

VII. REFERENCES

1. Morral FR: Cobalt and cobalt alloys, in Standen A (ed.): Kirk-Othmer Encyclopedia of Chemical Technology, ed 2 rev. New York, Interscience Publishers, 1970, vol 5, pp 716-48
2. Hawley GG (ed.): The Condensed Chemical Dictionary, ed 9. New York, Van Nostrand Reinhold Co, 1977, pp 215-19
3. Payne LR: The hazards of cobalt. J Soc Occup Med 27:20-25, 1977
4. Schroeder HA, Nason AP, Tipton IH: Essential trace elements in man--Cobalt. J Chronic Dis 20:869-90, 1967
5. Young RS (ed.): Cobalt--Its Chemistry, Metallurgy, and Uses. American Chemical Society Monograph Series No. 149. New York, Reinhold Publishing Corp, 1960, 424 pp
6. Zadra JB: Milling and Processing Tungsten. Springfield, VA, US Dept of Commerce, National Technical Information Service, 1959, 121 pp (NTIS PB 242 218)
7. Threshold Limit Values of Air-borne Contaminents (sic)--Recommended and Intended Values. St. Louis, American Conference of Governmental Industrial Hygienists, 1968, pp 1,6,7
8. Committee on Threshold Limits--1975 Notice of Intended Changes. Am Ind Hyg Assoc J 36:A-10 to A-11, 1975
9. Threshold Limit Values for Chemical Substances in Workroom Air. Cincinnati, American Conference of Governmental Industrial Hygienists, 1976, pp 13,34-35
10. Threshold Limit Values for Chemical Substances and Physical Agents in the Workroom Environment with Intended Changes for 1980. Cincinnati, American Conference of Governmental Industrial Hygienists, 1980, 93 pp
11. Jobs H, Ballhausen C: [The medical and technical viewpoints of metal ceramics as a source of dust.] Vertrauensarzt Krankenkasse 8:142-48, 1940 (Ger)
12. Scherrer M, Parambadathumalail A, Burki H, Senn A, Zurcher R: [Three cases of "hard metal" pneumoconiosis.] J Suisse Med 100:2251-55, 1970 (Ger)
13. Reber E, Burckhardt P: [Hard-metal pneumoconiosis in Switzerland.] Respiration 27:120-42, 1970 (Ger)

14. Bech AO: Hard metal disease and tool room grinding. J Soc Occup Med 24:11-16, 1974
15. Husten K: [Hard-metal fibrosis of the lungs.] Arch Gewerbepathol Gerwerbehyg 16:721-32, 1959 (Ger)
16. Einbrodt HJ, Kuhne W: [Lung dust and morphological picture of a hard metal lung.] in Reploh H, Klosterkotter W (eds.): Fortschritte der Staublungenforschung. Monograph on the Fourth International Dust-Lung Meeting of April 3-5, 1962, in Munster, Westfalen. Dinslaken, Niederrheinische Druckerei, 1963, pp 217-26 (Ger)
17. Collet A, Liot F, Gallouedec C, Roussel G, Martin J, Reuet C, Brouet G: [Electron microscopy study of various cellular aspects of pulmonary fibroadenomatoses with diffusion disorders--Discussion on the etiological role of cobalt and tungsten carbide.] Rev Tuberc (Paris) 27:357-81, 1963 (Fre)
18. Rochemaure J, Ancla M, Trinquet G, Meyer A: [A case of pulmonary fibrosis--Possible role of tungsten dust.] J Fr Med Chir Thorac 26:305-12, 1972 (Fre)
19. Joseph M: Hard metal pneumoconiosis. Australas Radiol 12:92-95, 1968
20. Bartl F, Lichtenstein ME: Tungsten carbide pulmonary fibrosis--A case report. Am Ind Hyg Assoc J 37:668-70, 1976
21. Teyssier L, Guerin L, Frey N, Lesobre R: [Pulmonary fibrosis observed in the hard metal industry.] Arch Mal Prof 36:53-56, 1975 (Fre)
22. Siegesmund KA, Funahashi A, Pintar K: Identification of metals in lung from a patient with interstitial pneumonia. Arch Environ Health 28:345-49, 1974
23. Miller CW, Davis MW, Goldman A, Wyatt JP: Pneumoconiosis in the tungsten-carbide tool industry. AMA Arch Ind Hyg Occup Med 8:453-65, 1953
24. Tolot F, Girard R, Dorsit G, Tabourin G, Galy P, Bourret J: [Pulmonary manifestations of "hard-metals"--Irritative problems and fibrosis (survey and clinical observations).] Arch Mal Prof 31:453-70, 1970 (Fre)
25. Dorsit G, Girard R, Rousset H, Brune J, Wiesendanger T, Tolet F, Bourret J, Galy P: [Pulmonary fibrosis in three individuals working in the same factory and exposed to cobalt and tungsten carbide dusts--Pulmonary problems in the hard metal industry.] Sem Hop 46:3363-76, 1970 (Fre)
26. Coates EO Jr, Watson JHL: Diffuse interstitial lung disease in tungsten carbide workers. Ann Intern Med 75:709-16, 1971

27. Coates EO Jr, Watson JHL: Pathology of the lung in tungsten carbide workers using light and electron microscopy. *J Occup Med* 15:280-86, 1973
28. Baudouin J, Jobard P, Moline J, Lavandier M, Roullier A, Homasson JP: [Diffuse interstitial pulmonary fibrosis--Responsibility of hard metals.] *Nouv Presse Med* 4:1353-55, 1975 (Fre)
29. Turos E, Timar M, Vincze E: [New data on pneumoconiosis due to hard metal dust.] *Tuberk Tubobetessesek* 24:100-04, 1969 (Hun)
30. Jirkova H: [Dust hazards when grinding tools made of sintered carbides.] *Prac Lek* 23:114-16, 1971 (Cze)
31. Baudouin J, Thevenot C, Dezile G, Lavandier M, Homasson JP, Roullier A: [Pulmonary fibrosis due to hard metals--Functional and immunologic study of 4 cases.] *Rev Inst Hyg Mines (Hasselt) (Tijdschrift Van Het Institute Voor Mijnygiene)*, 1974, pp 125-29 (Fre)
32. Bech AO, Kipling MD, Heather JC: Hard metal disease. *Br J Ind Med* 19:239-52, 1962
33. Barborik M: [Pulmonary disease in workers in the production of hard metals--Sintered carbides.] *Prac Lek* 18:241-47, 1966 (Cze)
34. Moschinski G, Jurisch A, Reinl W: [Pulmonary changes in sintered hardmetal workers.] *Arch Gewerbepathol Gewerbehyg* 16:697-720, 1959 (Ger)
35. Kaplun ZS: [Toxicity of industrial dust of cobalt and its compounds.] *Tsvetn Met* 30:42-48, 1957 (Rus)
36. Salikhodzhayev SS, Vengerskaya KhYa: [Questions of occupational health in primary plants for the production of hard alloys.] *Gig Sanit* 26(10):78-80, 1961 (Rus)
37. Fairhall LT, Castberg HT, Carrozzo NJ, Brinton HP: Industrial hygiene aspects of the cemented tungsten carbide industry. *Occup Med* 4:371-79, 1947
38. Lundgren KD, Ohman H: [Pneumoconiosis in the hard metal industry--Technical and medical study.] *Virchows Arch A* 325:259-84, 1954 (Ger)
39. Kipling MD: Cobalt, in Waldron HA (ed.): *Metals in the Environment*. London, Academic Press, 1980, pp 133-153
40. Lichtenstein ME, Bartl F, Pierce RT: Control of cobalt exposures during wet process tungsten carbide grinding. *Am Ind Hyg Assoc J* 36:879-85, 1975

