Consumers' close encounters with nanoparticles

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The most personal encounter that many consumers have had so far with the much-heralded field of nanotechnology is the topic of an article in the current edition of *Chemical & Engineering News* (C&EN), the American Chemical Society's weekly newsmagazine. Those encounters with fruits of the science of ultra-small particles — so tiny that 50,000 could fit across the width of a human hair — may come when sunbathers, golfers, bikers and others slather on sunscreen during these late summer days.

C&EN Associate Editor Lauren K. Wolf explains that some sunscreens incorporate a so-called "particle-based" approach to shielding people from the potentially harmful ultra-violet rays in sunlight. Those particles are made of zinc oxide or titanium dioxide, which produce longer-lasting protection and less skin irritation for individuals with sensitive skin. Sunscreens containing large particles give the skin a white, pasty look. In order to avoid that, some manufacturers use nano-sized particles.

The article describes controversy that has arisen over whether those particles can pass through the skin and have undesirable effects in the body. Wolf describes scientific evidence suggesting that sunscreens with these particles may have such effects, and conflicting evidence suggesting that they do not. The bottom line for now, according to the article, is to slather on that sunscreen, since the proven benefits in reducing the risk of skin cancer and premature skin aging, outweigh the theoretical risks.

More information: "Scrutinizing Sunscreens" - pubs.acs.org/cen/science/89/8932sci2.html

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