

In the future, periodic control examinations of all PVC workers, especially of those engaged in VC polymerization, at short intervals employing sensitive methods should be obligatory unless it should prove feasible to eliminate completely any possible air contamination.

Some of the many scientific questions connected with the problem of vinyl chloride disease may not be answerable until results of further extensive animal experiments^{10,11,12} and of prospective and retrospective large-scale studies¹³ as well as of continuous monitoring of working areas^{14,15,16,17} are available.

REFERENCES

1. ADAM, Y. G., A. G. HUVOS & S. I. HAJDU. 1972. Malignant vascular tumors of liver. *Ann. Surg.* 175: 375.
2. ALBRIGHT, L. F. 1967. Vinyl chloride processes. *Chem. Eng.* 74 (March 27): 123.
3. ALBRIGHT, L. F. 1967. Manufacture of vinyl chloride. *Chem. Eng.* 74 (April 10): 219.
4. ALBRIGHT, L. F. 1967. Polymerization of vinyl chloride. *Chem. Eng.* 74 (May 8): 151.
5. ALBRIGHT, L. F. 1967. Vinyl chloride polymerization by suspension processes yields polyvinyl chloride resins. *Chem. Eng.* 74 (June 5): 145.
6. ALBRIGHT, L. F. 1967. Vinyl chloride polymerization by emulsion, bulk and solution processes. *Chem. Eng.* 74 (July 3): 83.
7. ANGHIESCU, FL., M. OTOIU, E. DOBRINESCU, L. HAOI-PARASCHIV-DOSSIOS, GH. DOBRINESCU & V. GANEA. 1969. Consideratii clinico-patogenice asupra fenomenului Raynaud la muncitorii din industria policlorurii de vinil. *Med. Interna* 21: 473.
8. AUSTIN, G. T. 1974. Industrially significant organic chemicals (Part 3). *Chem. Eng.* 81 (March 18): 82.
9. BAADER, E. W. 1960. Klinische Grundlagen der sechsundvierzig meldepflichtigen Berufskrankheiten. Urban & Schwarzenberg, München, West Germany.
10. BAADER, E. W., Ed. 1961. Handbuch der gesamten Arbeitsmedizin. Vol. II/1: Berufskrankheiten. Urban & Schwarzenberg, München, West Germany.
11. BAGHIRZADE, M. F., E. U. HERTEL & P. SCHUMACHER. 1971. Hämangioendotheliom (Reticulosarcoma angiosplasticum) der Leber und alte Echinokokkusinfektion. *Acta Hepato-Splenol.* 18: 224.
12. BARETTA, E. D., R. D. STEWART & J. E. MUTCHLER. 1969. Monitoring exposures to vinyl chloride vapor: breath analysis and continuous air sampling. *Am. Ind. Hyg. Assoc. J.* 30: 537.
13. BASALAEV, A. V., A. N. VAZIN & A. G. KOČETKOV. 1972. K patologenozu izmenenii voznikayushchikh pri dliitel'nom vozdeistvii vinilkhlorida. *Gigiena Truda Prof. Zabolevaniya* 16(2): 24.
14. BASU, A. K., J. BOYER, R. BHATTACHARYA, K. C. BASU MALLIK & K. P. SEN GUPTA. 1967. Non-cirrhotic portal fibrosis with portal hypertension: a new syndrome. Part I. Clinical and function studies and results of operations. *Indian J. Med. Res.* 55: 336.
15. BASU MALLIK, K. C., K. P. SEN GUPTA, A. K. BASU, S. K. BISWAS, N. C. PAL & J. BOYER. 1967. Non-cirrhotic portal fibrosis with portal hypertension: a new syndrome. Part II. Histopathological studies. *Indian J. Med. Res.* 55: 351.
16. BECKER, K., W. BÜSCHER, M. HELLME, B. KRAM, K. SCHNIGER & K. TENNER. 1968. Atlas der Laparoskopie. C. F. Schönerhans Verlag, Stuttgart, West Germany.
17. BECKER, V. & K. BÜSCHER. 1961. Ueber das Hämangioendotheliom der Leber. *Acta Hepato-Splenol.* 8: 356.
18. BIANCHI, L. 1970. Zum Problem der Leberfibrose. *Schweiz. Med. Wochschr.* 100: 1214.
19. BOYER, J. L., K. P. SEN GUPTA, S. K. BISWAS, N. C. PAL, K. C. BASU MALLIK, F. L. INER & A. K. BASU. 1967. Idiopathic portal hypertension. Comparison with the portal hypertension of cirrhosis and extrahepatic portal vein obstruction. *Am. J. Med.* 66(1): 41.
20. BRIT. MED. J. 1974. Vinyl chloride and cancer. 1: 590.
21. BUCHHEITZ, C. F., S. SCHAFFNER & H. POPPER. 1966. Fat-storing cells (lipocytes) in human liver. *Arch. Pathol.* 82: 447.
22. BUCUR, D. 1972. Patologia da resine polivinilice. *Med. Bull.* 52(2): 102.

