



Laboratory Tests of *Ionic~Colloidal Silver* Made Using the Silver Pulser

The Ionic~Colloidal Silver Is Still Potent ... 2 ½ Years and Counting!

Summary:

Our Goal: to determine how long, when properly stored in dark brown glass bottles, the Ionic~Colloidal Silver (ICS) will retain its effectiveness.

A series of tests performed by NOVA Biologicals in Conroe, Texas used industry testing standards to determine if the Ionic~Colloidal Silver electrolyte made with the SOTA Silver Pulser is an effective anti-bacterial when applied to three virulent pathogens:

- **Escherichia coli (E-coli)**
- **Pseudomonas aeruginosa**
- **Streptococcus pyogenes**

Results of 2 1/2 Years of Testing (and beyond):

After 2 1/2 years the Ionic~Colloidal Silver electrolyte created by the SOTA Silver Pulser killed all three virulent pathogens at both zero and 30 seconds. The first test performed in October 2017 used a much higher pathogen concentration than the following tests & this produced slightly different % reduction results compared to the other results. At the 32 month mark we are starting to see the Ionic~Colloidal Silver is losing its potency.

We originally only made enough Ionic~Colloidal Silver to test for 2 years, not expecting such great results. We sent the first batch of Ionic~Colloidal Silver to Nova Biologicals to test for effectiveness at the 0 month; 3 month; 6 month; 9 month; 12 month; 18 month and 24 month marks.

In order to test beyond 2 years, we made a second batch of Ionic~Colloidal Silver. This batch was tested at 32 months and will be tested again at the 5-year (60 month) mark - April 2023.

The results of 0, 12, 24 and 32 months are as follows:



October 19, 2017

NOVA Biologicals: Month 0

Strength of the ICS electrolyte: Independent Lab testing = 9.14 ppm

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver Collected 10/19/17 - Month 0	Zero minutes	9.0×10^6	99.40%
	30 seconds	5.4×10^6	99.64%

Escherichia coli 1.5×10^9 CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver Collected 10/19/17 - Month 0	Zero minutes	1.19×10^8	93.74%
	30 seconds	4.20×10^6	97.79%

Pseudomonas aeruginosa 1.9×10^9 CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver Collected 10/19/17 - Month 0	Zero minutes	6.7×10^6	99.65%
	30 seconds	6.1×10^6	99.68%

Streptococcus pyogenes 1.9×10^9 CFU

Neutralization Test: **PASS**



Test Results October 2017

October 18, 2018

NOVA Biologicals: 12 month mark

Strength of the ICS electrolyte: Independent Lab testing = 8.59 ppm

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 12 month Collected 10/18/18	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Escherichia coli 1.74 x 10⁶ CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 12 month Collected 10/18/18	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Pseudomonas aeruginosa 3.4 x 10⁶ CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 12 month Collected 10/18/18	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Streptococcus pyogenes 2.96 x 10⁶ CFU

Neutralization Test: **PASS**



Test Results October 2018

October 17, 2019

NOVA Biologicals: 24 month mark

Strength of the ICS electrolyte: Independent Lab testing = 10.4 ppm

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 24 month Collected 10/17/19	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Escherichia coli 6.0 x 10⁶ CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 24 month Collected 10/17/19	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Pseudomonas aeruginosa 5.0 x 10⁵ CFU

Neutralization Test: **PASS**

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 24 month Collected 10/17/19	Zero minutes	<1	99.99%
	30 seconds	<1	99.99%

Streptococcus pyogenes 1.6 x 10⁷ CFU

Neutralization Test: **PASS**

Test Results October 2019



December 28, 2020

NOVA Biologicals: 32 month mark

Strength of the ICS electrolyte: Independent Lab testing = 11.2 ppm

Escherichia coli 1.3 x 10⁶ CFU

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 32 month Collected 12/28/20	Zero minutes	8.5 x 10 ⁵	34.62%
	30 seconds	3.0 x 10 ²	99.98%

Neutralization Test: **PASS**

Pseudomonas aeruginosa 1.2 x 10⁶ CFU

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 32 month Collected 12/28/20	Zero minutes	4.95 x 10 ⁴	95.88%
	30 seconds	1.45 x 10 ³	99.88%

Neutralization Test: **PASS**

Streptococcus pyogenes 1.6 x 10⁶ CFU

Sample ID	Contact Time	Final Concentration	% Reduction
SOTA Ionic~Colloidal Silver - 32 month Collected 12/28/20	Zero minutes	9.4 x 10 ⁴	94.13%
	30 seconds	1.5 x 10 ²	99.99%

Neutralization Test: **PASS**

Test Results December 2020

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