41. Alexandersson R: [Studies on effects of exposure to cobalt. II. Reactions of the respiratory organs of various exposure levels in the hardmetal industry.] *Arbete och Hals* 2:1-34, 1979 (Swe)
42. Alexandersson R: [Studies on effects of exposure to cobalt. VI. Exposure, uptake, and pulmonary effects of cobalt in the hardmetal industry.] *Arbete och Hals* 10:1-24, 1979 (Swe)
43. Alexandersson R, Hedenstierna G: [Studies on effects of exposure to cobalt. III. Ventilation capacity, distribution of inhaled gas, and closing of respiratory passages during ongoing work and after periods of nonexposure.] *Arbete och Hals* 7:1-25, 1979 (Swe)
44. Kerfoot EJ, Fredrick WG, Domeier E: Cobalt metal inhalation studies on miniature swine. *Am Ind Hyg Assoc J* 36:17-25, 1975
45. Wehner AP, Busch RH, Olson RJ, Craig DK: Chronic inhalation of cobalt oxide and cigarette smoke by hamsters. *Am Ind Hyg Assoc J* 38:338-46, 1977
46. Vengerskaya KhYa, Salikhodzhaev SS: [Some problems of the influence of tungsten dust on the organism.] *Gig Tr Prof Zabol* 6(3):27-29, 1962 (Rus)
47. Waldbott GL: Cobalt, in *Health Effects of Environmental Pollutants*. St. Louis, The CV Mosby Co, 1973, pp 103-08
48. Sjogren I, Hillerdal G, Andersson A, Zetterstrom O: Hard metal lung disease--importance of cobalt in coolants. *Thorax* 35:653-59, 1980
49. Roto P: Asthma, symptoms of chronic bronchitis and ventilatory capacity among cobalt and zinc production workers. *Scand J Work Environ Health* 6: suppl 1, 1980, 49 pp
50. Kochetkova TA: [On the question of the effect of cobalt powders.] *Gig Tr Prof Zabol* 4(11):34-38, 1960 (Rus)
51. Cau G, Hollard D, Gimbert E, Zarb R: [Systemic and respiratory disturbances following inhalation of cobalt dust.] *Rev Lyon Med* 12:491-95, 1963 (Fre)
52. Verhamme EN: Contributions to the evaluation of the toxicity of cobalt. *Cobalt (Engl Ed)* 2:29-32, 1973
53. Harding HE: Notes on the toxicology of cobalt metal. *Br J Ind Med* 7:76-78, 1950
54. Delahant AB: An experimental study of the effects of rare metals on animal lungs. *AMA Arch Ind Health* 12:116-20, 1955

55. Schepers GWH: The biological action of particulate cobalt metal--Studies on experimental pulmonary histopathology. *AMA Arch Ind Health* 12:127-33, 1955
56. Schiller E: [Animal experimental study of the hard metal pneumoconiosis.] *Beitr Silikose Forsch* 3:776-84, 1958 (Ger)
57. Schepers GWH: The biological action of tungsten carbide and cobalt--Studies on pulmonary histopathology. *AMA Arch Ind Health* 12:140-46, 1955
58. Bruckner HC: Extrinsic asthma in a tungsten carbide worker. *J Occup Med* 9:518-19, 1967
59. Popov LN: [Study of the effect of small concentrations of metallic cobalt aerosol on animals in a hygienic experiment.] *Gig Sanit* 42(4):97-98, 1977 (Rus)
60. Popov LN, Kochetkova TA, Gusev MI, Markina NA, Elfimova EV, Timonov MA: [Accumulation, distribution, and morphological changes in the body due to inhalation of metallic cobalt aerosol.] *Gig Sanit* 42(6):12-15, 1977 (Rus)
61. Cohen HA: The role of carrier in sensitivity to chromium and cobalt. *Arch Dermatol* 112:37-39, 1976
62. Adamska M: [Allergic reactions to detergents.] *Przegl Dermatol* 58:429-33, 1971 (Pol)
63. Munro-Ashman D, Miller AJ: Rejection of metal to metal prosthesis and skin sensitivity to cobalt. *Contact Dermatitis* 2:65-67, 1976
64. Camarasa JMG: Cobalt contact dermatitis. *Acta Derm Venereol* 47:287-92, 1967
65. Agrup G: Sensitization induced by patch testing. *Br J Dermatol* 80:631-34, 1968
66. Malten KE, Fregert S, Bandmann HJ, Calnan CD, Cronin E, Hjorth N, Magnusson B, Maibach HI, Meneghini CL, Pirila V, Wilkinson DS: Occupational dermatitis in five European dermatological departments. *Berufs Dermatosen* 19:1-14, 1971
67. Valer M, Somogyi Z, Racz I: Studies concerning the sensitizing effect of cobalt. *Dermatologica* 134:36-50, 1967
68. Wahlberg JE: Thresholds of sensitivity in metal contact allergy--I. Isolated and simultaneous allergy to chromium, cobalt, mercury and/or nickel. *Berufs Dermatosen* 21:22-33, 1973

69. Marcussen PV: Intradermal test using cobalt chloride. Acta Derm Venereol 43:472-76, 1963
70. Overall J, Truter MR, Truter EV: Epidermal sensitivity to chromium, cobalt and nickel. Acta Derm Venereol 34:447-62, 1954
71. Pirila V: On the role of chrome and other trace elements in cement eczema. Acta Derm Venereol 34:136-43, 1954
72. Marcussen PV: Cobalt dermatitis--Clinical picture. Acta Derm Venereol 43:231-34, 1963
73. Szarmach H, Poniecka H, Kosinska M: [Chromium, cobalt and nickel contact allergy among the population of Bialystok province.] Roczn Akad Med Bialymstoku 18:229-36, 1973 (Pol)
74. Burrows D, Calnan CD: Cement dermatitis--II. Clinical aspects. Trans St. John's Hosp Dermatol Soc 51:27-39, 1965
75. Fregert S, Rorsman H: Allergy to chromium, nickel and cobalt. Acta Derm Venereol 49:144-48, 1966
76. Pautrizel R, Rivasseau J, Rivasseau-Coutant A: [Sensitization to metal ions and job involved illnesses.] Arch Mal Prof Med Trav Secur Soc 19:109-20, 1958 (Fre)
77. Raben AS, Kuznetsov AA: [Occupational skin diseases produced by cobalt compounds.] Ref Zh Farmakol Khimioter Sredstva Toksikol, pp 290-300, 1966 (Rus)
78. Forstrom L, Pirila V, Huja P: Rehabilitation of workers with cement eczema due to hypersensitivity to bichromate. Scan J Rehab Med 1:95-100, 1969
79. Somogyi Z: [Chromium allergy--III. Study of allergy caused by chromium and other metal salts.] Borgyogy Venereol Sz 39:55-57, 1963 (Hun)
80. Salinas M, Subiza E: [New trends in the study of cement dermatitis.] Med Segur Trab 4:13-23, 1956 (Spa)
81. Skog E: Skin affections caused by hard metal dust. Ind Med Surg 32:266-68, 1963
82. Pirila V: Sensitization to cobalt in pottery workers. Acta Derm Venereol 33:193, 1953
83. Pirila V, Kajanne H: Sensitization to cobalt and nickel in cement eczema. Acta Derm Venereol 45:9-14, 1965

