FILE NAME: Talc (TALC)

DATE: 1963

DOC#: TALC003

DOCUMENT DESCRIPTION: Talcosis References

TALCOSIS

ENPI	CIS	Fsh Gtz Mpz
27-1964	1147-1964	

The incidence of silicosis in the mining of talc and graphite (Incidenza della silicosi nell'estrazione di talco e grafite). Gaido, P.C., Capellaro, F., Braguzzi, F., Parigi, A., and Rosettani, E. "Archivio per le scienze mediche", Turin, Italy, November 1963, Vol 116, No. 5, pp. 227-233.

Talc and graphite mining expose workers to the hazard of pneumoconiosis on account of the impurities present in the minerals. The authors examined 50 graphite miners and 260 talc miners in order to determine the incidence of silicosis. They made the following observations: (a) development of pulmonary lesions is relatively slow; (b) graphite and talc dust do not seem to influence the course of silicosis in any special way (the only special finding was irritation of the bronchial mucosa in the case of talc).

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

ENPI	CIS	Fsh Gtz Mpz
89-1964	1665-1964	

Clinical, radiological, electrocardiographical and spirographical study of talc mine workers (Aspetti clinici, radiologici, elettrocardiografici e spirografici in lavoratori dell'industria estrattiva del talco). Coscia, G.C., Perrelli, G., Linari, F., and Martino, P. "Archivio per le scienze mediche", Turin, Italy, December 1963, Vol 116, No. 6, pp. 329-335. 23 bibl. refs.

Results of the examination of 60 workers with pneumoconiosis who had worked for more than 20 years on the mining of talc. In 56.7% of the cases the electrocardiographic examination revealed various changes, mainly signs of discrete right heart involvement without significant relationship with the length of exposure or the radiographic picture. On the other hand, the changes revealed by spirographic tests were directly related to the length of exposure and the radiological picture. Bronchitis and emphysema were frequently observed. In conclusion, the authors confirm the opinion often expressed by other specialists, that even short exposure will nearly always produce significant radiological markings in the lungs.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE 73

ENPI	CIS	Fsh Gtz Mpz
73-1964	1649-1964	

The clinical, radiological and pathological picture of talc workers (Quadri clinici, radiologici e histopatologici nei lavoratori del talco). Meo, G., Perrelli, G., and Coscia, G.C. "Folia medica", Naples, Italy, November 1963, Vol. 46, No. 11, pp. 893-902. 10 bibl. refs.

A study was carried out on the clinical, radiological and functional course of the pathological syndrome produced by talc dust and a mixture of talc and sclerogenic substances (asbestos, silica). 72 talc workers, 25 talc grinders and 250 talc miners were examined. The comparison of data collected from these 3 groups revealed that only a mixture of talc and impurities (asbestos, silica) can give rise to progressive fibrosis. The most serious cases were found among miners who are exposed to large quantities of silica.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE 72

DGA	CIS	Fsh Gtz Mpz
34-1964	1812-1964	

Talcosis (Talcose). Tolk, J.J.C. "Tijdschrift voor sociale geneeskunde", Assen, Netherlands, 27 September 1963, Vol. 41, No. 19, pp. 597-600. Illus. 15 bibl. refs.

During the examination of 12 workers who for 10 years or more had been exposed to talc dust in the rubber processing industry, 8 cases of pulmonary talcosis were discovered. The X-ray findings are described. This has led the author to assume that the incidence of talcosis is higher than was previously thought. The author deals with measures for the reduction of talc dust concentrations in the extrusion of rubber.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE 57

ENPI	CIS	Fsh Gtz Mpz
231-1963	44-1964	

Aetiopathology and clinical aspects of talcosis (Aspetti etio-patologici e clinici delle pneumoconiosi da talco). Rubino. G.F., Maranzana, P., Pettinati, L., and Scansetti, G. "Medicina del lavoro", Milan, Italy, June-July 1963, Vol. 54, No. 6-7, pp. 496-506. Illus. 10 bibl. refs.

Results of a survey carried out on 357 workers employed for more than 3 years in the mining and handling of talc (talc miners, talc grinders, and talc spreaders in the rubber industry). From the clinical point of view, it was observed that the incidence of pneumoconiosis (very low in talc workers) decreased in proportion to the increase in distance from the mine. Optical, microscopic and X-ray diffraction analysis showed that different types of industrial talc are contaminated with such minerals as tremolite, serpentine and quartz which are well known for their fibrogenic action. In its pure state, talc will not cause pneumoconiosis.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE 76

USPHS 171-1967 | CIS 2072-1967 | **Fsh Gtz Mpz Nyh**

Mortality among talc miners and millers in New York State. Kleinfeld, M., Messite, J., Kooyman, O., and Zaki, M. H. "Archives of Environmental Health", Chicago, Ill., USA, May 1967, Vol. 14, No. 5, pp. 663-667. 9 bibl. refs.

