

## **CAUTION: SOME SOFT DRINKS MAY SERIOUSLY HARM YOUR HEALTH**

Expert links additive to cell damage  
By Martin Hickman, Consumer Affairs Correspondent  
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A new health scare erupted over soft drinks last night amid evidence they may cause serious cell damage. Research from a British university suggests a common preservative found in drinks such as Fanta and Pepsi Max has the ability to switch off vital parts of DNA.

The problem—more usually associated with ageing and alcohol abuse—can eventually lead to cirrhosis of the liver and degenerative diseases such as Parkinson's.

The findings could have serious consequences for the hundreds of millions of people worldwide who consume *fizzy drinks*. They will also intensify the controversy about food additives, which have been linked to hyperactivity in children.

Concerns centre on the safety of *E211*, known as sodium benzoate, a preservative used for decades by the global carbonated drinks industry. Sodium benzoate derives from benzoic acid. It occurs naturally in berries, but is used in large quantities to prevent mould in soft drinks such as Sprite, Oasis and Dr Pepper. It is also added to pickles and sauces.

Sodium benzoate has already been the subject of concern about cancer because when mixed with the additive vitamin C in soft drinks, it causes benzene, a carcinogenic substance. A Food Standards Agency survey of benzene in drinks last year found high levels in four brands which were removed from sale.

Now, an expert in ageing at Sheffield University, who has been working on sodium benzoate since publishing a research paper in 1999, has decided to speak out about another danger. Professor Peter Piper, a professor of molecular biology and biotechnology, tested the impact of sodium benzoate on living yeast cells in his laboratory. What he found alarmed him: the benzoate was damaging an important area of DNA in the "power station" of cells known as the mitochondria.

He told The Independent on Sunday: "These chemicals have the ability to cause severe damage to DNA in the mitochondria to the point that they totally inactivate it: they knock it out altogether."

"The mitochondria consumes the oxygen to give you energy and if you damage it—as happens in a number of diseased states—then the cell starts to malfunction very seriously. And there is a whole array of diseases that are now being tied to damage to this DNA—Parkinson's and quite a lot of neuro-degenerative diseases, but above all the whole process of ageing."

The Food Standards Agency (FSA) backs the use of sodium benzoate in the UK and it has been approved by the European Union but last night, MPs called for it to investigate urgently.

Norman Baker, the Liberal Democrat chair of Parliament's all-party environment group said: "Many additives are relatively new and their long-term impact cannot be certain. This preservative clearly needs to be investigated further by the FSA."

A review of sodium benzoate by the World Health Organization in 2000 concluded that it was safe, but it noted that the available science supporting its safety was "limited".

Professor Piper, whose work has been funded by a government research council, said *tests conducted by the US Food and Drug Administration were out of date.*

"The food industry will say these compounds have been tested and they are complete safe," he said. "By the criteria of modern safety testing, the safety tests were inadequate. Like all things, safety testing moves forward and you can conduct a much more rigorous safety test than you could 50 years ago."

He advised parents to think carefully about buying drinks with preservatives until the quantities in products were proved safe by new tests. "My concern is for children who are drinking large amounts," he said.

Coca-Cola and Britvic's Pepsi Max and Diet Pepsi all contain sodium benzoate. Their makers and the British Soft Drinks Association said they entrusted the safety of additives to the Government.