In the cementing of plastic raincoats, there have been a number of long-continued exposures at concentrations of 600 to 800 ppm with peak concentrations running well over 2,000 ppm. Under these conditions the employees complained of headaches and nausea, and there were some cases of illness and unconsciousness with no apparent aftereffects

See *Hygienic Guide*

n-Butyl acetate is widely used as a solvent in lacquers and in cements based on either natural or synthetic resins or gums Like most of the aliphatic esters, it is a relatively innocuous material In man, it produces symptoms of mild irritation of the nose and throat, irritation of the eyes, and finally narcosis It is not stored long in the body and is not cumulative

See *Hygienic Guide*

n-Butylamine is a colorless, flammable liquid with a strong, ammonia-like odor. The liquid produces severe damage to the skin and eyes, and the vapor is highly irritating to the upper respiratory tract and eyes. Inhalation of approximately 10 ppm may produce mild headaches and flushing of the skin and face Its chronic exposure hazard is moderate and cumulative effects have not been observed

See *Hygienic Guide*

Butyl Cellosolve—see Ethylene glycol monobutyl ether.

Cadmium metal is easily flammable in the form of dust or fine powder The finely powdered oxide produced in cadmium fires is acutely poisonous, and several cases of serious poisoning incurred in fighting fires involving cadmium metal have been recorded. No attempt should be made to approach such a fire without a supplied air respirator, universal gas mask with smoke filter, or metal fume respirator

One of the commonest sources of acute industrial poisoning is the heating or welding of cadmium plated metals. This job should be done only under efficient local exhaust or by workmen equipped with supplied air respirators

Industrial poisoning by swallowing of soluble cadmium compounds is not common, but a number of nonindustrial cases from the preparation of acid foods in cadmium plated utensils have occurred

There is some disagreement as to the possibility of chronic cadmium poisoning One examination was made of 38 men working in the production of alkali storage batteries and exposed to atmospheres ranging from three to 900 mg of cadmium and almost equal amounts of nickel per cu m. These men complained of fatigue, nervousness and irritability, thirst, cough and shortness of breath. In about half of the workmen with long periods of employment, the sense of smell was impaired Of the 19 men with more than eight years of work in the battery plant, 15 showed protein in the urine, 12 suffered more or less from loss of the sense of smell, and 14 showed impaired kidney function Fifteen of 17 men examined with the spirometer showed impaired lung function, and all of them complained from time to time of shortness of breath In four cases the changes in the lungs were noticeable on X-ray examination, and six other cases showed signs of inactive tuberculosis One case had active tuberculosis

Other examinations were made on 20 workmen from a cadmium smelter at repeated intervals over a period of 3 months These men had exposures varying from 6 months to 22 years, and the atmospheric concentrations in the plant ran from 0 04 to 31 3 mg of cadmium per cu m of air Exposures to the highest concentration, however, lasted only two to three hours per day, and the men were rotated so that total exposure to this highest concentration was comparatively limited The most characteristic finding was a yellow ring on the teeth of the men with long exposure There were no other signs and no subjective symptoms suggestive of cadmium intoxication. They did show signs of cadmium absorption in the isolation of cadmium from the blood and urine

It is possible that these two reports differ because of the extremely high concentrations of airborne cadmium noted in the first report.

See Industrial Data Sheet 312 and *Hygienic Guide*

Calcium is a very active light metal not ordinarily seen in the pure form Its compounds are generally not toxic The oxide (quicklime) is highly alkaline and caustic in its action on the skin and is an intense irritant to the mucous membranes of the respiratory system It is reported to have caused pneumonia, but the irritation is so