

Thompson Vita-Meter Corporation

A WHOLLY-OWNED SUBSIDIARY OF THOMPSON PRODUCTS, INC.

23555 EUCLID AVENUE

Cleveland 17, Ohio

PLEASE DIRECT REPLY TO
C. H. VAN HARTESVELDT
6402 CEDAR AVENUE
CLEVELAND, OHIO

March 27, 1950

Dr. Robert A. Kehoe
University of Cincinnati
Kettering Laboratory of Applied Physiology
Eden Avenue
Cincinnati 19, Ohio

Dear Dr. Kehoe:

The Alcohol Tax Unit, a Division of the U. S. Treasury, recently authorized a formula for denaturing Vitane made with ethyl alcohol. The formula they approved is as follows:

VITANE FROM ETHANOL

70.00% by volume ethanol (73.5% of a 95% alcohol)
1.05% " " methyl isobutyl ketone
0.10% " " alpha terpineol
0.13% " " sodium oleates & sulfonates) soluble oil
0.37% " " kerosene (inhibitor
28.4% " " water
Plus 3.0 cc tetraethyl lead per gallon.

The reason for only 70% by volume of ethyl alcohol instead of the 85% used with methanol is that ethanol dissolves oils and oil soluble materials much more readily than methanol. Consequently we had to use additional water in the formula to reduce the solubility of our inhibitor so that it would remain in the emulsified state necessary for corrosion prevention.

From the standpoint of T.E.L. solubility, I believe that the 70% ethanol Vitane formula has a greater solubility for T.E.L. than our 85% methanol formula. I draw this conclusion from the data given in the Ethyl Corporation Report L.T.D. 48-50, dated November 1, 1948. On page 3 they show the per cent by volume of alcohol in water below which T.E.L. fluid begins to precipitate. Their data is as follows:

Methanol 69.8%
Ethanol 52.2%.

Our methanol formula using 85% by volume of alcohol gives 85.0 minus 69.8, or 15.2% of alcohol above the limiting mixture. For the 70% ethanol

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formula we have 70.0 minus 52.2, or 17.8% of alcohol above the limiting mixture.

Alcohol Tax Unit people have told me that the methyl isobutyl ketone and alpha terpineol are not poisons, but are added for taste and odor respectively. Because ethyl alcohol formula for Vitane contains no poisons other than T.E.L., I believe it is an improvement in that toxic methanol has been eliminated. Prospective licensees for blending and distributing Vitane in Puerto Rico, the Philippines, Australia and New Zealand are awaiting instructions from us based on your advice. In all of the above countries the high price of methanol and low price of ethanol makes it virtually imperative to formulate Vitane from ethyl alcohol.

We are sending you by parcel post a bottle of Vitane made according to the above formula which we have had under service test for some time. We have detected no problems in its use and would like to recommend to our associates abroad that they formulate and use Vitane accordingly with whatever precautions or controls you feel it best to recommend.

Very truly yours,

C. H. Van Hartesveldt

C. H. Van Hartesveldt

CVH:ks

cc: A. T. Colwell
J. N. Cole
E. L. Caswell

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