Mortality data on 91 talc miners and millers in New York State who had 15 or more years of exposure to talc dust by 1940 or had achieved 15 years between 1940 and 1965. Proportional mortality from carcinoma of the lung and pleura among talc workers was 1 times that of the control population. However, the significant increase in incidence appeared in the 60 to 79 year age group rather than in the 40 to 59 year group. This was at variance with the authors' findings in asbestos workers who had a similar duration of exposure covering a similar period where the increase in observed incidence was present in both age categories.

(NLM)

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE **CIS** 70

ILO 82-1963 | CIS 574-1963 | **Fsh Gtz Mpq Nyt**

The clinical aspects and pathological anatomy of tumourlike talcosis (Zur Klinik und pathologischen Anatomie der tumorförmigen Talkum-Staublunge). Ehrhardt, W., and Güthert, H. "Internationales Archiv für Gewerbepathologie und Gewerbehygiene", Berlin (Western Sectors), 5 October 1962, Vol. 19, No. 5, pp. 465-486. Illus. 30 bibl. refs.

An account is given of a case of severe tumourlike talcosis after 18 years' exposure in a rubber factory. The course of the disease was clinically observed for many years and pathologically examined. In addition X-ray and electron microscopic examinations were made of the lung dust particles. The authors consider the fibrogenous effect of the dust to be due to a large quantity of silicic acid from the talc itself going into solution.

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE **CIS** 49

ENPI 8-1964 | CIS 1128-1964 | **Fsh Gtz Mpz Xjy**

Data on talc pneumoconiosis (Sulla pneumoconiosi dei talcatori). Scansetti, G., Gaido, P.C., and Rasetti, L. "Medicina del lavoro", Milan, Italy, October 1963, Vol. 54, No. 10, pp. 680-682. Illus. 9 bibl. refs.

Paper read at the 25th Italian National Congress on Occupational Health (Taormina, Sicily, 1962). The authors examined 72 workers employed on "talc dusting" in the rubber industry. The inhalation of pure talc, even over prolonged periods, did not induce sclerotic pulmonary lesions. Changes were limited to an increase in pulmonary linear markings; these changes were not progressive and affected neither respiratory function nor working capacity.

(A)

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE **CIS** 68

ENPI 15-1964 | CIS 1135-1964 | **Fsh Gtz Mpz Qtz**

Clinical and radiological evolution of pneumoconiosis in the talc extracting industry (Evoluzione clinica e radiologica delle pneumoconiosi nell'industria estrattiva del talco). Scansetti, G., Rasetti, L., and Ghemi, F. "Medicina del lavoro", Milan, Italy, November 1963, Vol. 54, No. 11, pp. 746-749. Illus. 1 bibl. ref.

Paper read at the 25th Italian National Congress of Occupational Health (Taormina, Sicily, October 1962). A group of talc miners who had not been exposed to any other dust risk were submitted to clinical and X-ray examination and respiratory function tests 5 years after starting work, and subsequently after 14, 16 and 19 years' experience. The incidence of pneumoconiosis increased progressively with time, extending to almost all the subjects whom it was possible to follow for 19 years or more. The conditions observed did not present very advanced radiological signs. Evidence of bronchitis and emphysema were frequent findings of the clinical examination.

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE **CIS** 67

ENPI 110-1964 | CIS 1686-1964 | **Fsh Gtz Mpz Qtz**

Radiological and clinical aspects of pneumoconiosis in the mining of talc (Aspetti radiologici e clinici della pneumoconiosi nell'industria estrattiva del talco). Pettinati, L., Coscia, G.C., Francia, A., and Ghemi, F. "Medicina del lavoro", Milan, Italy, January 1964, Vol. 55, No. 1, pp. 58-63. Illus. 3 bibl. refs.

Paper read at the 25th Italian National Congress of Occupational Health (Taormina, Sicily, October 1962). The authors examined periodically 260 mine workers exposed to talc dust. The number of normal radiographs decreases progressively with increasing lengths of exposure. The radiographs of persons exposed for more than 30 years were all outside normal limits, and similar to those of mixed-dust pneumoconioses. The radiological features were often accompanied by bronchitis, emphysema and dispnoea. Electrocardiography revealed progressive right heart involvement in more than 50% of the cases (axis deviation, right ventricular hypertrophy).

INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE **CIS** 78

ILO	CIS	Fsh Gtz Qix
505-1969	1987-1969	

Fibrous and mineral content of cosmetic talcum products. Cralley, L.J., et al. "American Industrial Hygiene Association Journal", Detroit, Michigan, USA, July-August 1968, Vol. 29, No. 4, pp. 350-354. Illus. 24 bibl. refs.