84. Haxthausen H: Allergic cobalt eczema--Behavior of cobalt in skin elucidated by application of radioactive cobalt (Co60). Acta Derm Venereol 34:57-58, 1954
85. Norgaard O: Investigations with radioactive nickel, cobalt and sodium on the resorption through the skin in rabbits, guinea-pigs and man. Acta Derm Venereol 37:440-45, 1957
86. Wahlberg JE: A method for studying percutaneous toxicity of metal compounds in the guinea pig. Acta Derm Venereol 45:171-77, 1965
87. Alexander CS: Cobalt-beer cardiomyopathy--A clinical and pathologic study of twenty-eight cases. Am J Med 53:395-417, 1972
88. Morin YL, Foley AR, Martineau G, Roussel J: Quebec beer-drinkers' cardiomyopathy--Forty-eight cases. Can Med Assoc J 97:881-83, 1967
89. The mystery of the Quebec beer drinkers' cardiomyopathy. Can Med Assoc J 97:930-31, 1967 (editorial)
90. Sullivan JF, Egan JD, George RP: A distinctive myocardopathy occurring in Omaha, Nebraska--Clinical aspects. Ann NY Acad Sci 156:526-43, 1969
91. Kesteloot H, Roelandt J, Willems J, Claes JH, Joossens JV: An enquiry into the role of cobalt in the heart disease of chronic beer drinkers. Circulation 37:854-64, 1968
92. Kerr A Jr: Myocardopathy, alcohol, and pericardial effusion. Arch Intern Med 119:617-19, 1967
93. Morin Y, Daniel P: Quebec beer-drinkers' cardiomyopathy--Etiological considerations. Can Med Assoc J 97:926-28, 1967
94. Morin Y, Tetu A, Mercier G: Cobalt cardiomyopathy--Clinical aspects. Br Heart J 33:175-78, 1971
95. Morin Y, Tetu A, Mercier G: Quebec beer-drinkers' cardiomyopathy--Clinical and hemodynamic aspects. Ann NY Acad Sci 156:566-76, 1969
96. Sullivan J, Parker M, Carson SB: Tissue cobalt content in "beer drinkers' myocardopathy." J Lab Clin Med 71:893-96, 1968
97. Sullivan JF, George R, Bluvas R, Egan JD: Myocardopathy of beer drinkers--Subsequent course. Ann Intern Med 70:277-82, 1969
98. Garelo L, Franco G, Pavero A: [Electrocardiographic study of the cardiac action of cobalt in humans.] Arch E Maragliano Patol Clin 14:1057-67, 1958 (Ita)

99. Jacquet M: [Eight years of cobalt therapy in cardiology.] Arch Mal Coeur Vaiss 42:1095-111, 1949 (Fre)
100. Mohiuddin SM, Taskar PK, Rheault M, Roy PE, Chenard J, Morin Y: Experimental cobalt cardiomyopathy. Am Heart J 80:532-43, 1970
101. Swigart RH: Polycythemia and right ventricular hypertrophy. Circ Res 17:30-38, 1965
102. Lin JH, Duffy JL: Cobalt-induced myocardial lesions in rats. Lab Invest 23:158-62, 1970
103. Wojcicki J, Rozewicka L, Kadykow M: Experimental studies on cobalt cardiopathy. Arch Immunol Ther Exp 21:287-96, 1973
104. Hall JL, Smith EB: Cobalt heart disease--An electron microscopic and histochemical study in the rabbit. Arch Pathol 86:403-12, 1968
105. Kucharin GM, Sinitsin VF: [Five cases of allergic myocarditis in workers of the cobalt industry.] Gig Tr Prof Zabol 20(12):40-41, 1976 (Rus)
106. Alexandersson R, Atterhog JH: [Studies on effects of exposure to cobalt. VII. Heart effects of exposure to cobalt in Swedish hardmetal industry.] Arbete och Hals 9:1-21, 1980 (Swe)
107. Berk L, Burchenal JH, Castle WB: Erythropoietic effect of cobalt in patients with or without anemia. N Engl J Med 240:754-61, 1949
108. Kato K: Iron-cobalt treatment of physiologic and nutritional anemia in infants. J Pediat 11:385-96, 1937
109. Coles BL: The use of cobalt in some common anaemias of childhood. Arch Dis Child 30:121-26, 1955
110. Robinson JC, James GW III, Kark RM: The effect of oral therapy with cobaltous chloride on the blood of patients suffering with chronic suppurative infection. N Engl J Med 240:749-53, 1949
111. Lindblad G, Wegelius R: Effect of cobalt on the reticulocyte counts of young premature infants. Ann Paediat Fenn 3:103-08, 1957
112. Rohn RJ, Bond WH: Observations on some hematological effects of cobalt-iron mixtures. J Lancet 73:317-24, 1953
113. Wolf J, Levy IJ: Treatment of sickle-cell anemia with cobalt chloride. AMA Arch Intern Med 93:387-96, 1954
114. Coles BL, James U: Use of cobalt and iron in the treatment and prevention of anemia of prematurity. J Lancet 75:79-82, 1955

