



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

## The Ionic~Colloidal Silver Is Still Potent ... After 5 Years!

### 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 5 Years of Testing:

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 started 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 again after the 5-year (60 month) mark in 2023.

The results of 0, 12, 24, 32 and 60 months are as follows:

### Escherichia coli (E. coli)

	Fresh	1 Year	2 Years	~3 Years	5 Years
<b>Silver (ppm)</b>	9.14	8.59	10.4	11.2	9.41
<b>Concentration</b>	1.5 x 10 <sup>9</sup> cfu	1.74 x 10 <sup>6</sup> cfu	6.0 x 10 <sup>6</sup> cfu	1.3 x 10 <sup>6</sup> cfu	4.3 x 10 <sup>6</sup> cfu
On Contact					
<b>Reduction</b>	99.40%	99.99%	99.99%	34.62%	4.65%
<b>Concentration</b>	9.0 x 10 <sup>6</sup> cfu	<1	<1	8.5 x 10 <sup>5</sup> cfu	4.1 x 10 <sup>6</sup> cfu
30 Seconds					
<b>Reduction</b>	99.64%	99.99%	99.99%	99.98%	96.04%
<b>Concentration</b>	5.4 x 10 <sup>6</sup> cfu	<1 cfu	<1 cfu	3.0 x 10 <sup>2</sup> cfu	1.7 x 10 <sup>5</sup> cfu
<b>TEST RESULT</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

### Pseudomonas aeruginosa

	Fresh	1 Year	2 Years	~3 Years	5 Years
<b>Silver (ppm)</b>	9.14	8.59	10.4	11.2	9.41
<b>Concentration</b>	1.9 x 10 <sup>9</sup> cfu	3.4 x 10 <sup>6</sup> cfu	5.0 x 10 <sup>5</sup> cfu	1.2 x 10 <sup>6</sup> cfu	1.8 x 10 <sup>6</sup> cfu
On Contact					
<b>Reduction</b>	93.74%	99.99%	99.99%	95.88%	0%
<b>Concentration</b>	1.19 x 10 <sup>8</sup> cfu	<1 cfu	<1 cfu	4.95 x 10 <sup>4</sup> cfu	1.8 x 10 <sup>6</sup> cfu
30 Seconds					
<b>Reduction</b>	97.79%	99.99%	99.99%	99.88%	99.71%
<b>Concentration</b>	4.2 x 10 <sup>6</sup> cfu	<1 cfu	<1 cfu	1.45 x 10 <sup>3</sup> cfu	5.2 x 10 <sup>3</sup> cfu
<b>TEST RESULT</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

## Pseudomonas aeruginosa

	Fresh	1 Year	2 Years	~3 Years	5 Years
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On Contact					
<b>Reduction</b>	93.74%	99.99%	99.99%	95.88%	0%
<b>Concentration</b>	1.19 x 10 <sup>8</sup> cfu	<1 cfu	<1 cfu	4.95 x 10 <sup>4</sup> cfu	1.8 x 10 <sup>6</sup> cfu
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<b>Concentration</b>	4.2 x 10 <sup>6</sup> cfu	<1 cfu	<1 cfu	1.45 x 10 <sup>3</sup> cfu	5.2 x 10 <sup>3</sup> cfu
<b>TEST RESULT</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>	<b>PASS</b>

### Test Reports:

Click the links below for NOVA Biologicals test reports against all three virulent pathogens:

[Test Report October 2017](#)

[Test Report October 2018](#)

[Test Report October 2019](#)

[Test Report December 2020](#)

[Test Report June 2023](#)