23. BRÜHL, W. 1966. Zwischenfälle und Komplikationen bei der Laparoskopie und gezielten Leberpunktion (Ergebnis einer Umfrage). *Deut. Med. Wochschr.* 91: 1297.
24. CANADA, DEPARTMENT OF NATIONAL HEALTH AND WELFARE, INDUSTRIAL HEALTH DIVISION. 1949. A guide to the diagnosis of occupational diseases. King's Printer, Ottawa, Ontario, Canada.
25. CARR, J., R. M. BURGISON, J. F. VITCIA & J. C. KAANTZ, JR. 1949. Anesthesia. XXIV. Chemical constitution of hydrocarbons and cardiac automaticity. *J. Pharmacol. Exptl. Ther.* 97: 1.
26. CHATELAIN, A. & P. MOTILLON. 1967. Un syndrome d'acro-ostéolyse d'origine professionnelle et de constatation nouvelle en France. *J. Radiol. Electrol. Med. Nucl.* 48: 277.
27. CHEMICAL ECONOMICS HANDBOOK. September 1973. Vinyl Chloride and Polyvinyl Chloride Resins. Stanford Research Institute, Menlo Park, Calif.
28. CHEMIEWIRTSCHAFT IN ZAHLEN. VERBAND DER CHEMISCHEN INDUSTRIE E.V., Ed. 1973. 15th edit. Econ-Verlag, Düsseldorf, West Germany.
29. CIENOWETIT, M. B. & C. L. HAKE. 1962. The smaller halogenated aliphatic hydrocarbons. *Ann. Rev. Pharmacol.* 2: 363.
30. CHIEF INSPECTOR OF FACTORIES. 1953. Annual Report for the Year 1951. Cmd. 8772, H.M.S.O. London, England.
31. COOK, W. A., P. M. GIEVER, B. D. DINMAN & H. J. MAGNUSON. 1971. Occupational acroosteolysis. II. An industrial hygiene study. *Arch. Environ. Health* 22: 74.
32. CORDIER, J. M., C. FIEVEZ, M. J. LÉFÈVRE & A. SEVRIN. 1966. Acro-ostéolyse et lésions cutanées associées chez deux ouvriers affectés au nettoyage d'autoclaves. *Cahiers de Médecine du Travail (Association Professionnelle belge des Médecins du Travail)* 4 Janvier 1966.
33. CREECH, J. L., JR. & M. N. JOHNSON. 1974. Angiosarcoma of liver in the manufacture of polyvinyl chloride. *J. Occupational Med.* 16: 150.
34. CROLL, M. N., L. W. BRADY, I. BRODSKY & L. STANTON. 1965. A new agent for splenic scanning: DMHP. *Radiology* 84: 492.
35. DAILLOREN, S. 1961. Thorotrast tumours. A review of the literature and report of two cases. *Acta Pathol. Microbiol. Scand.* 53: 147.
36. DANISHIEVSKII, S. L. & N. M. EGOBOV. 1961. V komolekulyarnykh soedinenii. *Gigiena Truda* 5 (9): 26.
37. DANZIGER, H. 1960. Accidental poisoning by. *Can. Med. Assoc. J.* 82: 828.
38. DEESE, D. E. & R. E. JOYNER. 1969. Vinyl a posture. *Am. Ind. Hyg. Assoc. J.* 30: 449.
39. DEICHMANN, W. B. & H. W. GERABE. 1967. Academic Press, New York, N.Y.
40. DEVIGNEVILLE, DR. & A. M. FLUCHIER. 15 des résines polyvinylchlorures. Service Méd. Vernon, avril 1953. As cited in Truffert.
41. DIMOV, D. & T. ILIARITIC. 1971. Profesii Toksikol. 22: 53.
42. DINMAN, B. D., W. A. COOK, W. M. W. CIECK. 1971. Occupational acroosteolysis. *Environ. Health* 22: 61.
43. DODSON, V. N., B. D. DINMAN, W. M. MAGNUSON. 1971. Occupational acroosteolysis. *Environ. Health* 22: 83.
44. DOMNINGHAUS, H. 1972. Kunststoffe sortien-Anwendungen. 2nd edit. VD.
45. DOMNINGHAUS, H. 1973. Kunststoffe formen. 2nd edit. VDI-Verlag, Düsseldorf, Germany.
46. DUBLIN, L. I. & R. J. VANE. 1933. Occupational hazards and diagnostic signs. U. S. Department of Labor, Bureau of Labor Statistics, Bulletin No. 582. U.S. 1960.
47. DUBLIN, L. I. & R. J. VANE. 1947. Occupational hazards and diagnostic signs. U. S. Department of Labor, Division of Labor Standards, Bulletin No. 41 (revised). U.S. Government Printing Office, Washington, D.C., p. 65. As cited in Danziger, 1960.