115. Duckham JM, Lee HA: The treatment of refractory anaemia of chronic renal failure with cobalt chloride. *Q J Med* 45:277-94, 1976
116. Davis JE, Fields JP: Experimental production of polycythemia in humans by administration of cobalt chloride. *Proc Soc Exp Biol* 92:493-95, 1958
117. Stanley AJ, Hopps HC, Shideler AM: Cobalt polycythemia--II. Relative effects of oral and subcutaneous administration of cobaltous chloride. *Proc Soc Exp Biol Med* 66:19-20, 1947
118. Holly RG: Studies on iron and cobalt metabolism. *J Am Med Assoc* 158:1349-52, 1955
119. Brewer G: A statistical study of cobalt polycythemia in the dog. *Am J Physiol* 128:345-48, 1940
120. Davis JE: Cobalt polycythemia in the dog. *Proc Soc Exp Biol Med* 37:96-99, 1937
121. Becker DE, Smith SE: The level of cobalt tolerance in yearling sheep. *J Anim Sci* 10:266-71, 1951
122. Ficek W: The state of morphological elements of the peripheral blood of the white mouse after successive administration of manganese and cobalt. *Acta Biol Cracov Ser Zool* 9:121-36, 1966
123. Bhatnager SP: The relationship between red cell cholinesterase levels and erythropoiesis induced by haemorrhage and cobalt treatment in rabbits. *Arch Int Pharmacodyn* 175:422-39, 1968
124. Rakusan K, Rajhathy J: Oxygen affinity of blood in rats during cobalt-induced erythrocytic polycythemia and after its correction. *Life Sci* 15:23-38, 1974
125. Fisher JW: The effects of cobalt injections on total circulating red cell volume and bone marrow cytology in normal and adrenalectomized dogs. *Endocrinology* 64:522-34, 1959
126. Eid CN, Gorlin RJ: Cobalt-induced polycythemia--I. Clinical and hematologic observations. *J Dent Res* 37:1141-48, 1958
127. Schade SG, Felsher BF, Bernier GM, Conrad ME: Interrelationship of cobalt and iron absorption. *J Lab Clin Med* 75:435-41, 1970
128. Schade SG, Felsher BF, Glader BE, Conrad ME: Effect of cobalt upon iron absorption. *Proc Soc Exp Biol Med* 134:741-43, 1970
129. Thomson ABR, Valberg LS: Kinetics of the subcellular distribution of iron and cobalt in the intestinal mucosa of the rat. *Am J Dig Dis* 21:305-12, 1976

130. Barborik M: [Haematological changes in workers employed in the production of hard metals.] *Prac Lek* 19:11-15, 1967 (Cze)
131. Sozieva TM: [The blood pressure and blood picture in persons working under exposure to cobalt.] *Tr Sev Oset Med Inst* 13:149-65, 1964 (Rus)
132. Stanley AJ, Hopps HC, Hellbaum AA: Observations on cobalt polycythemia--Studies on the peripheral blood of rats. *Proc Soc Exp Biol Med* 61:130-33, 1946
133. Ivanovskaya EM: [Functional state of coagulating and anticoagulating blood systems during the introduction of cobalt into the body.] *Uch Zap Sarat Gos Pedagog Inst* 44:84-92, 1966 (Rus)
134. Dervillee P, Lazarini HJ, Dervillee E, Heraut L: [Blood changes in experimental poisoning by cobalt acetate and chloride.] *Arch Mal Prof* 22:778-79, 1961 (Fre)
135. Volta A, Marinoni U: [Research on the behavior of blood protein in experimental polyglobulism due to cobalt.] *Policlinico Sez Med* 58:145-71, 1951 (Ita)
136. Ternovoi KS: [The action of toxic doses of cobalt on hemopoiesis.] *Farmakol Toksikol (Kiev)* 2:257-60, 1966 (Rus)
137. Zarafonetis CJD, Dabich L, Brody GL: Plasma protein changes consequent to hyperlipemia induced by cobaltous chloride or triton WR-1339. *Am J Med Sci* 254:506-12, 1967
138. Stokinger HE, Wagner WD: Early metabolic changes following cobalt exposure--Elevations in serum alpha globulins and serum neuraminic acid. *AMA Ind Health* 17:273-79, 1958
139. Klucik I, Palkovicova M: [Level of erythropoietin in the serum of employees in the hydrometallurgical production of cobalt.] *Bratisl Lek Listy* 60:445-55, 1973 (Slo)
140. Ternovi KS, Mosketi KV: [Effects of cobaltous chloride on the state of coagulative and anticoagulative systems of blood.] *Fiziol Zh (Kiev)* 14:348-52, 1968 (Ukr)
141. Fiedler H, Taube C: [In vitro and in vivo thromboelastographic studies of blood coagulation changes using cobalt (II) ions.] *Z Gesamte Inn Med Ihre Grenzgeb* 25:357-62, 1970 (Ger)
142. Krantz S, Lober M, Fiedler H: Investigations on the cleavage of fibrinopeptides from fibrinogen of cobalt-treated rabbits. *Biochim Biophys Acta* 230:630-33, 1971

143. Krantz S, Bartolomaus A, Lober M: [Mechanism of rabbit platelet aggregation inhibition induced by cobalt(II) ions.] *Folia Haematol (Leipzig)* 101:785-91, 1974 (Ger)
144. Gross RT, Kriss JP, Spaet TH: Hematopoietic and goitrogenic effects of cobaltous chloride in patients with sickle-cell anemia. *AMA Am J Dis Child* 88:503-04, 1954
145. Kriss JP, Carnes WH, Gross RT: Hypothyroidism and thyroid hyperplasia in patients treated with cobalt. *J Am Med Assoc* 157:117-21, 1955
146. Gross RT, Kriss JP, Spaet TH: The hematopoietic and goitrogenic effects of cobaltous chloride in patients with sickle-cell anemia. *Pediatrics* 15:284-90, 1955
147. Chamberlain JL III: Thyroid enlargement probably induced by cobalt--A report of 3 cases. *J Pediat* 59:81-86, 1961
148. Weaver JC, Kostainsek VM, Richards DN Jr: Cobalt tumor of the thyroid gland. *Calif Med* 85:110-12, 1956
149. Booth E, Montgomery PO: Thyroid hyperplasia--Report of a case in an infant treated with cobalt. *South Med J* 499:1408-10, 1956
150. Robey JS, Veazey PM, Crawford JD: Cobalt-induced myxedema--Report of a case. *New Engl J Med* 255:955-57, 1956
151. Lysaught JN: Goiter occurring during cobalt therapy. *J Okla State Med Assoc* 48:333-35, 1955
152. Washburn TC, Kaplan E: Cobalt therapy and goiter. *Clin Pediatr (Philadelphia)* 3:89-92, 1964
153. Sederholm T, Kouvalainen K, Lamberg BA: Cobalt-induced hypothyroidism and polycythemia in lipid nephrosis. *Acta Med Scand* 184:301-06, 1968
154. Breidahl H, Fraser R: Cobalt goitre. *Proc R Soc Med* 48:1026-27, 1955
155. Roche M, Layrisse M: Effect of cobalt on thyroidal uptake of ¹³¹I. *J Clin Endocrin* 16:831-33, 1956
156. Paley KR, Sobel ES, Yalow RS: Effect of oral and intravenous cobaltous chloride on thyroid function. *J Clin Endocrinol Metab* 18:850-59, 1958
157. Pimentel-Malaussena E, Roche M, Layrisse M: Treatment of eight cases of hyperthyroidism with cobaltous chloride. *J Am Med Assoc* 167:1719-22, 1958
158. Antila V, Telkka A, Kuusisto AN: Goitrogenic action of cobaltous chloride in guinea-pig. *Acta Endocrinol* 20:351-54, 1955

