



## SPORT



### Competitive sports person or a couch potato – either way chemistry helps you relax!

**Shoes** – Modern Sports shoes are chemical marvels, from the complex adhesives that ensure the shoe remains intact under extreme conditions, to the breathing fabrics that keep your feet cool and dry.

<http://www.cefic.be/Templates/shwNewsFull.asp?HID=1&NSID=543&P=1&NID=1>

**Clothing** – Like sports equipment, modern clothing is highly sophisticated and has a great impact on the feeling of physical comfort in any kind of sport. Optimal water permeability allows sweat water droplets out but does not let rain water in.

Polyurethane fibres ensures that the body wear has a perfect fit and offers the highest comfort because it stretches but still keeps its shape

<http://www.cefic.org/templates/shwNewsFull.asp?NSID=475&HID=2&P=1&NID=1>

**Stadiums** – these days artificial turf, made of polyolefins to ensure toughness, is used in many stadiums. The turf is connected to the ground using polyurethane adhesives. Another type of chemical material, polycarbonates, have become the preferred material for roofing sporting arenas as they are lightweight and transparent enabling weird and wonderful architectural designs. PVC is used in all parts of the stadium from the flags and banners waved by fans to the seat they sit in to the field drainage system. Come rain or shine the Chemistry will be there to save the day.

**Equipment** – New materials such as carbon fibre give great strength three times stronger than steel and flexibility without the weight. Tennis rackets, golf clubs, poles or vaulting and Formula 1 racing cars all benefit from this – giving an improved performance. Modern footballs are no longer permeable to rain water and the surfaces are now smooth, abrasion resistant, ageing resistant and weather resistant polyurethane surfaces.

**Sports Drinks** – which drink is better when it comes top hydrating during or after exercise? Should you choose water? Coffee or tea perhaps? Maybe juice or carbonated drinks are best? And what is it about sports drinks that make them so effective? Chemistry has the answer to all of these questions.

<http://chemistry.about.com/cs/foodchemistry/a/aa070803a.htm>

#### Other things to think about:

**Football** - [http://www.akzonobel.com/chemicals/products/inspiring\\_chemistry\\_15.asp](http://www.akzonobel.com/chemicals/products/inspiring_chemistry_15.asp)

**Tennis** - <http://www.cefic.org/templates/shwNewsFull.asp?NSID=441&HID=2&P=2&NID=1>

**Swimming** - [http://www.recreonics.com/basic\\_pool\\_chemistry.htm](http://www.recreonics.com/basic_pool_chemistry.htm)

**Skiing** - <http://www.cefic.be/templates/shwNewsFull.asp?NSID=281&HID=2&P=4&NID=469>

**Roller blading** -

<http://www.cefic.org/templates/shwNewsFull.asp?NSID=221&HID=2&P=5&NID=1>



## SPORT



### Useful RSC resources

#### Chemistry and Sport

Leaflet detailing how chemistry is involved with the sporting world, available to access free online at <http://www.chemsoc.org/pdf/LearnNet/rsc/sport.pdf>

#### Chemistry at the races

This resource shows how a combination of modern techniques are used to ensure that horse racing is both fair and prevents abuse of the horses involved. You can purchase this publication or access selected sections online at: <http://www.chemsoc.org/pdf/LearnNet/rsc/horserace.pdf>

