



## **A World Leader In Silver Biotechnology**

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# **Silver Solutions, Argyria And Risk**

## **Introduction**

A great deal of misinformation exists on the use of silver products causing one's skin to turn blue or gray. Only the extreme misuse of very strong silver solutions has caused this condition which is known as Argyria. The extreme misuse of any substance can cause harm or even death to a person. If a child were to eat a bottle of children's vitamins, the child would most likely suffer serious side effects. In contrast, if a child were to accidentally drink an entire eight ounce bottle of American Biotech Labs' 10 ppm silver product, he or she would suffer no ill effects at all. This article will discuss, in detail, the following information regarding silver:

- Historical usage of silver solutions
- What is Argyria?
- Independent safety tests backing American Biotech Labs' products
- Government safety data on silver (how much silver the US government deems safe for daily usage)

## **Historical Misinformation Regarding Silver**

As numerous problems with the use of prescription antibiotics have arisen, people searching for a safe solution, have resurrected the use of silver products as an antibiotic alternative. However, some people using and selling the silver products have made false claims with no data back-up. Often times claims came only from anecdotal evidence. Because of the non-existence of test data, these products were and are shunned by many health professionals. It is also unfortunate that most health professionals have no real knowledge of silver. This lack of knowledge may cause them to relay incorrect information to patients. As with any new technology, the medical community seems to be pitifully slow at grasping the new concepts. It is interesting to note that there are 83 silver products currently registered and in use by the medical industry.

We, as consumers, are finally being warned that antibiotics are overused and now becoming ineffective. All evidence from many independent laboratories indicates that silver is a viable, safe antibiotic alternative. However, many doctors dismiss this option by continuing the myth that the use of silver will cause the patient to turn blue or can cause toxic build-up.

### **What Is Argyria?**

Argyria is a non-toxic condition caused by the extreme misuse of very strong silver products. When huge amounts of silver are consumed over time and the body is unable to excrete the silver through both the urine and the fecal tracts the body may slough off the excess silver into the skin cells to get rid of it. This condition is known as argyria. Argyria has no known side effects except that it causes a graying of the skin color. The condition is only cosmetic in nature. In most cases the discoloration is permanent. Argyria has never been reported with the use of low part-per-million, non-salt related silver products. In fact, because so many silver products are being used nationwide, the US EPA issued a RFD or (daily intake limit) level of silver that could be safely consumed every day for a person's entire life. The EPA RFD, issued in 1991, is discussed in detail later in this report.

### **What Silver Products Causes Argyria?**

The US Federal Register listed the silver products that cause argyria as silver salts, including; silver nitrate, silver arsphenamine, silver chloride and possibly silver iodide. These products were sold until about 1975 under various labels consisting of silver solutions ranging from 5-30% silver [50,000-300,000 ppm (parts per million) of silver] (Federal Register, FDA-21CFR Part 310, pg. 53685). In comparison American Biotech Labs silver supplement products are only 10 ppm and 22 ppm. American Biotech Labs' EPA approved hospital/home surface disinfectant is only 32 ppm.

### **Silver Salts Are Not Colloidal Silver**

Silver Salts have been mistakenly called colloidal silver products by some misguided individuals. By definition, the word colloidal means a system in which particles larger than molecules in size (in this case retaining their metallic identity) of one substance are suspended throughout the second substance. In the case of American Biotech Labs' silver product, finite particles of metallic silver are suspended within highly purified water. Silver salts readily dissolve in water, and therefore are not colloidal in nature.

### **No Comparison Between ABL's Silver Solutions and Other Silver Products**

American Biotech Labs' silver products have been proven to kill bacteria at levels of between 2.5-5 ppm. Some silver products range between 50,000-300,000 ppm. Thus, American Biotech Labs' products are effective with concentrations of 20,000 - 60,000 times less silver in the solution. Better technology which produces a more useful (bacteria lethal) product would seem to be the difference. One can easily conclude that because American Biotech Labs' silver solution effectively kills bacteria using thousands of times less silver, the risk of any possible side effects has been eliminated.

