

July 2, 1928

Mr. H. H. Hewettson,
Beacon Oil Company,
Boston (Everett), Mass.

Dear Mr. Hewettson:

The work which has been done on aluminum in the past few years has brought about a considerable amount of controversy as to whether there are really any remarkable poisonous qualities in this metal when absorbed in moderate quantities. My own opinion from the data, is that it is not very toxic and that there is not very much danger in handling it with reasonable precautions. It is certainly not to be regarded as dangerous in the same sense or to the same degree that lead is dangerous. However, this does not mean that it is not advisable to take certain precautions in handling aluminium paints. My experience leads me to believe that the solvents in which the aluminum is suspended are more dangerous than the aluminum, and there have been here and there very definite difficulties in the use of paints of this kind in which the solvent is butyl or amyl acetate. The immediate effects of the inhalation of these solvents produce dizziness, nausea and loss of appetite. After some exposure to them there is a decided tendency for the individual to become acclimated so that he can stand without apparent injury much higher concentrations than could be borne at first. It is not well, however, for persons to regularly inhale considerable quantities of these solvents over long periods of time.

The easiest way to avoid the inhalation of any large quantities of these materials in paint spraying is to do the spraying in a ventilated booth. In one of our plants we are spraying drums regularly with aluminium paint by putting the drum in a booth, the front side of which is open, with ventilating fans carrying away the vapors from the back side. Such a booth is fairly easily arranged and is not expensive itself, the principal item of expense being the use of a fairly high speed blower. Such a booth is better than the use of an air mask, for the reason that skin contact with the vapors allows some degree of absorption of the materials through the skin. My best advice, therefore, in the use of aluminum and other metal paints, and certainly in the case of zinc, is to construct and use such a booth which will protect workmen adequately from both the metal and the vapors of the solvent. The air mask may be used with fairly satisfactory results, but I do not believe that for long periods of more or less continual painting it will be found to be entirely satisfactory.

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#2 - H.H.Hewettson - July 2, 1928

I trust that the above will supply to some degree the information that you are in need of, but I shall be glad to give you any further assistance that is possible, on request.

Very truly yours,

RAK:BJ