

THIS WEEK IN CHEMISTRY

16TH AUGUST - 22ND AUGUST 2015

BOOK PAGES CLEAN BACTERIA FROM WATER WITH NANOPARTICLES

A book with silver nanoparticle-impregnated pages helps to filter contaminated water, and can remove 99.9% of the bacteria present. One page could potentially filter up to 100 litres of drinking water, and a book could filter one person's water for up to four years.



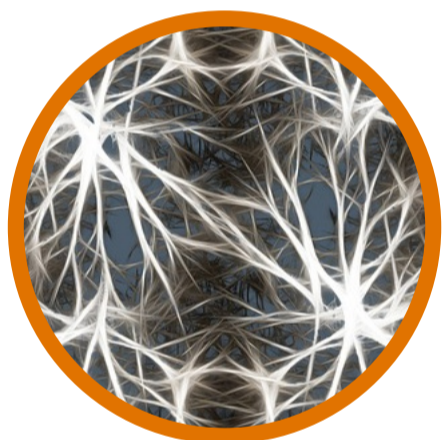
MAKING FIREWORKS MORE ENVIRONMENTALLY-FRIENDLY

Chlorine-based compounds in fireworks can produce carcinogenic compounds which fall back to Earth. A new study replaced polyvinyl chloride in red fireworks with organic chemical alternatives, and also helps to produce the bright red colouration.



COLOUR-CHANGE POLYMER COULD SPOT BRAIN INJURIES

Researchers have produced a thin polymeric film which changes colour when it's struck. The magnitude of the change in colour is proportional to the force delivered. The film could be affixed to helmets to aid diagnosis of brain injuries in sports or the military.



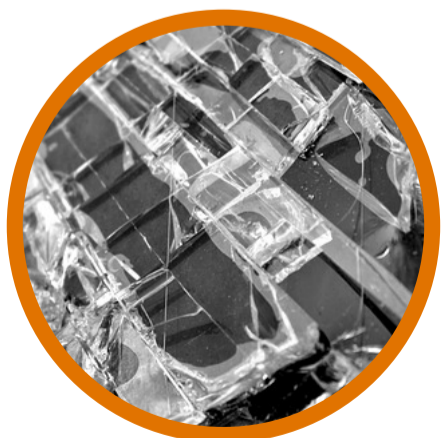
SUNLIGHT CAUSES CITY GRIME TO RELEASE SMOG COMPOUND

The grime in cities, deposited from pollution and dust, could play a role in the generation of urban smog. When hit with sunlight, it was found that the grime releases nitrogen oxides, which can in turn produce ozone and smog in the atmosphere.



RESEARCHERS UNEXPECTEDLY MAKE NEW TYPE OF GLASS

US researchers using a vapour deposition process produced a new type of glass which shows a small fraction of molecular organisation. Glasses were previously thought to be completely amorphous and random. The finding could lead to future technological advances.



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