

## ***Clostridium estertheticum* in vacuum-packed beef: Health risk through consumption is unlikely**

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The Max Rubner-Institute (MRI) has discovered increased findings of vacuum-packed meat contaminated with psychrophilic (growth in cold temperatures) bacteria. The meat is spoiled before the best-before date. Typical signs of this are bloated packaging and bad odour stemming from the meat. This is caused by the bacterium *Clostridium estertheticum* which has contaminated the meat. Beef is most commonly affected, but lamb and venison are also affected. Meat that exhibits such sensory changes is unfit for human consumption, yet a potential health hazard for consumers is unlikely according to the Federal Institute for Risk Assessment (BfR).

Due to insufficient data on the bacterium, BfR can only provide a provisional risk assessment of *Clostridium estertheticum*. Research literature includes no indication of health risk for humans through the ingestion of the bacterium. The bacterium is not considered disease-causing and was therefore classified in the lowest risk group by the Committee for Biological Agents (ABAS). Many species of clostridia occur everywhere in the environment. It is assumed that *C. estertheticum* is transmitted to the carcass during evisceration and skinning. In contrast to other spoiling agents, these bacteria multiply preferably at temperatures between -1.5 to 16 degrees Celsius. They then produce gases that lead to a distension of vacuum packages. A case of such "blown pack spoilage" was first reported in 1989.

The full version of this BfR Opinion is available in German on [http://www.bfr.bund.de/cm/208/clostridium\\_estertheticum\\_in\\_vakuumverpacktem\\_rindfleisch\\_ein\\_gesundheitliches\\_risiko\\_durch\\_den\\_verzehr\\_ist\\_unwahrscheinlich.pdf](http://www.bfr.bund.de/cm/208/clostridium_estertheticum_in_vakuumverpacktem_rindfleisch_ein_gesundheitliches_risiko_durch_den_verzehr_ist_unwahrscheinlich.pdf).