. The BfR conducts its own research on topics closely related to its assessment tasks.

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