

carbonyl in man, a rather frequent occurrence among workers of the Mond plant but reputedly eliminated since 1904 (Armit), is characterized by the appearance of pulmonary edema and hemorrhages as well as cerebral hemorrhages. Similar effects were observed by Armit in rabbits, cats, and dogs exposed to nickel carbonyl. In addition to the pulmonary and cerebral lesions, there were, in the animals, hemorrhages of the upper air passages, in the suprarenals, and, less often, in the kidney, spleen, and liver.

The cause of the high toxicity of nickel carbonyl is still unsettled. Nickel carbonyl inhaled into the lung is disintegrated, according to McKendrick and Snodgrass, at the site of contact with the pulmonary tissue. The nickel is deposited in the lung, while the carbon monoxide released can exert its toxic action upon the system. These investigators believe that at least a part of the toxic effect of nickel carbonyl is attributable to the carbon monoxide freed in the body. A different explanation is proposed by Vahlen, who determined the carbon monoxide content of the blood of dogs poisoned with nickel carbonyl, and found that nickel carbonyl is much more toxic than carbon monoxide. This investigator concluded that the toxicity of this compound depended upon the action of the entire molecule. Armit attributed the high toxicity of nickel carbonyl to the fact that this compound is decomposed in the lungs, and forms a new substance which is precipitated in the pulmonary tissues. This unknown compound releases nickel in gaseous form, which supposedly possesses a special affinity for the brain and suprarenals. The toxic action of nickel carbonyl is due to these qualities, and is not caused mainly by the release of carbon monoxide, according to Armit.

Bayer, who studied two fatal cases of nickel carbonyl poisoning of man, concluded that this substance acts as an inhalation toxin on the large surface of the respiratory epithelium. It produces a toxic pneumonia, with simultaneous involvement of all parts of the lung, characterized by a peculiar coagulation process of the lung tissue.

Nickel carbonyl is a colorless, mobile liquid which is readily soluble in alcohol, ether, benzol, chloroform, and other organic solvents. While only small amounts of this compound can be dissolved in water, it forms an emulsion with water. Its solubility in serum, however, is twice as high as that in water, and it is taken up easily by fats. The presence of nickel carbonyl in the blood can be demonstrated by spectroscopic methods (Kötzing). Approximately 75 per cent of the nickel carbonyl introduced into the body is eliminated with the urine (Armit).

*Carcinoma of the Nasal Passages and Lungs.* The first report concerning the occurrence of an excessive number of carcinomas of the nasal passages and of the lungs among workers of the Mond Nickel Company, employed in the Clydach plant, South Wales, was made by Grenfell in 1932. The first appearance of these tumors was noticed in 1924 (Baader). There had been observed, during the eleven years preceding 1932, eleven cases of cancer of