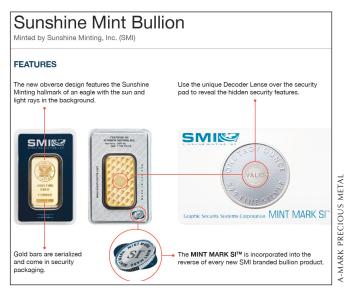
THE SILVERINSTITUTE

Silver News

Sunshine Minting Introduces Security Feature for Bullion Products



Sunshine Mining is adding safety features to its silver bars.

April 2013

- Sunshine Minting Introduces Security Feature for Bullion Products
- A Q&A with Rosalind Volpe
- Patagonia Offers Recycled Silver in Odor-Resistant Outdoor Wear
- Silver Institute's Video Wins Telly Award
- Ask The Silver Institute: What is the London Silver Fix?
- Thirty-Eight Percent of a Silver Compound May Be the Magic Number for Preventing Cavities
- Royal Canadian Mint Offers First and Only 11/2 Ounce Silver Bullion Coin
- Upcoming Events

Sunshine Minting, Inc. (SMI), is incorporating a sophisticated security feature into its 10 and 1-ounce bars and rounds, and plans to include it in other sizes as well. The move comes after it signed a deal last fall with <u>A-Mark Precious Metals, Inc.</u> for its Scrambled Indicia security feature. Both companies are members of the Silver Institute.

The new obverse design features the Sunshine Minting hallmark of an eagle with the sun and light rays in the background. The reverse has the SMI MintMark Scrambled Indicia which is not visible to the naked eye. By holding a decoding lens over the product or looking through an iPhone adapter, the security feature becomes visible.

The lens is available for about \$20 and the iPhone adapter costs \$10.

At the time of the announcement, Tom Power, CEO of SMI, stated: "For years now SMI has been the world's leading supplier of precious metal bullion blanks. When we decided to rebrand our own SMI bullion products, we wanted to make sure they were easily recognized as Sunshine products, were of the highest standard and utilized the latest technology for security."

Sunshine's move comes at a time when authorities are seeing a rise in silver counterfeiting, according to published reports.

In January, for example, a counterfeit 2011 American Eagle silver bullion coin was passed as genuine to a Toronto coin dealer. The coin did not contain any silver, according to <u>*Coin World*</u>. U.S. Mint officials said that they were not aware of any counterfeits but forwarded the report to the U.S. Secret Service, which investigates counterfeit currency.

During 2012, incidents of <u>fake silver bar sales</u> surfaced as well. Many of these instances centered on unsophisticated copies of silver bars sold to consumers. In many cases, iron or other base metals were coated or painted with silver paint and presented as genuine.

A Q&A with Rosalind Volpe

Rosalind Volpe D. PH is Executive Director at the Silver Nanotechnology Working Group (SNWG) based in Raleigh, North Carolina. The Silver Institute is a founding member of the SNWG and we asked her about the group's programs and the future of nanosilver.



Rosalind Volpe

Silver News: What is the SNWG and why was it formed?

Rosalind Volpe: The Silver Nanotechnology Working Group (SNWG) was established in 2009 and its mission is to foster the collection of data on silver nanotechnology to advance the science and

public understanding of its uses in a wide range of consumer and industrial products.

Our team consists of a cross-section of toxicologists, advanced material scientists, chemists, and other silver and nanosilver specialists. Our focus for the last four years has been to encourage the U.S. Environmental Protection Agency (EPA) and other global regulators towards a clear, responsible and reasonable regulatory path for nanoscale silver additives.

SN: Is nanosilver really new and why is it being scrutinized?

Rosalind Volpe: Because nanotechnology is widely recognized as an emerging field there is a belief in some circles that it is new and so must have unknown effects to humans and the environment. Not only is nanoscale silver demonstrably not a new material, it is one of the oldest manufactured materials used by humans – nanosilver has been in continual use for the last 120 years.

In the first half of the 20th century, nanoscale silver was referred to as "millimicron silver" or "colloidal silver." Nanosilver may use the term 'nano" due to the size of the particles, but it is not a new material and in fact has a decades-long history of safe and regulated use. Nanosilver refers to silver particles that range below one micron [1/1000 of a millimeter or 1000 nanometers], although recent focus has been on particle sizes below 100 nanometers. Although today's nanosilver has many alternative nomenclatures and historical aliases including 'colloidal silver,' the underlying material is the same -- extremely small particles of silver. Nanosilver materials have a long historical record of demonstrated safe use together with a long period of formal and successful regulatory oversight.

