

February 1, 1929

Mr. A. E. Mittnacht,
Ethyl Gasoline Corp.,
25 Broadway,
New York City.

Dear Mr. Mittnacht:

Your special delivery letter of January 29 was delayed in reaching me being held up at the hospital. Because of the delay I am answering somewhat hurriedly but not without having given the matter due consideration.

I see no reason why the Ethyl Gasoline Corporation should not deliver ETHYL fluid to the Australian Air Force under the conditions specified in your letter. The cartridge idea seems to me to be a very good one, in fact it is so good that I wonder if it is not very much superior to the container that is being used by the American aviators. It is very good for two reasons. It is safe from the point of view of breakage and it supplies the aviator with only a small quantity of fluid so that it is not necessary for him to repeatedly re-seal the package. Also it is likely to be used only for the purpose for which it is intended and it should be fairly easy to prevent its leaking. It strikes me as an excellent idea.

The filling of these cartridges could easily be done by a chemist or technical assistant. The use of drums for the filling of these cartridges is very cumbersome and awkward and to some degree dangerous. It would seem highly desirable to me, therefore, that they be filled out of small containers. For this reason I believe that it would be better to supply them with small cans of fluid of the type you are furnishing to the United States Army and Navy. This will do away with the necessity for any complicated apparatus in filling the small containers. All that will be required will be an adequate hood. The hood should be constructed with down ventilation at the rate of approximately 2500 cubic feet of air per minute through a hood space of from 75 to 100 cubic feet. There should be adequate space in the hood for storing the empty container and for carrying out all of the operation. The operator should be dressed with a rubber apron and rubber gloves, and the hood should be kept closed except for the space through which the operator's hands are working, with a glass front to allow good vision. The fluid may be poured directly from the can into a graduate and from the graduate into the small cartridge, which should then be sealed and tested for leakage by being stood upside down for

an hour or more.

I do not believe that any system of handling this could be made simpler or safer and if carried out in this way by an intelligent person should be entirely safe.

When these packages are to be emptied into gasoline the neck of the cartridge should be down in the gasoline so that no vapors of concentrated fluid will escape into the air. After being thoroughly drained it would be well if it could be dropped into a bucket of gasoline immediately so that the operator would not need to be exposed to concentrated vapors at any time. It could then be re-sealed and returned to the laboratory.

These packages should be used for emergency purposes only however, as you have indicated, and there should be bulk storage depots where the usual type of Ethyl Gasoline could be mixed in the usual fashion. Up to the present I do not believe that the devices for mixing small quantities of gasoline have been found to be satisfactory. I recommend the above method because I am sure it can be carried out without any mechanical difficulties. I think we should keep in touch with this matter, however, in order to give further advice if we find it advantageous.

I trust that the above answers all of your questions.

Very truly yours,

RAK:EJ

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