



**Australian
Nanotechnology Alliance**
Enabling Tomorrow

Media Release

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Australia Nanotechnology Alliance Limited

ABN: 45 120 844 224

PO Box 609

HAMILTON Q 4007

Telephone: 07 3216 4717

Facsimile: 07 3216 4017

Email: info@nanotechnology.org.au

Web: www.nanotechnology.org.au

Consumer Demand for Nanotechnology Consumer Goods on the Rise - But What Are They?

As the number of consumer products incorporating nanotechnology approaches 500, scientists predict that by 2013 half of all new consumer products developed will contain nanotechnology, and with the value of goods incorporating nano expected to reach \$2.6 trillion by 2015, these very small particles which measure one-billionth of a metre, are becoming a part of our everyday life.

Carla Gerbo, Director of the Australian Nanotechnology Alliance's (ANA) said, "in Australia many consumers are aware of nano's use in consumer products such as UV sunscreens incorporating zinc oxide nanoparticles, or nano particles that clothing companies such as King Gee use in some of their clothing range which makes them water and stain repellent. These items have readily been accepted by Australian consumers, yet they represent just the tip of a range of products now available".

Big names in house-hold products have been quick to adopt nanotechnology and produce domestic appliances such as fridges (Samsung, LG, Daewoo), washing machines (Samsung), mobile phone casings (LG), door handles (Nano Care Technology) and vacuum cleaners (LG), infused with silver nanoparticles. Silver, with its anti-bacterial properties, is the most popular of the nanoparticles incorporated into 20% of products.

"Australians love their sports and nanotechnology has made some inroads into this area. Nanocomposites have been used to improve the strength and flexibility of tennis racquets, golf clubs, ice hockey sticks and other sporting equipment. Additionally for fishing enthusiasts, there is the polyimide nanoscale coating on fishing lures to improve the catch. When exposed to the natural light, the lures becomes more colourful than existing lures and seem to emit colours, this being attractive to fish", Ms Gerbo said.

Nanotechnology, often in the form of polymeric nanoparticles, has been incorporated into textiles to improve water and stain repellency. Scientists have taken this technology beyond textiles fabrics, to items like luggage, handbags and umbrellas, although the name "NanoNuno" for the umbrella is a bit of a tongue twister. Wrinkle free clothing is also available, courtesy of with nanotechnology.

The list of consumer goods continues with total nanocomposite horse shoes and tooth fillings. There are nanoparticle based fuel additives to reduce harmful emissions from automobile engines, and shock absorbers utilising magnetic nanoparticles, which are used by the car maker Audi, while Mercedes Benz uses scratch resistant paints. Certain nanocoatings improve the printing performance of paper, while others create a ceramic self-cleaning surface. One home pregnancy test uses the colour properties of gold nanoparticles, which when combination with a naturally occurring hormone in

pregnant women, results in detection. French cosmetic company, L'Oreal, the world's largest holder of nano patents, offers anti wrinkle cream incorporating their "Nanosomes" polymer capsule used to transport active agents like vitamins. There are also "Nanoteas", in many flavours, which incorporate selenium nanoparticles as an aid to improving various aspects of human health.

Carla Gerbo concluded that "Nanotechnology is certainly changing the properties of many consumer goods, taking existing products and re-inventing them with new material science that will see improvements in their performance. It is an exciting time for nanotechnology, and Australian researchers are leaders in many aspects of nanotechnology research".

For further information, contact ANA director Carla Gerbo on 0419 160 266