

ETHYL GASOLINE CORPORATION

CHRYSLER BUILDING
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A.E. MITTNACHT
SECRETARY & TREASURER

NEW YORK May 4, 1934

In order to expedite the production of ETHYL fluid and Q fluid at our Plant, we find it necessary to make a slight change in the mix, which results in a slight change in the proportion by weight of tetraethyl lead to fluid. The ingredients in our product will remain constant, but in the past we have been adding certain small varying quantities of kerosene in order to compensate for the impurities (1% to 2%) that occur in the process of manufacture of tetraethyl lead. We now find that we can use a substantially less quantity of this kerosene filler and give an increased quantity of tetraethyl lead content and still continue to furnish a uniform mix of the ingredients composing both ETHYL and Q fluids.

There will be some benefit to our customers by reason of slightly decreased transportation costs on the fluids.

To explain further, our present drum mix has a lead content of 125,000 cubic centimeters of lead. By using the minimum kerosene required as a filler to make up the variances that occur in tetraethyl lead purity, we can increase the tetraethyl lead content to 130,000 cubic centimeters. The present weight of fluid in our drums is 737 pounds and the new weight will be 747 pounds.

In the case of drum shipments, where blending of ETHYL and Q fluid with gasoline is conducted on the basis of a given number of drums used in each blend, the change is very simple, requiring only the substitution of the new drum mixing charts for containers with a lead content of 130,000 cubic centimeters, for the charts that are now in use. The new mix will be clearly indicated on each drum, and all that is necessary is for you to instruct your blending operators to be sure to ascertain the lead content of each drum as it is blended and to apply the proper mixing chart in making their calculations. It will probably be a matter of but a short time before your present stock of 125,000 cubic centimeters of lead content drums are exhausted, and the present chart can then be discarded and the chart for the new mix with a lead content of 130,000 cubic centimeters used entirely thereafter.

However, the requirements in order to effect the change at bulk mixing points are a little more complicated for the reason that each refinery will have some residue of the present mix in the bulk storage tank, when the first tank car of the new mix is delivered. For that reason, each refinery at which bulk mixing takes place will have to work out a calculation based on the percentage of old mix to new mix that is contained in the bulk storage tank.

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We have evolved what we hope will prove to be a simple formula to accomplish this. It is as follows:

Continue to use the present mixing chart.

For each 10% of new fluid present in the storage tank, subtract .25% (1/4 of 1%) of the fluid required by the old chart.

Several examples follow:

(a) 50% old mix - 50% new mix.

50% new mix represents 5 times 10% of new fluid x .25%, or 1.25% to be deducted from the weight of fluid shown on the present chart to treat any given number of gallons with the desired quantity of lead.

(b) 30% old mix - 70% new mix.

70% new mix represents 7 times 10% of new fluid x .25%, or 1.75% to be deducted from the weight of fluid shown on the present chart to treat any given number of gallons with the desired quantity of lead.

(c) 60% old mix - 40% new mix.

40% new mix represents 4 times 10% of new fluid x .25%, or 1% to be deducted from the weight of fluid shown on the present chart to treat any given number of gallons with the desired quantity of lead.

By using this formula, the blending operators will be able to add our product to gasoline with the same degree of accuracy that is obtained in past and present practice.

With the small percentage of difference between the two mixes of fluid, after the formula has been applied to the blending that takes place after the receipt of the first tank car of the new mix, it will be unnecessary to apply this averaging procedure to mixes accomplished after the second tank car of the new mix is discharged into the bulk storage tank, and at that time and thereafter the chart covering the new mix can be used.

It is recommended, however, that our customers use every endeavor to diminish their inventories of fluid in their bulk storage tanks before either the first tank car of the new mix or the second tank car of the new mix is loaded into them. If it is possible to get down to 10,000 pounds in the case where refineries order in 3,000 gallon tank car lots, or 20,000 pounds where 6,000 gallon tanks cars are taken, it would mean that with the unloading of the first tank car received, a mixture of approximately 20% of old mix fluid and 80% of new mix fluid would result and if inventories could be worked down before the receipt of the second tank car, the per cent of old fluid in the bulk storage tank after the unloading of the second car would represent 20% of 20%, or 4% of the then content of the tank. By applying the new mixing chart for further blending, the physical amount of lead deficiency as compared with the chart figures would be but .1%, which is certainly well within the limits of accuracy that occur in the blending of ETHYL and Q fluids with gasoline.

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The formulas and procedure for bulk storage as described above will be identical for such points where fluid is received in drums which are discharged into the bulk storage tank, or in tank trucks.

We attach hereto a sufficient number of the new charts that apply to the new mix which we would thank you to have distributed to your various mixing points in accord with the type of mixing equipment that is installed, with proper instructions regarding their use. Our Plant will send a framed copy of these charts to each point where ETHYL and Q fluids are handled in bulk quantities. Also, our Plant Manager will write each of our customers when the first shipment of the new mix goes forward and this information will be communicated to the Division Managers of our Sales Department who will pass it along to our field representatives. Both the Division Managers and the field men will be available to help anyone in your organization in working out the formula and otherwise assist you until such time as the new mix has come into universal use and is fully understood by everyone concerned.

We will start shipments of the new mix in both drums and tank cars next week, except to those Companies that are using Yellow No. 1 fluid in bulk. We have a quantity of this particular color in inventory, and it will probably take about three weeks to exhaust it.

We attach hereto copies of this letter for distribution to your people, if you wish to do so.

We welcome any questions you may wish to place before us in connection with this matter and wish to express our appreciation of your cooperation in carrying out the program.

- Yours very truly,

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P.S. The 10-gallon drums will continue to contain 20,000 cubic centimeters of tetraethyl lead although the total weight of the fluid in the drums will be a little lighter. The aviation fluid remains unchanged.

A.E.M.

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