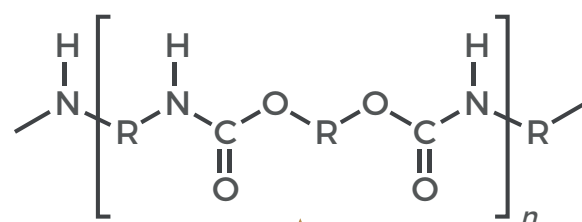


THE CHEMISTRY OF THE WORLD CUP

THE BALL

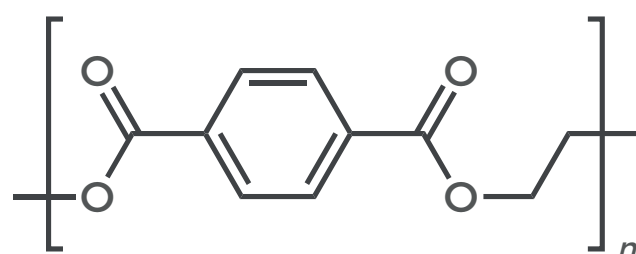


POLYURETHANE

R represents variable portions of the polyurethane

The World Cup ball is made from six polyurethane panels which are thermally bonded together. Underneath this is a nylon lining, then the butyl rubber bladder which contains the air.

THE SHIRTS



POLYETHYLENE TEREPHTHALATE

a type of polyester

Football shirts are commonly made from polyesters. Elastane (also known as lycra) can be incorporated to give strength and elasticity. Names and numbers are usually made of polyurethane.



THE TROPHY

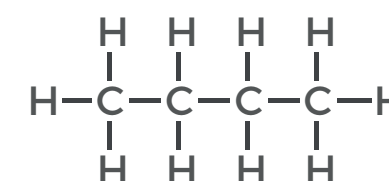


18-KARAT GOLD
MALACHITE BASE

6.1 KILOGRAMS, 36.8 CENTIMETRES HIGH

The World Cup trophy is made of gold, though it is hollow; if it were solid, it would be too heavy to lift! The green base is made of malachite, which is a copper carbonate hydroxide mineral.

THE VANISHING SPRAY



BUTANE

approx. 17%



approx. 80%

WATER



approx. 1%

SURFACTANTS



approx. 2%

OTHER

The spray referees use as a temporary marker contains butane, which expands when released from the can. Surfactants help create foam, which disappears as the butane evaporates.