Colloidal nanosilver was widely and successfully used as a topical disinfectant throughout the first decades of the 20th century until antibiotics took over as the technology of choice. Colloidal

nanosilver continued to be applied to new applications throughout the 20th century and found widespread use as an algaecide for swimming pools and in drinking water purification systems. In the last two decades, colloidal nanosilver has been used for numerous medical applications and in engineered products such as textiles, coatings and plastics.

SN: What is the exposure to nanosilver compared to conventional silver products and synthetic chemical antimicrobials?

Rosalind Volpe: Most nanosilver products employ miniscule amounts of nanosilver (tens of parts per million by weight of treated item) and in all cases this is used in forms that are imbedded and secured in plastic matrices and/or coatings. Nanoparticles cannot exist as discrete particles, because they gather together and therefore need to be in a matrix to allow them to react appropriately. Furthermore, compared to conventional silver products and synthetic chemical antimicrobials, significantly lower quantities of active substance are required for nanosilver to achieve an equivalent effect.

SN: What does the U.S. EPA say about the use of nanosilver in consumer products?

Rosalind Volpe: In August, 2010, the EPA sought<u>public comment</u> on its proposed decision to conditionally register a pesticide product containing nanosilver as an active ingredient – which it later did.

The agency noted: "EPA sees the emergence of nanotechnology as offering potential benefits for society in many different fields, including pest control products. The use of nanotechnology in pesticide products may allow for more effective targeting of pests and use of smaller quantities of pesticide. These could contribute to improved human and environmental safety and could lower pest control costs. Therefore, EPA seeks to encourage innovative work to realize these benefits."

SN: What is the future of nanosilver?

Rosalind Volpe: A substantial amount is known about silver and silver nanoparticles and the historical experience of its use and exposure points to these materials being relatively safe. It is hoped that regulatory agencies will not impose unwarranted barriers to these emerging nanotechnology industries, but will hopefully provide a sensible path forward for registering these products, while screening finished products claiming pesticidal properties on a case by case basis for any environmental risk.

Patagonia Offers Recycled Silver in Odor-Resistant Outdoor Wear

Outdoor apparel retailer Patagonia Inc. has partnered with Sweden-based Polygiene AB to offer clothing using a silver-based antibacterial finish – and the silver comes mostly from recycled electronics.

The fall 2013 Capilene line of clothing promises permanent odor control and can reduce the need for frequent laundering, according to Polygiene officials. Christian von Uthmann, Polygiene CEO, said: Patagonia is a milestone partner for Polygiene because they represent a balance between performance and environmental responsibility – exactly the same ethos of our brand. We are very proud to be a branded ingredient in their clothing and we are confident consumers will notice the performance that Polygiene delivers."

"Patagonia will not sacrifice performance yet we strive to minimize our environmental impact," said Todd Copeland, Environmental Product Specialist at Patagonia. "Effective, long-lasting odor control extends the useful life of our Capilene Performance Baselayers. Polygiene meets our strictest laboratory requirements and performs excellently in field use. As Patagonia scrutinized odor control technology against all environmental concerns, bluesign approval and recycled silver were key attributes that led us to select Polygiene."

Swiss-based bluesign technologies, founded in 2000, is a standard for textile processes designed for maximum resource productivity along with environmental protection, health and safety.



The odor-resistant silver used in this fall's Capilene line is from recycled sources.

Silver Institute's Video Wins Telly Award

The Silver Institute's video titled *Silver: The Element of Change* is a bronze winner in the 34th annual Telly Awards.

The Telly honors "the finest film and video productions, groundbreaking web commercials, videos and films, and outstanding local, regional, and cable TV commercials and programs," according to the Telly Awards website.

The Award was founded in 1978 to honor excellence in local, regional and cable TV commercials. Non-broadcast video and TV program categories were soon added.

Silver: The Element of Change is available free to watch on line by clicking here.

Ask The Silver Institute: What is the London Silver Fix?

