

## Public Advisory Note 3 Calcium Lactate Crystals in Cheese

Calcium Lactate Crystals appear naturally in some cheeses. More particularly they appear on hard cheeses that have been matured for long periods for flavour development, e.g. Vintage Cheddar.

A brief description of the process of crystal formation is as follows:-

**Calcium** (a mineral) and **lactose** (a sugar) occur naturally in cow's milk. Therefore cheese made from cow's milk may also contain these components.

**Starter bacteria** (which are deliberately added to the milk in the cheese vat) ferment the lactose into lactic acid. Calcium and lactic acid associate themselves to form the calcium salt, **Calcium Lactate**.

During the ageing cheddar cheese loses water as part of the natural cheese ripening process. This "expulsion" effect causes the calcium lactate to become more concentrated, until it is supersaturated, and loses solubility. At this stage the crystals can form.

This explains why the crystals are more likely to appear in the full flavoured "Vintage" cheddar than the less developed "Medium" cheddar.

There is no health risk associated with the crystals as they are part of the natural make up of the cheese

**For further Advice/Information contact  
Salford City Council  
Environment Directorate, Turnpike House  
631 Eccles New Road, Salford M5 2SH  
Telephone: 0161 737 0551  
Email: [environment@salford.gov.uk](mailto:environment@salford.gov.uk)**