Simple though they may seem, there's some complex chemistry behind the contact lenses that many of us use on a daily basis. Here we take a look at some of the different chemicals that have been used over the years, and how contact lenses have gradually evolved.

### CONTACT LENS SOLUTION

Cleaning solutions are either peroxide or multi-purpose solutions. Peroxide solution uses peroxide to disinfect; multi-purpose solutions use polymeric cleaning agents such as biguanides or polyquaterniums. Both contain other cleaner & moisturising chemicals.

### RIGID CONTACT LENSES

Rigid contact lenses, made from poly(methyl methacrylate) (PMMA), were the first available. Prior to this, glass lenses had to be used. PMMA lenses weren't very oxygen-permeable, so improved rigid materials which were developed. These more modern rigid lenses contain silicone and/or fluorine-containing compounds.

### SOFT CONTACT LENSES

Soft contact lenses are the most commonly used. These are based on hydrogels, the first of which was poly(hydroxyethyl methacrylate) (PHEMA). Hydrogels are networks of cross-linked polymer chains that are highly water-absorbent. More recently, siloxane-containing hydrogels which are more oxygen-permeable have been developed.