MOLECULAR COCKTAILS: SPHERIFICATION

Spherification is a technique that can be used to make small caviar-like spheres of flavour which then float in a cocktail and burst in the mouth when they are drunk. Two different techniques can be used: spherification, and reverse spherification.

THE METHOD

1. First, sodium alginate is dissolved in the liquid to be spherified. If the liquid is too acidic (pH < 3.6), the sodium alginate will convert into insoluble alginic acid, so this must be avoided.

2. The liquid from step one is dropped into a ‘bath’ containing calcium chloride, calcium lactate, or calcium lactate gluconate. This forms a membrane around the spheres.

3. The spheres are removed from the bath after around a minute and then rinsed in distilled water. They are then ready to be served and can be placed into the cocktail!

SPHERIFICATION
- Sodium alginate in liquid
- Calcium salt bath used
- Doesn’t work for acidic liquids
- Eventually gels whole sphere

REVERSE SPHERIFICATION
- Calcium salt in liquid
- Sodium alginate bath used
- Works for acidic liquids
- Gel only forms at membrane

THE SCIENCE

Sodium alginate is a salt of alginic acid, a substance used by brown algae to strengthen their cell walls, and which can be collected from seaweed. When it is placed in a calcium salt solution, calcium ions displace the sodium ions, and their increased pull on the negative ions in neighbouring chains increases the attraction between them, leading to the formation of a gel-like substance.

SODIUM ALGINATE

SODIUM ALGINATE

1 MIN
THEN
RINSE

BUBBLED UP BELLINI

Sparkling wine with spheres of fruity seaweed extract. This is no salty dog – think strawberries from the sea.