159. Zak VI: [Mechanism of the goitrogenic action of cobalt.] Byull Eksp Biol Med 65:51-54, 1968 (Rus)
160. Roginski EE, Mertz W: A biphasic response of rats to cobalt. J Nutr 107:1537-42, 1977
161. Levina EN, Loyt AO: [Comparative toxicity of cobalt oxides.] Gig Sanit 26(10):27-31, 1961 (Rus)
162. Saknyn AV, Shabynina NK: [Some statistical data on the carcinogenic hazards for workers engaged in the production of nickel from oxidized ores.] Gig Tr Prof Zabol 14(11):10-13, 1970 (Rus)
163. Saknyn AV, Shabynina NK: [Epidemiology of malignant neoplasms in nickel refineries.] Gig Tr Prof Zabol 17(9):25-29, 1973 (Rus)
164. Farrell RL, Davis GW: The effects of particulates on respiratory carcinogenesis by diethylnitrosamine, in Experimental Lung Cancer--Carcinogenesis and Bioassays, International Symposium, Seattle, WA, June 23-26, 1974 pp 219-33
165. Gunn SA, Gould TC, Anderson WAD: Specific response of mesenchymal tissue to cancerigenesis by cadmium. Arch Pathol 83:493-99, 1967
166. Shelley WB: Chondral dysplasia induced by zirconium and hafnium. Cancer Res 33::287-92, 1973
167. Shabaan AA, Marks V, Lancaster MC, Dufeu GN: Fibrosarcomas induced by cobalt chloride (CoCl₂) in rats. Lab Anim 11:43-46, 1977
168. Jasmin G, Riopelle JL: Renal carcinomas and erythrocytosis in rats following intrarenal injection of nickel subsulfide. Lab Invest 35:71-78, 1976
169. Heath JC: The production of malignant tumors by cobalt in the rat. Br J Cancer 10:668-73, 1956
170. Heath JC: The histogenesis of malignant tumors induced by cobalt in the rat. Br J Cancer 14:478-82, 1960
171. Heath JC, Webb M: Content and intracellular distribution of the inducing metal in the primary rhabdomyosarcomata induced in the rat by cobalt, nickel and cadmium. Br J Cancer 21:768-79, 1967
172. Webb M, Heath JC, Hopkins T: Intranuclear distribution of the inducing metal in primary rhabdomyosarcomata induced in the rat by nickel, cobalt and cadmium. Br J Cancer 26:274-78, 1972
173. Heath JC, Freeman MAR, Swanson SAV: Carcinogenic properties of wear particles from prostheses made in cobalt-chromium alloy. Lancet I:564-66, 1971

174. Heath JC: Cobalt as carcinogen. *Nature (London)* 173:822-23, 1954
175. Heath JC, Daniel MR, Dingle JT: The carcinogenic and metabolic effects of cobalt and other metals. *Annu Rep Br Emp Cancer Camp* 39:334-40, 1961
176. Heath JC, Daniel MR: The production of malignant tumours by cobalt in the rat--Intrathoracic tumours. *Br J Cancer* 16:473-78, 1962
177. Gilman JPW: Metal Carcinogenesis--II. A study of the compounds. *Cancer Res* 22:158-62, 1962
178. Gilman JPW, Ruckerbauer GM: Metal carcinogenesis--I. Observations on the carcinogenicity of a refinery dust, cobalt oxide, and colloidal thorium dioxide. *Cancer Res* 22:152-57, 1962
179. Nowak H: [The pathogenesis of neoplasia in the rabbit under the influence of polyester resin additions.] *Rocz Akad Med Bialymstoku* 7:323-48, 1961 (Pol)
180. Nowak HF: Neoplasia in mouse skeletal muscles under the influence of polyester resin activator. *Arch Immunol Ther Exp* 14:774-78, 1966
181. Gori C, Zucconi L: [The cytological action induced by a group of inorganic compounds on *allium cepa*.] *Caryologia* 10:29-45, 1957 (Ita)
182. Herich R: The effect of cobalt on the structure of chromosomes and on the mitosis. *Chromosoma* 17:194-98, 1965
183. Corbett TH, Heidelberger C, Dove WF: Determination of the mutagenic activity to bacteriophage T4 of carcinogenic and noncarcinogenic compounds. *Mol Pharmacol* 6:667-79, 1970
184. Takahashi T: Abnormal mitosis by some rho-mutagens in *Saccharomyces cerevisiae*. *Bull Brew Sci* 18:37-48, 1972
185. Prazmo W, Balbin E, Baranowska H, Ejchart A, Putrament A: Manganese mutagenesis in yeast--II. Conditions of induction and characteristics of mitochondrial respiratory deficient *Saccharomyces cerevisiae* mutants induced with manganese and cobalt. *Genet Res* 26:21-29, 1975
186. Kanematsu N, Hara M, Kada T: Rec assay and mutagenicity studies on metal compounds. *Mutat Res* 77:109-16, 1980
187. Paton, GR, Allison AC: Chromosome damage in human cell cultures induced by metal salts. *Mutat Res* 16:332-36, 1972
188. Sirover MA, Loeb LA: Infidelity of DNA synthesis in vitro: screening for potential metal mutagens or carcinogens. *Science* 194:1434-36, 1976

189. Casto BC, Myers J, Di Paolo JA: Enhancement of viral transformation for evaluation of the carcinogenic or mutagenic potential of inorganic metal salts. *Cancer Res* 39:193-98, 1979
190. Baglan RJ, Brill AB, Schulert A, Wilson D, Larsen K, Dyer N, Mansour M, Schaffner W, Hoffman L, Davies J: Utility of placental tissue as an indicator of trace element exposure to adult and fetus. *Environ Res* 8:64-70, 1974
191. Widdowson EM, Chan H, Harrison GE, Milner RDG: Accumulation of Cu, Zn, Mn, Cr and Co in the human liver before birth. *Biol Neonate* 20:360-67, 1972
192. Agranovskaia BA: [The content of cobalt in the maternal and fetal organism.] *Akush Ginekol (Moscow)* 43:21-24, 1967 (Rus)
193. Flodh H: Autoradiographic studies on distribution of radiocobalt chloride in pregnant mice. *Acta Radiol Ther Phys Biol* 7:121-28, 1968
194. Comar CL, Davis GK: Cobalt metabolism studies--III. Excretion and tissue distribution of radioactive cobalt administered to cattle. *Arch Biochem* 12:257-66, 1947
195. Ferm VH, Carpenter SJ: The relationship of cadmium and zinc in experimental mammalian teratogenesis. *Lab Invest* 18:429-32, 1968
196. Kury G, Crosby RJ: Studies on the development of chicken embryos exposed to cobaltous chloride. *Toxicol Appl Pharmacol* 13:199-206, 1968
197. Hoey MJ: The effects of metallic salts on the histology and functioning of the rat testis. *J Reprod Fertil* 12:461-71, 1966
198. Kamboj VP, Kar AB: Antitesticular effect of metallic and rare earth salts. *J Reprod Fertil* 7:21-28, 1964
199. Niebroj TK: Influence of cobalt on the histophysiology of mouse testis. *Endokrynol Pol* 18:1-13, 1967
200. Caplan RM, Curtis AC: Xanthoma of the skin--Clinical characteristics in relation to disorders of lipid metabolism, and presentation of a previously unreported cause for secondary hyperlipemic xanthomas. *J Am Med Assoc* 176:859-64, 1961
201. Hagen J: [A case of acute poisoning by cobalt acetate.] *Arch Toxikol* 15:25-30, 1940 (Ger)
202. Beskid M: The action of cobalt on kidneys of the guinea-pig. *Folia Histochem Cytochem* 5:33-72, 1967
203. Schleisner P: [Cobalt-induced hyperglycemia in man.] *Ugeskr Laeg* 122:1573-75, 1960 (Dan)

