

November 16, 1940

Captain Wendell F. Swanson
Headquarters 1st Armored Division
Fort Knox, Kentucky

Dear Captain Swanson:

Your letter of October 30, referring to two cases of gasoline intoxication has been referred to us by the Standard Oil Company for comment.

The description of the cases as given is typical of gasoline intoxication. The toxicity of gasoline vapor is quite high and it is surprizing indeed when one considers the millions of gallons that are handled in commerce, that more cases of acute intoxication do not occur. As little as 0.5% will cause headache, dizziness and malaise in 15 minutes, while 1% for 15 to 30 minutes will result in serious physiological disturbances. Larger amounts in air may be fatal; 2-1/2%, for example, in air will result in the death of exposed men in from 15 to 30 minutes. We have seen anesthesia, convulsions, and coma precede death from exposure to 3% in air.

If two cases of poisoning occurred under the circumstances that you describe, it seems quite certain that some type of ventilation or improvement in working conditions is necessary if recurrence is to be prevented. When work of this type is carried out in the open air, or under conditions of adequate ventilation, intoxication may be prevented and in the long run, from the point of view of effective safeguards, ventilation appears to be most desirable.

I expect to be in Fort Knox shortly to visit Colonel Thompson and will be happy to stop off and discuss this matter with you at that time if you so desire.

Very truly yours,

WM:vr

Willard Machle, M. D.