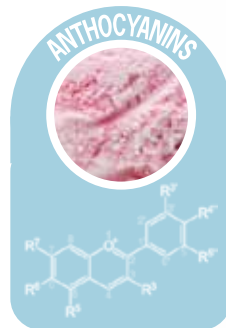
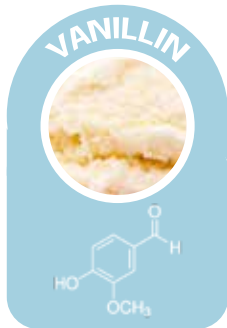


THE CHEMISTRY OF ICE CREAM

Flavors and Colors



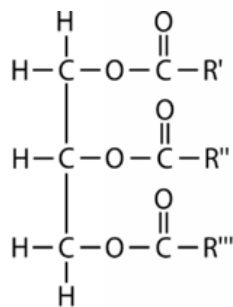
While natural ice cream has a number of compounds, deeper flavor is accomplished through artificial flavoring. Vanilla flavoring is simply Vanillin, while other flavor compounds can be much more complex. Anthocyanins are used to color strawberry ice cream.

Fats and Proteins

The fat in ice cream is what makes it creamy!

The proteins in milk form a membrane around the fat droplets, making it hard for them to come in contact with each other.

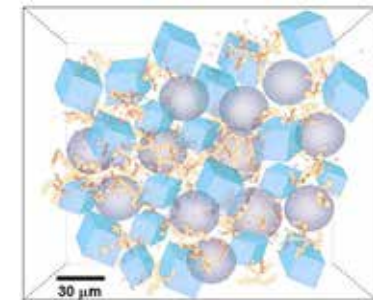
When ice cream is made, some of the fat in the droplets solidifies. This causes fat 'needles' to form, which helps droplets cluster and creates air bubbles.



Fat
(Triglyceride)

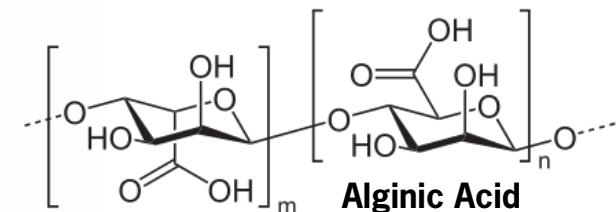


The Structure



Beating and aeration occur at the same time, creating small air bubbles (stabilized by de-emulsified fat.) Air makes up 30 - 50% of ice cream's volume. During freezing, water becomes ice crystals.

Stabilisers



Stabilizers are carefully added to ice cream. This prevents ice cream from melting too quickly, provides a smoother texture, and increases the viscosity of the liquid phase of the ice cream.