204. Groot CA: Cobaltous chloride and blood glucose levels. Arch Int Pharmacodyn Ther 130:374-84, 1961
205. Horak E, Sunderman FW Jr: Effects of Ni(II), other divalent metal ions, and glucagon upon plasma glucose concentrations in normal, adrenalectomized and hypophysectomized rats. Toxicol Appl Pharmacol 32:316-29, 1975
206. Hultquist GT: Effect of cobaltous chloride on the blood sugar level and the islet cells in rats. Experientia 15:340-42, 1959
207. Koch JH: Cobalt chloride and alpha-cells of the pancreas. Nature (London) 175:856-57, 1955
208. Franck C, Lamarche M, Kocarev R: [Mechanism of induced early hyperglycemia in the guinea pig by administration of cobaltous chloride.] CR Acad Sci 245:1165-67, 1957 (Fre)
209. Boyd GS, Maclean N: Observations on the metabolic and histological effects of cobalt chloride in the rabbit, with particular reference to cobalt-induced hypercholesterolaemia. J Exp Physiol 44:394-403, 1959
210. Lazarus SS, Goldner MG, Volk BW: Selective destruction of pancreatic alpha cells by cobaltous chloride in the dog--Physiologic implications. Metabolism 2:513-20, 1953
211. Kiyooka T: [Histopathologic study on the experimental "centro-portal" liver cirrhosis induced by continuous administration of sodium cobaltic nitrite and cobaltic oxide.] Shikoku Acta Med 16:580-600, 1960 (Jap)
212. Van Campenhout E: The cytotoxic effect of cobalt salts on the alpha cells of the islands of Langerhans. J Exp Zool 129:535-59, 1955
213. Fodden JH: Cytopathologic effect of cobalt on pancreatic islets of many species--Islands of Langerhans and cobaltous chloride. Arch Pathol 61:65-75, 1956
214. Lacy PE, Cardeza AF: Electron microscopy of guinea pig pancreas--Effects of cobalt on the acini and islets. Diabetes 7:368-74, 1958
215. Hultquist GT, Sundquist UB: On the nature of cobalt-induced changes in the alpha cells of the islets of Langerhans in the guinea pig. Acta Pathol Microbiol Scan 52:155-62, 1961
216. Beskid M: The effect of administration of cobalt chloride on the pancreas in the guinea-pig. Folia Histochem Cytochem 1:95-102, 1963
217. Kern HF, Kern D: [Effect of cobalt chloride on guinea pig exocrine pancreas.] Verh Anat Ges 64:115-22, 1970 (Ger)

218. Kern HF: The fine structure of pancreatic alpha cells under normal and experimental conditions, in Falkmer S, Hellman B, Taljepal IB (eds.): Wenner-Gren Center International Symposium Series--The Structure and Metabolism of the Pancreatic Islets. Oxford, Pergamon Press Inc, 1970, vol 16, pp 99-107
219. Petkov P, Galabowa R, Kolev J: Histochemical and x-ray fluorescent investigations on the pancreas of guinea pig after treating with CoCl₂. Ann Histochem 16:41-50, 1971
220. Izmirov I, Galabowa R, Kolev I, Petkov P: [Cobalt detection in pancreas lipids of guinea pigs treated with CoCl₂ chloride--Chromatographic and x-ray spectral analysis.] Ann Histochem 17:261-66, 1972 (Fre)
221. Hakanson R, Lundquist I, Sundler F: Elevated levels of insulin-like activity and 5-hydroxytryptamine in guinea pig pancreas following cobalt chloride (CoCl₂) treatment. Endocrinology 94:318-24, 1974
222. Bencosme SA, Lechago J: Morphologic heterogeneity of A cells in the guinea pig and their reactivity to cobaltous chloride. Lab Invest 18:715-20, 1968
223. Esterhuizen AE, Lever JD: Pancreatic islet cells in the normal and CoCl₂-treated guinea-pig--A fine structural study. J Endocrinol 23:243-52, 1961
224. Babenko GA, Tsok RM, Shkromida MT: Effect of some metals on the development of an experimental brown-pierce ultraocular carcinoma. Mikroelem Med 4:8-12, 1973 (Rus)
225. Yamagata N, Murata S, Torii T: The cobalt content of the human body. J Radiat Res 3:4-8, 1962
226. Barborik M, Dusek J, Jelinkova J: Organ concentration of cobalt and its excretion in hard metal workers. Acta Univ Palacki Olomuc Fac Med 70:321-30, 1974
227. Klucik I, Kemka R: [Urinary cobalt excretion in people exposed to cobalt and its influencing by a sodium calcium salt of diethylenetriaminepentaacetic acid.] Bratisl Lek Listy 57:318-28, 1972 (Slo)
228. Sedlet J, Robinson J, Fairman W: A cobalt and a tritium incident of Argonne National Laboratory, in Proceedings of the Fourth Annual Meeting on Bio-Assay and Analytical Chemistry, AEC Report No. WASH-1023. Atomic Energy Commission, Office of Technical Services, 1958, pp 101-06

229. Cofield RE: In vivo gamma spectrometry for inhalations of neptunium-237, protactinium-233, cobalt-60, and zirconium-95-niobium-95. Health Phys 9:283-92, 1963
230. Jordan RD, Burkle JS, Brown LT, Hargus JW, Nichols JH: Cobalt 60 oxide inhalation, in Meneely GR, Linde SM (eds.): Radioactivity in Man--Second Symposium. Springfield, IL, Charles C Thomas, 1965, pp 281-89
231. Morsy SM, El-Assaly FM: Body elimination rates of ^{134}Cs , ^{60}Co and ^{203}Hg . Health Phys 19:69-73, 1970
232. Permissible Dose for Internal Radiation, International Commission on Radiological Protection Committee II Report. London, Pergamon Press, 1959, pp 1-27,39-40,154,167
233. Gupton ED, Brown PE: Chest clearance of inhaled cobalt-60 oxide. Health Phys 23:767-69, 1972
234. Newton D, Rundo J: The long-term retention of inhaled cobalt-60. Health Phys 21:377-84, 1971
235. Paley KR, Sussman ES: Absorption of radioactive cobaltous chloride in human subjects. Metabolism 12:975-82, 1963
236. Smith T, Edmonds CJ, Barnaby CF: Absorption and retention of cobalt in man by whole-body counting. Health Phys 22:359-67, 1972
237. Letourneau EG, Jack GC, McCullough RS, Hollins JG: The metabolism of cobalt by the normal human male--Whole body retention and radiation dosimetry. Health Phys 22:451-59, 1972
238. Barnaby CF, Smith T, Thompson BD: Dosimetry of the radioisotopes of cobalt. Phys Med Biol 13:421-33, 1968
239. Nishimura Y, Inaba J, Ichikawa R: Whole-body retention of $^{60}\text{CoCl}_2$ and ^{58}Co -cyanocobalamin in young and adult rats. J Radiat Res 17:240-46, 1976
240. Onkelinx C: Compartment analysis of cobalt(II) metabolism in rats of various ages. Toxicol Appl Pharmacol 38:425-38, 1976
241. Hollins JG, McCullough RS: Radiation dosimetry of internal contamination by inorganic compounds of cobalt--An analysis of cobalt metabolism in rats. Health Phys 21:233-46, 1971
242. Thomas RG, Furchner JE, London JE, Drake GA, Wilson JS, Richmond CR: Comparative metabolism of radionuclides in mammals--X. Retention of tracer-level cobalt in the mouse, rat, monkey and dog. Health Phys 31:323-33, 1976