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123. Turpentine

SYMPTOM, CONDITION, OR DISEASE TO LOOK FOR

Irritation of mucous membranes of eyes, nose, and upper air passages, bronchial inflammation, salivation, headache, vomiting, abdominal pain and vertigo, state of excitement resembling drunkenness, irritation of kidneys and bladder, strangury, odor of violets in urine, severe irritation of skin.

OCCUPATIONS WHICH OFFER SUCH EXPOSURE

Art-glass workers	Japanners	Printers
Cable splicers	Lacquerers	Rubber workers
Camphor makers	Lacquer makers	Sealing-wax makers
Cementers (rubber)	Linoleum makers	Shellackers
Compositors	Lithographers	Shellac makers
Decorators (pottery)	Millinery workers	Shoe factory operatives
Dry cleaners	Painters	Textile printers
Dye makers	Paint makers	Transfer workers (pottery)
Enamelers	Patent-leather makers	Turpentine extractors
Enamel makers	Petroleum-refinery workers	Varnishers
Feather workers	Pharmaceutical workers	Varnish makers
Furniture polishers	Photographic workers	Wax makers
Ink (printing) makers	Polishers	
Insecticide makers	Polish makers	
Japan makers		

124. Uranium

Uranium, reported to be one of the most toxic of metals, is a source of radiant energy. A high frequency of cancer of the lungs in Czechoslovakian miners of uranium is believed to be due to the radioactivity of the ore. Very little has been published on the effects on man of exposure to uranium salts. The conditions reported include purpura of the legs, reduction of leukocytes, as well as diminution of red corpuscles, a reduction in urinary elimination of nitrated salts, and an increase in the chlorides.

Experiments on animals with uranium nitrate are reported to show nephritis, glycosuria, albuminuria, gastro-intestinal disorders, degeneration of liver, affections of nervous system.

OCCUPATIONS WHICH OFFER SUCH EXPOSURE

Dye makers	Paint makers	Tile makers
Dyers	Pharmaceutical workers	Uranium miners
Glass mixers	Photographic workers	Uranium workers

125. Vanadium

SYMPTOM, CONDITION, OR DISEASE TO LOOK FOR

Anemia, cachexia, irritation of respiratory tract, dry cough resulting in hemorrhages, diarrhea or constipation, emaciation, involvement of kidneys, hysterical manifestations, melancholia.

OCCUPATIONS WHICH OFFER SUCH EXPOSURE

Alloy makers	Ink (blue) makers	Sulphuric-acid workers
Dye makers	Mordanters	Textile printers
Dyers	Photographic workers	Vanadium-steel workers
Glass mixers		

126. Vinyl Chloride

This compound is used in the synthesis of organic compounds, principally resins.

SYMPTOM, CONDITION, OR DISEASE TO LOOK FOR

The United States Bureau of Mines studied the acute response of guinea pigs to a single exposure to the vapors of vinyl chloride. According to this Bureau, vinyl chloride produces in these animals unsteadiness and motor

ataxia, incomplete and finally complete narcosis. The principal gross pathological findings were congestion and edema of the lungs with hyperemia of the kidneys and liver.

This same Bureau determined that men exposed to 2.5 percent for approximately 8 minutes soon began to feel dizzy and disoriented as to space and size of surrounding objects and complained of a burning sensation in the soles of the feet. They immediately recovered on leaving the chamber, and complained only of a slight headache which lasted about 30 minutes.

127. Xylol. See Benzol

128. Zinc

SYMPTOM, CONDITION, OR DISEASE TO LOOK FOR

Metal-fume fever characterized by: Irritation of respiratory tract, dryness of throat, dry cough, malaise, headache, nausea, severe chills with fever, pains in limbs, shaking in limbs, sweating, leukocytosis.

Metal-fume fever may also be caused by fumes of lead, mercury, manganese, cadmium, arsenic, antimony, and many other metals. Metal-fume fever resulting from metals which may cause systemic poisoning should be regarded as a warning that continued exposure may have more serious effects.

OCCUPATIONS WHICH OFFER SUCH EXPOSURE

Blowers-out (zinc smelting)	Core makers	Molders (foundry)
Brass founders	Galvanizers	Pourers (brass foundry)
Brasiers	Junk-metal refiners	Sherardizers
Bronze-powder makers	Luters (zinc smelting)	Welders
Bronzers	Metallizers	Zinc smelters

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