

March 23, 1970

The Hon. John Jarman  
Chairman, Subcommittee on Public Health and Welfare  
House Committee on Interstate and Foreign Commerce  
House Office Building  
Washington, D. C. 20515

Dear Mr. Jarman:

I am writing in reference to H.R. 12751, having noted that testimony offered by Representative Patsy T. Mink as published in the Congressional Record for March 11, 1970.

Mrs. Mink must be commended for having brought the attention of the Congress to the problem of glue-sniffing and similar abuse of other solvents, quite correctly comparing this to other serious areas of drug abuse. The unhindered availability of solvents does pose a very serious problem in protecting juveniles from very serious injury to themselves with respect not only to behavioral aberrations, but also well documented odds of serious damage to the liver and other internal organs. The wide variety and uncertain composition of many solvents subject to this abuse greatly compound this problem. It might indeed be most helpful if safe repellent additives could be found that would deter sniffing.

My concern is whether we have sufficient reliable information about any compound now proposed for use as a deterrent to be sure that it does not become a serious environment pollutant and end up possibly causing more damage than the situation it is supposed to remedy. The denaturation of glue is not likely to be a total answer to the solvent-addiction problem, but it would undoubtedly lead to the exploitation of other solvents like gasoline. The possible escalation of the list of products for which the incorporation of a deterrent is indicated should obviously heighten our concern about the safety of such additives.

The underlying technical problem is very similar to that involved in the development of safe but effective "harrassing agents" like tear gas intended for use in riot control, some military situations, and subduing violent behavior. As has been well publicized, none of the existing compounds, for example, chloroacetophenone as is used in MACE, is really quite satisfactory, and they would be even less so where the standards of potential harm to people subjected to the agent must be set even more stringently.

JOHN  
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Mrs. Mink's testimony does not offer any technical details, nor have I had an opportunity to see other testimony that may have been offered to your subcommittee. However, the Vestor Corporation, mentioned in her presentation, has announced the possible utility of mustard oil, allylisothiocyanate, as a deterrent additive. I am enclosing an article that I wrote some time ago in response to that suggestion. I must say that at the present time I feel that I was too timid in criticizing the use of allylisothiocyanate for this application, perhaps through not having visualized the eventual possibilities of its expanded use in the future. I had also not been able to find, until very recently, some of the pertinent literature on the biological effects of this compound, copies of which are also enclosed. These studies are not necessarily the final answer to this inquiry, but they must point to the necessity of very careful validating studies.

It may be answered that mustard oil must be safe since it is a natural constituent of horse radish and other condiments. It is not my intention to open the question of the significance of these articles of diet for health; although some interesting issues might be raised, I do not regard them as having a very high priority. It must be stressed, however, that the application of mustard oil to the skin and by inhalation together with any of a variety of organic solvents present issues of possible toxicity which are not fully answered by studies on a dietary component which enters the body under the influence of digestive processes and in combination with a very different set of other materials.

My specific recommendations on H.R. 12751 are:

- (1) That no additive be permitted to be used or advertised as a deterrent against solvent-sniffing until the Secretary of HEW has found that it has been rigorously tested and can be assured to be free of toxic hazards (including chronic effects, cancer, or teratology), and
- (2) That the mandatory provisions not be invoked until the safety of such an additive can be averred. I also believe that the Secretary should be given discretionary authority to decide whether the incorporation of a deterrent to a particular class of products will have such benefits as to warrant the rule.

This discussion also brings up other areas of product safety beyond the immediate scope of H.R. 12751, which I would nevertheless commend to your attention:

- (1) The need for regulation on safety grounds of tear gas and related products, especially if these are to be made available on the public market, and
- (2) Product safety, identity, and purity standards for solvents on the general market whose inadvertent inhalation may represent a health hazard.

Finally, I would be grateful to you for copies of other testimony on the questions raised in this letter, and I would welcome an opportunity to comment on any submissions that may be within the scope of my professional competence and interest.

Sincerely yours,

Joshua Lederberg  
Professor of Genetics

cc: Hon. Patsy Mink