

STRUVITE CRYSTALS

F WHAT ARE STRUVITE CRYSTALS?

During the canning process of some seafood (notably salmon, tuna, mackerel, shrimp etc), magnesium ammonium phosphate can form.

A Occasionally this chemical can form into crystals that occur naturally and are called 'Struvite'. These can grow to a size large enough to attract attention.

C WHAT DO THEY LOOK LIKE?

T The crystals resemble broken glass and consumers may be alarmed and assume that careless factory controls or sabotage is to blame.

T On close examination, using a magnifying glass, the difference is obvious. Struvite, (as the crystals are called) occurs usually in the form of regularly shaped prisms, with the edges tending to form straight lines. Glass particles are more likely to be irregular in shape. However, the type of product and the location in the can, may produce less regular shaped crystals.

S WHERE DO THEY COME FROM?

H The separate chemical substances capable of uniting to form crystals of magnesium ammonium phosphate are always present in the bodies of fishes, animals and man, but it is only under certain conditions that these substances unite to form crystals. The same substance has also been found in the healthy human body in the tartar film on teeth and elsewhere.

E HOW CAN YOU TELL THE DIFFERENCE BETWEEN STRUVITE CRYSTALS AND GLASS?

E Struvite crystals can be easily identified in the laboratory but you can tell the difference between struvite and glass by carrying out simple tests at home.

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For example:

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- * Struvite crystals are softer than glass and can be scratched
- * They are soluble in a hot dilution of acid-vinegar or lemon juice. Boiling them for a few minutes will completely dissolve crystals, but not glass.
- * If you squash crystals between two hard surfaces they will usually break down into smaller fragments or powder.

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ARE THEY HARMFUL?

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No, in fact the chemicals in struvite occur in many foods, and are valuable nutrients. As the acid-vinegar/lemon juice test demonstrates. Struvite dissolves in acids, such as those naturally present in the stomach. They are easily digested, do not smell or taste and are too soft to do any harm. The formation of struvite cannot be prevented completely even with the use of additives, such as polyphosphates.

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