STANDARDS DEVELOPMENT

HOWARD L. McMARTIN

MR. BAIER:
During the day so far, I think you've gotten a feel for what NIOSH is in business for. It's basically research, as Bill pointed out, but its output is in terms of what is the toxicology of the material, what epidemiologic information we have, how does an individual sample the air at the worksite, what does the chemist do when the chemist receives the sample of that air, be it absorbed on something or whatever, what must a physician know and what kinds of medical tests should he perform to determine if anyone has been overexposed, how do you inform the people who are exposed as to what the hazard is, and what steps and means can you use to avoid that hazard. You put that all together, and we call it a criteria document. To discuss the criteria documentation process and standards development, we have Dr. Howard McMartin with us.

DR. McMARTIN:
After listening to all of the comments and discussions that went on about styrene-butadiene rubber, as a combination or singularly as styrene, discussed by Dr. Lilis this morning, or as butadiene which was discussed by others, we're sort of put on the spot in the standards development program. We can look at these two products singularly or as a combination as we have been thinking about lately or we might even consider looking at the problems of the rubber industry and the effect that styrene-butadiene has on it.

After we get the information from the work to be done in epidemiology, we may want to change our direction in looking at styrene. I would like to be sure that the recommended standard we send to OSHA is not just a number, but that it includes recommendations which will provide a suitable environment in which man can work for his full work day — whether it be 8 or 10 hours — for a full work lifetime.

We would also include recommendations and requirements for medical surveillance, work practices including protective equipment, analytical and sampling methodology and types of emergency care and equipment, depending on the nature of the substance or the type of the process or the possibilities of injury which are needed.

As far as styrene is concerned, it's presently on our criteria document schedule to be completed by May 1977. It may be put back, depending on whether or not we feel that the information forthcoming from the epidemiological studies may be pertinent. We expect that information to be available in about six months.

Styrene was put ahead in our priority list because we received information that Dr. Maltoni in Italy had been doing some work in carcinogenesis with this material. We wrote to him in February of last year but we haven't yet received any answer from him about the work that he was doing.

Butadiene is at the lower end of our priority list and from the present information that we have, I'm not sure when it will be considered. What we do with it will depend on what we find out in the next three to four months.

When we develop medical surveillance and make recommendations for it, we try to be practical asking for those tests which will be informative and leading. We likewise assume that a practicing physician can do a complete physical examination which will include routine urinalysis and complete blood count. A complete blood count would provide an early indicator that there may be something wrong or that there is no problem.

From the discussion it appears that there are possibilities of liver damage, and I'm concerned about the type of indicator tests that we should perform in liver function. This is a problem that we'll have to look into, and, certainly, we

wouldn't suggest that a series of tests be done so that you will find one that might be a valuable indicator of possible liver damage. We will at least try to find the types of tests that would give you an indication that things are going all right or that we have some problems facing us. Additional diagnostic liver function tests would be a matter of professional judgment on the part of the examining physician. I don't think I have anything more to say unless there are some questions.

DR. MOORE:
I am Roscoe Moore. Concerning the chronic data on styrene, NCI has completed a study of styrene; however, they have not analyzed the data. They are putting butadiene on test in animals.

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