The daily price of silver is determined or 'fixed' by what's known as the London Silver Fixing, and it's done once a day at noon Greenwich Mean Time (GMT). There is also a Gold Fixing which works in a similar fashion but occurs twice daily.

At the start of the fixing, the three members – Bank of Nova Scotia-Scotia Mocatta, HSBC and Deutsche Bank – enter a telephone conference call. The chairmanship rotates annually –Bank of Nova Scotia-Scotia Mocatta is the current chair - and their representative announces an opening price and the other members report that number to their traders. They relay this price to their customers and, depending upon their interest, decide if they will be buyers or sellers at that price. If buyers and sellers agree on a price, members then state how many ounces of silver they want to trade.

If there is not an equal number of buyers and sellers then the price is moved until the two sides are in agreement. This will go on until a 'balance' is achieved for both price and amount (in ounces). When that happens, the chairman declares that the price is fixed. There is some wiggle room in that a price is considered fixed if the buy and sell sides are within 300,000 ounces of each other.

The members collect a fee for handling transactions. They buy silver from clients at the fixing price plus ¹/₄ cent (U.S.) and sell to clients at the fix plus ³/₄ cent.

The current fixing system has developed over 300 years, and originally took place in London coffee shops. Adjustments have occurred over time; see a detailed <u>timeline here</u>. In 1967, the fixing was expanded to include 'spot' prices for three, six and twelve months going forward. Another change included posting the silver prices in U.S. dollars. In 1999, Sterling and Euros prices were added.

Daily prices in 100-ounce lots are posted on the website of the <u>Silver Fixing</u>.

Thirty-Eight Percent of a Silver Compound May Be the Magic Number for Preventing Cavities

Silver diamine fluoride (SDF) arrests cavities by reducing enamel loss and inhibiting the growth of biofilms, according to a recent studies (See: <u>Silver Diamine Fluoride Helpful in Preventing Childhood Cavities;</u> <u>Silver News</u>, August, 2011). However, scientists were stymied in understanding how much of the silver compound is needed to stop cavities. Cavities, also known as dental caries, is one of the world's most common diseases. In many countries, it is the most common chronic childhood disease. More than one-third of the world's adults suffer from cavities as well.

Now, scientists may have the answer.

In a study published in the <u>Annals of Clinical Microbiology and</u> <u>Antimicrobials</u> in February, the authors note: "Clinical studies have shown that 38 percent SDF is effective in arresting dentin cavities and enamel cavities, but its mechanism of action remains unclear." The researchers from the University of Hong Kong and Anhui Medical University in China employed a computer-controlled artificial mouth for the study.

They used human dentin - the layer below the surface enamel of teeth – and covered half with protective varnish to act as a control group. Five common bacteria and sugar were then painted on the dentin and left for three weeks to create a biofilm that produced caries. The material was then tested every seven days. They noted that previous tests using lower concentrations, in particular 12 percent SDF, were not as effective in preventing cavities in children.

Approximately, 2.43 billion people, 36 percent of the world's population have cavities in their permanent teeth, according the British Medical Journal *Lancet*.

Royal Canadian Mint Offers First and Only 1¹/₂ Ounce Silver Bullion Coin

The Royal Canadian Mint has produced its first and currently only 1-1/2 ounce silver bullion coin.

The 2013 1-1/2 Oz Silver Polar Bear \$8 Coin is .9999 fine and depicts a polar bear roaming the Arctic ice. The obverse shows Queen Elizabeth II.

The coin is a special production piece and not part of other series which offer polar bear coins. About 8,500 coins are expected to be minted.

The coin sells for about 30 percent premium over the spot silver price and is available from bullion dealers.



Upcoming Events

The Silver Institute is hosting the inaugural Industrial Silver Conference to examine critical factors affecting silver industrial demand. It will be held on October 22-23, 2013 at the <u>Capitol Hilton</u> in downtown Washington, D.C. Key market players from across the supply chain, including miners, industrial fabricators, refiners, bullion bankers and representatives from principal trade and government associations should attend this conference. The event will commence with a cocktail party the evening of October 22, and the conference will take place on October 23. More information on the conference will be available shortly.

Larry Kahaner Editor

www.silverinstitute.org @SilverInstitute on Twitter

SILVERINSTITUTE

1400 Eye Street, NW, Suite 550 Washington, DC 20005 T 202.835 0185 F 202.835 0155