Accounts of the effects of the newly developed and the more widely advertised solvents are undoubtedly the ones which have the greatest interest for the manufacturer. Thus far, practically no cases of ill health due to these substances have been reported in the literature. Whether this is due to the harmlessness of these compounds, or to the greater care exercised in their use, is not known. Whatever the cause, this apparent immunity should not lead to relaxed vigilance.

In discussing petroleum distillates in one of the German medical journals, Floret reported two unusual cases. One was that of a girl who suffered from epileptiform convulsions for a year after an acute poisoning from benzine fumes. The other case was that of a man who, while filling cans with benzine, lost consciousness. He developed high fever and became acutely ill. Later, sores appeared on his body and in his mouth and throat which, Floret believes, were caused by the excretion of the benzine through the skin and the mucous membranes. The man died five weeks after the accident.

Another author, Stiefler, described the case of a man twenty-one years of age who fell unconscious after emptying a can of benzine. He was treated in a hospital and was discharged as recovered after ten days. Later he also developed convulsions which recurred every four or five months and were epileptic in character.

It would seem that the great amount of publicity given to benzol and its physiological effects should insure adequate protection in its use. However, cases of illness continue to be reported. Among those from Germany was that of a workman who entered an empty vessel which had contained benzol. The vessel had previously been washed out with water six times. Nevertheless, the man lost consciousness shortly after entering it and all efforts to revive him failed. As several plumbers had worked in the same vessel it was thought that benzol could not be the cause of death, but at autopsy considerable amounts of benzol were found in the brain and other organs, so this case must be regarded as one of unusual susceptibility.

A report from Vienna gives details regarding a group of cases of benzene poisoning occurring in Central Europe. Fifty cases appeared among the women workers in a rubber-goods factory within a few weeks after beginning employment. Seven of these cases resulted in death. It would be of great interest to learn the exact composition of the compound used by these women. Unfortunately that was not published in the report, benzene, evidently one of the ingredients, being regarded as the toxic agent.

Carbon disulphide has been held responsible by certain French observers for a case of neuritis in which the muscles of the legs and the arms were affected. This man had been employed for five months in the making of mustard plasters by spreading on paper a mixture composed of rubber, benzine, and carbon disulphide.

Injurious effects arising from the use of the chlor compounds continue to be reported. The German factory inspectors' report for 1927 carried accounts of several cases of poisoning from trichlorethylene, most of them being merely loss of consciousness with no lasting effects, although two important cases were included, one of very serious eye injury and one of death.

A report from Paris describes two cases of poisoning from carbon tetrachloride. The first case was that of a man who, on showing slight symptoms, stopped work and recovered in a few days. The second case was of greater severity. This man had been using carbon tetrachloride in a small, poorly ventilated room in a cleaning establishment. At the end of his second day's work he became acutely ill, developing vomiting, headache, dizziness, abdominal pain, and a temperature slightly above 102 degrees F. He became unconscious and was removed to a hospital for treatment. His symptoms indicated involvement of the liver, spleen, and kidneys but he was discharged from the hospital after two months, very much improved in health. A physical examination one year later showed him to be completely recovered.

The recent controversy on the permissible uses of methanol apparently quieted down following the publication of the agreement between the manufacturers of methanol and the United States Public Health Service, which agreement went into

effect July first of this year. While a large number of deaths and some cases of blindness have been reported as being caused by the drinking of methanol, no recent fatalities have been reported from its industrial use. At the present time several investigations are being carried on in well-known laboratories for the purpose of increasing our knowledge as to the toxicity of this compound both by inhalation and by skin absorption. With additional data on these two points methanol should assume its proper place in industry. Certainly with what is known of its physiological action at the present time, it should not be used as a solvent for general purposes.

In the preparation of this paper assistance was solicited from a number of companies manufacturing or using volatile solvents in large quantities. The questions asked referred exclusively to the kind of protection used by these companies for conserving the health of their workers.

The replies brought out little that is new. The points emphasized were those which have many times been presented at meetings similar to this one: the handling of volatile solvents in closed systems; the use of positive pressure helmets or hose masks, with an adequate supply of fresh air, by persons cleaning tanks or repairing leaks in valves or pipe lines, (this type of work never to be done by one man alone) and, in the case of a tank, only after it has been thoroughly steamed or washed out; adequate ventilation of workrooms; alternation of jobs for workers exposed to volatile solvents with jobs in which there is no such exposure; periodic physical examination of workmen; and substitution of nontoxic, or at least less toxic materials, for toxic compounds.

As exhaust ventilation at the point of evaporation of a solvent is the procedure usually recommended, it was a surprise to learn that three large companies, when using benzol as a solvent, are depending upon general room ventilation alone. Two of these companies specified that this ventilation was by means of blowers at the floor level of the room.

One company stores most of the volatile materials which are kept within the plant, in underground tanks, or, in the case of especially volatile materials, in refrigerators. The latter procedure seems to be an admirable method for conserving material and also for eliminating a health and a fire hazard.

Another company, which has as a special hazard carbon disulphide, conducts its process almost entirely under water seals. In cases where escape of this vapor is inevitable it is ignited and burned to sulphur dioxide.

Education of the workers concerning the potential health hazards of the materials they are handling is most important. Such education gives them a definite reason as to why certain rules have been formulated and why they must be obeyed. One company emphasizes the importance of constant and close supervision by technically trained men. This is regarded as particularly necessary in the case of operators who use piping, pumps, etc. and are inclined to apply personal ideas which might prove dangerous.

At intervals during the past two years "The Rubber Age" has published a series of most interesting and instructive articles by Dr. P. A. Davis, Assistant Medical Director of the Goodyear Tire and Rubber Company, dealing with toxic substances in the rubber industry. Many of these articles carry a section which should be of great help to the plant physician and the personnel department in the selection and placement of workers. In discussing the subject of physical examinations Dr. Davis specifies in detail the kind of person who should *not* be employed when such employment involves exposure to the particular substances under consideration. The volatile solvents on which these details are given are carbon tetrachloride, carbon disulphide, amyl acetate and other amyl compounds, and acetone.

In conclusion, I should like to make a plea for the reporting of cases of ill health caused, or suspected of being caused, by volatile solvents. I am sure that the files of the medical departments of many companies contain records that should have