### **Minimum Amount Of Silver Known To Cause Argyria**

Hill and Pillsbury (1939) stated, "the ordinary clinical use of colloidal silver compounds practically never gives rise to any gross untoward effect other than argyria." The minimum amount of silver known to cause argyria in adults, from the use of any silver compound (including salts) is 900 mg of silver taken orally in one year. In order to reach this level of silver

intake, an individual would have to consume 380-8 oz. bottles of American Biotech Labs' 10 PPM silver product within one year. Suggested adult dosage is about ½ to 1 teaspoon taken one to three times daily. This means that an individual would have to consume over 50 times the normal adult dosage, every day for a year to reach the lowest level ever known to cause argyria. It should be noted that EPA standards for the amount of silver that can be safely consumed in drinking water is .005 milligrams per kilogram of weight per day (EPA RED document page 2, 4<sup>th</sup> paragraph). This means that a normal sized adult could safely consume one ounce (6 tsp) of the 10 PPM American Biotech Labs silver product every day for a 72 year life span and still be within the safe limits as defined by the EPA. In the EPA RED document for silver, the EPA goes on to state (3<sup>rd</sup> page, 4<sup>th</sup> paragraph), "The EPA does not anticipate that dietary exposure to these low levels of silver will be associated with any significant degree of risk."

### American Biotech Labs Safety Data

American Biotech Labs has had five independent toxicity tests completed on its 10 and 22 PPM silver products. The American Biotech Labs product was tested in animals at as much as 200 times the normal adult dosage, or the equivalent of an adult consuming 32 full ounces of the 10 ppm product at one sitting. In conclusion to the animal tests, the independent medical testing laboratory stated that the ASAP Solution® was found to be completely non-toxic to the test animals. The product was also tested for cytotoxicity in both human epithelial cells and also African green monkey or Vero cells, at both the regular 10 ppm level and also at the extra-strength 22 ppm level. In all four cytotoxicity tests the American Biotech Labs' products were found completely non-toxic to both the human and Vero cells.

### Absorption And Retention Of Ingested Silver

According to the EPA IRIS Report on silver (Integrated Risk Information Systems) (5th page, 1<sup>st</sup> paragraph) it states that a number of tests were completed to test the absorption and retention of ingested silver in a number of animals (including primates). In conclusion, the test work indicated that between 90-99% of ingested silver was excreted on the second day after ingestion and greater than 99% was excreted in less than a week. In other words, almost all the ingested silver was out of the body in only two days, which indicates that silver does not build up in the system when consumed in small amounts.

### Levels Of Silver Usage Historically Deemed Safe

Many different silver products have been and are still being used throughout the medical industry. Up until the advent of chemical antibiotics which came about in the 1940's, some very strong silver products were being used as antibiotics. Of the millions of people who used these concentrated silver products, there were no reported deaths and only 239 reported cases of generalized Argyria (EPA Report ECAO-CIN-026 Jan "91" Pg. VI-3). In that same EPA report on page VI-4 it states that Gaul and Staud (1935) suggested 8 grams of silver arsphenamine (used by injection at 145,000 ppm strength) as a safe total dose. They also noted that other authors suggest safe total doses of 12-15 grams, based on clinical experience. The work of Furchner et al (1968) as stated above showed that small amounts of silver did not build up in the system of primates. But, for arguments sake, if we assumed that every bit of ingested silver was retained by the body, and that a person was using the American Biotech Labs 10 ppm silver

solution at a level of two teaspoons daily, we can state that it would take an individual 235.66 years of daily usage at two teaspoons to achieve the total consumption of 8 grams (a level they deemed safe).

### **ASAP Silver VS Prescription Antibiotics Usage**

Prescription antibiotic usage, unlike silver, can be very dangerous and in numerous cases can cause death. In an article in JAMA (Journal of the American Medical Association) in December of the year 2000, Barbra Starfield estimated that there were 106,000 deaths yearly, that were caused by the use of antibiotics used correctly. This number does not include deaths from antibiotic which were used or prescribed incorrectly. There were no reported deaths or injuries in the year 2000 from the medicinal use of silver products.

### **Conclusion**

There is no comparison on the issue of safety between silver products and prescription antibiotics. Silver is obviously much safer to use. According to the EPA, who is in charge of defining safe levels of any mineral in water used for ingestion or drinking, the oral consumption of small amounts of silver in water on a daily basis poses no significant degree of risk. Unless an individual were constantly consuming (every day for over a year) over 50 times the recommended daily dosage of the American Biotech Labs' product at 10 ppm, there is no possibility of that individual contracting the non-toxic condition known as argyria.