243. Cook MJ, Morgan KZ, Barkow AG: An experiment designed to test the validity of the current practice of using single exposure data to calculate maximum permissible concentration in water for continuous exposure to radioisotopes. *Am J Roentgenol Radium Ther Nucl Med* 57:1177-87, 1956
244. Wehner AP, Craig DK: Toxicology of inhaled NiO and CoO in Syrian golden hamsters. *Am Ind Hyg Assoc J* 36:17-25, 1975
245. Heinrich HC, Gabbe EE: [Metabolic behavior of inorganic cobalt and of cobalt organically bound in the vitamin B12 and vitamin B12 coenzyme structure in the mammalian organism.] *Z Naturforsch* 19:1032-42, 1964 (Ger)
246. Barnes JE, Kanapilly GM, Newton GJ: Cobalt-60 oxide aerosols--Methods of production and short-term retention and distribution kinetics in the beagle dog. *Health Phys* 30:391-98, 1976
247. Weast RC (ed.): *CRC Handbook of Chemistry and Physics*, ed 54. Cleveland, Chemical Rubber Co, 1974, pp B-84 to B-86
248. Stokinger HE: The metals (excluding lead)--Cobalt, Co, in Patty FA (ed.): *Industrial Hygiene and Toxicology*, ed 2 rev; *Toxicology* (Fassett DW, Irish DD, eds.). New York, Interscience Publishers, 1963, vol 2, pp 1022-33
249. Toxic Substances Control Act Chemical Substance Inventory Initial Inventory, United States Environmental Protection Agency, Office of Toxic Substances, 1979, Computer tape (available through National Library of Medicine, Medlars, Chemline)
250. Mineral Commodity Profiles--Cobalt 1977. US Dept of Interior, Bureau of Mines, 1977, 19 pp
251. Trends in Usage of Tungsten. Springfield, VA, US Dept of Commerce, National Technical Information Service, 1973, pp 43-78 (NTIS PB 223 716)
252. Criteria for a Recommended Standard...Occupational Exposure to Tungsten and Cemented Tungsten Carbide, DHEW (NIOSH) Publication No. 77-127. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1977, 174 pp
253. Patton TC (ed.): *Pigment Handbook--Applications and Markets*. New York, John Wiley & Sons, 1973, vol I, pp 419-46
254. Patton TC (ed.): *Pigment Handbook--Applications and Markets*. New York, John Wiley & Sons, 1973, vol II, pp 138,281-82

255. Summary Plant Observation Report and Evaluation--Cobalt. Rockville, Equitable Environmental Health, Inc, Jan 1979 (submitted to NIOSH under Contract No. 210-77-0148)
256. Gafafer WM (ed.): Occupational Diseases--A Guide to Their Recognition, PHS Publication No. 1097. US Dept of Health, Education, and Welfare, Public Health Service, 1964, pp 15,20,111,124,148,255
257. Dams R, Robbins JA, Rahn KA, Winchester JW: Nondestructive neutron activation analysis of air pollution particulates. Anal Chem 42:861-67, 1970
258. Rancitelli LA, Cooper JA, Perkins RW: Multi-element characterization of atmospheric aerosols by neutron activation and direct gamma-ray analysis, and x-ray fluorescence analysis, in Proceedings of a Symposium on Nuclear Techniques in Comparative Studies of Food and Environmental Contamination, Otaniemi, Finland, Aug 27-31, 1973, pp 431-54
259. Hewitt PJ: Instrumental neutron activation analysis of airborne contaminants using Ge/Li detectors. Ann Occup Hyg 15:341-48, 1972
260. Janssens M, Desmet B, Dams R, Hoste J: Determination of uranium, antimony, indium, bromine and cobalt in atmospheric aerosols using epithermal neutron activation and a low-energy photon detector. J Radioanal Chem 26:305-15, 1975
261. McDermott FT: Dust in the cemented carbide industry. Am Ind Hyg Assoc J 32:188-93, 1971
262. Alexandersson R, Bergman K: [Studies on effects of exposure to cobalt. I. Investigation of exposure conditions in the hard-metal industry.] Arbete och Hals 20:1-25, 1978 (Swe)
263. Rosensteel RE, Meyer CR: Reinell Boats Inc, Health Hazard Evaluation Determination Report No. 75-150-378. Cincinnati, US Department of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1977, 56 pp
264. Test for Hazardous Substance--720 (Cobalt) from OSHA Inception through Jan 1978. US Dept of Labor, Occupational Safety and Health Administration, July 1972 to Jan 1978, 12 pp (available through BW Mintz, US Dept of Labor)
265. Dams R, Rahn KA, Winchester JW: Evaluation of filter materials and impaction surfaces for nondestructive neutron activation analysis of aerosols. Environ Sci Technol 6:441-48, 1972
266. Marks GE, Knutson EO: Complete Testing of the NIOSH Method for the Determination of Trace Metals by Atomic Absorption Spectrophotometry.

- Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, Sept 1975, 113 pp
267. Begnoche BC, Risby TH: Determination of metals in atmospheric particulates using low-volume sampling and flameless atomic absorption spectrometry. Anal Chem 47:1041-45, 1975
268. General Procedure for Metals--Physical and Chemical Analysis Branch Method No. 173, in NIOSH Manual of Analytical Methods, ed 2, DHEW (NIOSH) Publication No. 77-157-A. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1977, vol 1, pp 173-1 to 173-10
269. NIOSH Manual of Sampling Data Sheets--1977 Edition, DHEW (NIOSH) Publication No. 77-159. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1977, p 16-1
270. Gray D, McKown DM, Kay M, Eichor M, Vogt JR: Determination of the trace element levels in atmospheric pollutants by instrumental neutron activation analysis. IEEE Trans Nucl Sci 19:194-96, 1972
271. Fraser DA: Sizing methodology, in The Industrial Environment--Its Evaluation and Control, DHEW (NIOSH) Publication No. 74-117. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1973, pp 155-65
272. Dzubay TG, Stevens RK: Ambient air analysis with dichotomous sampler and x-ray fluorescence spectrometer. Environ Sci Technol 9:663-68, 1975
273. Keenan RG, Flick BM: Determination of cobalt in atmospheric samples. Anal Chem 20:1238-41, 1948
274. Hubbard DM, Creech FM, Cholak J: Determination of cobalt in air and biological material. Arch Environ Health 13:190-94, 1968
275. Saltzman BE, Keenan RG: Microdetermination of cobalt in biological materials, in Glick D (ed.): Methods of Biochemical Analysis. New York, John Wiley & Sons, 1957, vol 5, pp 181-223
276. Sugimae A: Sensitive emission spectrometric method for the analysis of airborne particulate matter. Anal Chem 47:1840-43, 1975
277. Seely JL, Skogerboe RK: Combined sampling-analysis method for the determination of trace elements in atmospheric particulates. Anal Chem 46:415-21, 1974

