

VoltCool™ Additive VA-900 Liquid Antioxidant

3rd Party Testing verifies Efficacy and Ease-of-Use

Independent Laboratory Test Program proves that application of VA-900 Liquid Antioxidant can quickly and easily raise the antioxidant concentration in transformer oil to any desired level.

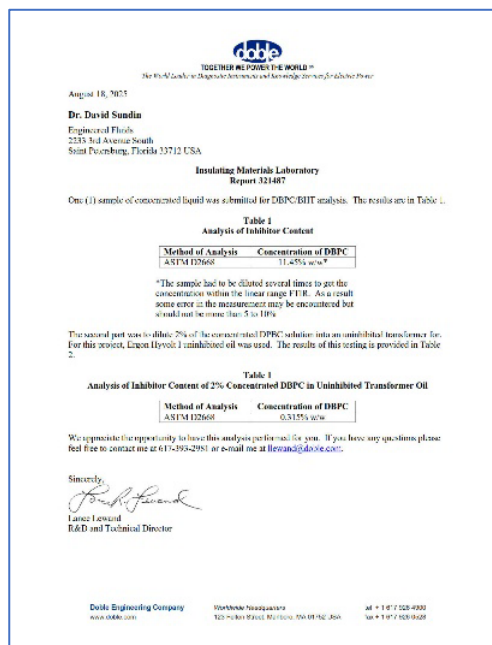
VA-900 Liquid Antioxidant is a liquefied highly concentrated blend of BHT antioxidant with transformer oil. VA-900 saves time and money for transformer maintenance because it is added directly into a transformer without the need for lengthy service outages and costly and time-consuming circulation, heating and filtration of the existing oil. VA-900 mixes easily inside the transformer and its results are directly verifiable using standard laboratory test methodologies (ASTM D2668).

The attached Doble Engineering Test Report 32147 describes how their technicians added 2% of Engineered Fluids VA-900 to a sample of uninhibited Ergon HyVolt™ transformer oil. After the addition of VA-900, Doble tested the antioxidant level of the oil with ASTM Method D2668, which is the standard method for determining antioxidant levels in transformer oils.

The test results show that the previously uninhibited oil now contains an antioxidant level of 0.31%

The VA-900 was simply added to the transformer oil; no other handling or treatment of the oil was necessary.

This test program conducted by well-respected Doble Engineering Laboratories proves that VA-900 Liquid Antioxidant is the easiest and most effect way to raise the antioxidant concentration in any transformer oil. VA-900 is simply poured into a de-energized transformer and can accomplish in minutes what used to take days, with a team of workers and dedicated heavy equipment, and lengthy outages. Now, adding antioxidant to any transformer can be accomplished in minutes, saving tens of thousands of dollars and eliminating days of down time.



Please contact Engineered Fluids at sales@engineeredfluids.com to save money on your next transformer maintenance cycle!

Engineered Fluids, Inc. • 4917 Profit Drive • Tyler, Texas 75707 • United States

www.engineeredfluids.com • sales@engineeredfluids.com



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Dr. David Sundin

Engineered Fluids
2233 3rd Avenue South
Saint Petersburg, Florida 33712 USA

**Insulating Materials Laboratory
Report 321487-2**

Doble was engaged to mix an Engineered Fluids product VA-900 Concentrated Inhibitor into an uninhibited transformers oil at a treat rate of 2%. For this project, Ergon Hyvolt I uninhibited oil was used. The result of this testing is provided in Table 1.

**Table 1
Analysis of Inhibitor Content of 2% VA-900 Concentrated Inhibitor
in Uninhibited Transformer Oil**

Method of Analysis	Concentration of DBPC
ASTM D2668	0.315% w/w

We appreciate the opportunity to have this analysis performed for you. If you have any questions please feel free to contact me at 617-393-2981 or e-mail me at llewand@doble.com.

Sincerely,

Lance Lewand
R&D and Technical Director