278. Atomic absorption spectrophotometer facilitates water analysis. *Water Sewage Works* 1:27,45, 1974
279. McIntyre NS, Cook MG, Boase DG: Flameless atomic absorption determination of cobalt, nickel, and copper--A comparison of tantalum and molybdenum evaporation surfaces. *Anal Chem* 46:1983-87, 1974
280. Schroeder HA, Nason AP: Trace-element analysis in clinical chemistry. *Clin Chem* 17:461-74, 1971
281. Murthy GK, Rhea U, Peeler JT: Levels of antimony, cadmium, chromium, cobalt, manganese, and zinc in institutional total diets. *Environ Sci Technol* 5:436-42, 1971
282. Alexandersson R, Lidums V: [Studies on effects of exposure to cobalt. IV. Cobalt concentrations in blood and urine as indicators of exposure.] *Arbete och Halsa* 8:1-23, 1979 (Swe)
283. Jones M, Kirkbright GF, Ranson L, West TS: The simultaneous determination of traces of cobalt, chromium, copper, iron, manganese and zinc by atomic fluorescence spectrometry with preconcentration by an automated solvent extraction procedure. *Anal Chim Acta* 63:210-15, 1973
284. Delves HT, Shepherd G, Vinter P: Determination of eleven metals in small samples of blood by sequential solvent extraction and atomic-absorption spectrophotometry. *Analyst* 96:260-73, 1971
285. Reber E: [Investigations on dust hazards accompanying the production and machining of hard metals.] *Staub Reinhalt Luft* 29:57-62, 1969 (Ger)
286. Bastress EK, Niedzwecki JM, Nugent AE, Jr: Ventilation Requirements for Grinding, Buffing, and Polishing Operations, HEW Publication No. (NIOSH) 75-107. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1974 (prepared for NIOSH under Contract No. HSM 99-72-126)
287. Hazard WG: General ventilation and special operations, in Olishifski JB (ed.): *Fundamentals of Industrial Hygiene*. Chicago, National Safety Council, 1976, p 569
288. Sax NI: *Dangerous Properties of Industrial Materials*, ed 5. New York, Van Nostrand Reinhold Co, 1979, pp 85-88
289. Hygienic Guide Series--Cobalt--Except the carbonyls. Akron, OH, American Industrial Hygiene Association, 1966, 4 pp
290. Criteria for a Recommended Standard....Working in Confined Spaces, HEW Publication No. (NIOSH) 80-106. Cincinnati, US Dept of Health,

- Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1979, 68 pp
291. Mackison FW, Stricoff RS, Partridge, LJ, Jr (eds.): NIOSH/OSHA Pocket Guide to Chemical Hazards, DHEW (NIOSH) Publication No. 78-210. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1978, pp 70-71
 292. A Recommended Standard...An Identification System for Occupationally Hazardous Materials, HEW Publication No. (NIOSH) 75-126. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, 1974, 63 pp
 293. Threshold Limit Values for 1962, Adopted at the 24th Annual Meeting, Washington, May 13-15, 1962. Cincinnati, American Conference of Governmental Industrial Hygienists, 1962, p 11
 294. Threshold Limit Values for 1963, Adopted at the 25th Annual Meeting, Cincinnati, May 6-7, 1963. American Conference of Governmental Industrial Hygienists, 1963, p 4
 295. Documentation of Threshold Limit Values, ed 2. Cincinnati, American Conference of Governmental Industrial Hygienists, 1966, p 46
 296. Lundgren KD, Swensson A: Experimental investigations using the method of Miller and Sayers in the effect upon animals of cemented tungsten carbides, and the powders used as raw material. Acta Med Scand 145:20-27, 1953
 297. Fairhall LT, Keenan RG, Brinton HP: Cobalt and the dust environment of the cemented tungsten carbide industry. Public Health Rep 64:485-90, 1949
 298. Schwartz L, Tulipan L, Birmingham DJ: Occupational Diseases of the Skin, ed 3. Philadelphia, Lea & Febiger, 1957, pp 264-65
 299. Threshold Limit Values for 1966--Recommended and Tentative Limits. Cincinnati, American Conference of Governmental Industrial Hygienists, 1966, pp 7,15
 300. Documentation of the Threshold Limit Values for Substances in Workroom Air, ed 3, 1971. Cincinnati, American Conference of Governmental Hygienists, 3rd printing with addendum, 1976, pp 59,364-65
 301. Report of Committee on Threshold Limits, in Transactions of the 38th Annual Meeting, Atlanta. American Conference of Governmental Industrial Hygienists, 1976, pp 94-95

302. Thomas JA, Thiery JP: [Elective production of liposarcomas in the case of the rabbit by the oligoelements zinc and cobalt.] CR Acad Sci 236:1387-89, 1953 (Fre)
303. Schinz HR, Uehlinger E: [Metal cancer--A new principle of cancer production.] Z Krebsforsch 52:425-37, 1942 (Ger)
304. Sunderman FW Jr: Metal carcinogenesis in experimental animals. Food Cosmet Toxicol 9:105-20, 1971
305. Mirone L, Wade EM: Vitamin B12 and cobalt chloride in growth and reproduction of four strains of mice. Am J Physiol 175:11-12, 1953
306. Cajano A: [Liver lesions in chronic experimental cobalt poisoning.] Folia Med 34:8-26, 1951 (Ita)
307. Occupational Exposure Limits for Airborne Toxic Substances, Occupational Safety and Health Series No. 37. Geneva, International Labour Office, 1977, pp 33,76-79
308. Winell MA: An international comparison of hygienic standards for chemicals in the work environment. Ambio 4:34-36, 1975
309. [Maximum Work Place Concentrations 1976--Commission for the Study of Harmful Work Substances Communication XII.] Bonn, Deutsche Forschungsgemeinschaft, 1976, pp 5-10,25,37-40,48-50 (Ger)
310. Permissible Levels of Toxic Substances in the Working Environment--Sixth Session of the Joint ILO/WHO Committee on Occupational Health, Geneva, June 4-10, 1968. Geneva, International Labour Office, 1970, pp 197,210,223,231,278,287,303,343,347
311. Barborik M, Dusek J: Cardiomyopathy accompanying industrial cobalt. Br Heart J 34:113-116, 1972
312. Windholz M: The Merck Index--An Encyclopedia of Chemicals and Drugs, ed 9. Rahway, NJ, Merck and Co Inc, 1976, pp 311-14
313. Survey Analysis and Supplemental Tables, in National Occupational Hazard Survey, DHEW (NIOSH) Publication No. 78-114. Cincinnati, US Dept of Health, Education, and Welfare, Public Health Service, Center for Disease Control, National Institute for Occupational Safety and Health, vol III, 792 pp