The major purpose of this investigation was to obtain data on some of the constituents found in cosmetic talcum products and to discuss their health aspects. 22 commercial talcum products were examined, their fibre content varied from 8 to 30% per count. Fibrous particulates were generally under 1.0 μm in diameter with lengths ranging from 1.5 to 6.0 μm. The free silica content varied from 0.3 to 3%, one sample, however, had 54.4% quartz. The samples were also analysed for metals, with 4 exceptions, the levels of cobalt, nickel, chromium and manganese were low.

USPHS	CIS	Fsh Gtz Mpz Qtz
13-1965	13-1965	

Lung function in talc workers - A comparative physiologic study of workers exposed to fibrous and granular talc dusts. Kleinfeld, M., Messite, J., Shapiro, J., Kooyman, O., and Swencicki, R. "Archives of Environmental Health", Chicago, Ill., USA, November 1964, Vol. 9, No. 5, pp. 559-566. Illus. 10 bibl. refs.

A comparative clinical, roentgenographic, physiological, and environmental study of workers exposed to granular and fibrous talc was carried out. The findings indicate that prolonged exposure to adequate amounts of either variety can produce talcosis of the lung, the criteria for the diagnosis being a history of adequate exposure (prolonged exposure to concentrations greater than 20 million particles/ft³ air) and a consistent chest roentgenogram. The mean average exposure of those having talcosis in both groups was appreciably above the present acceptable threshold limit of 20 million particles/ft³ air as recommended by the American Conference of Industrial Hygienists. The pulmonary function findings indicate that exposure to fibrous talc dust is more hazardous than to granular talc.

(NML)

	CIS	Fsh Gtz Mpz
143-1963	2497-1963	

Talc pneumoconiosis - A report of six patients with postmortem findings. Kleinfeld, M., Giel, C.P., Majeranowski, J.F., and Messite, J. "Archives of Environmental Health", Chicago, Ill., USA, July 1963, Vol. 7, No. 1, pp. 101-115. Illus. 14 bibl. refs.

6 workers who were exposed for an average of 24 years to a dust containing appreciable amounts of talc admixed with tremolite and anthophyllite and containing a small amount of free silica developed a symptomatic form of pneumoconiosis. The major clinical features were chronic productive cough, dyspnea, diminished breath sounds, limited chest expansion, diffuse rales, and clubbing. Dyspnea was the most constant complaint and was progressive. The chest roentgenogram usually disclosed interstitial infiltration of variable degree both basally and in the middle lung fields with the apices relatively spared. Cor pulmonale was the major complication in 4 of the 6 cases and the mechanism of death in 3. In general, the clinical, roentgenographic and pathological findings were similar to those observed in asbestosis. However, in contrast to the latter, pulmonary talcosis has not been associated with an increased incidence of pulmonary carcinoma.

(NML)

ROSPA	CIS	Fsh Gtz Mpz
106-1960	3087-1960	

Talc pneumoconiosis. Kipling, M. D., and Bech, A. O. *Transactions of the Association of Industrial Medical Officers*, London, United Kingdom, October 1960, Vol. 10, No. 3, pp. 83-93. Illus. Bibl.

A review of past experience of hazards in the use of talc is followed by seven case histories with clinical details and X-rays, of which four cases occurred in the manufacture of lead accumulator plates (one with five years' exposure), one was that of a rubber tyre extruder, one an aluminium die-caster and the last an aluminium foundry worker.

(A)

USPHS	CIS	Fsh Gtz Mrz Pop
90-1965	1261-1965*	

Effect of talc dust inhalation on lung function. Kleinfeld, M., Messite, J., Shapiro, J., and Swencicki, R. "Archives of Environmental Health", Chicago, Ill., USA, March 1965, Vol. 10, No. 3, pp. 431-437. Illus. 13 bibl. refs.

Pulmonary function tests were performed on 43 workers engaged in the milling of talc. The mean duration and weighted average of exposures were 19.0 years and 62.3 mppcf, respectively. The predominant symptoms were dyspnoea (29) and cough (12). Basilar crepitations and clubbing were noted in 12 and 8, respectively. The mean predicted values for the various pulmonary function parameters measured were within the 95% confidence limits of the control group. However, an appreciable number of talc workers had values which fell outside these limits. This was particularly evident in the vital capacity, total lung capacity, and D_{LCO}. There were 16 who showed pulmonary infiltration on their chest roentgenograms as compared to 27 without such evidence. In general the correlation between pulmonary function impairment and clinical and roentgenographic findings was poor.

(NLM)

Pulmonary talcosis, a clinical and environmental study. Messite, J., Reddin, G. and Kleinfeld, M. *A.M.A. Archives of Industrial Health*, Chicago, Ill., USA, November 1959, Vol. 20, No. 5, pp 408-413. Illus. Bibl.

Describes an industrial hygiene survey of talc mines and mills in New York State. The institution of wet drilling has reduced the dust exposure in the mines and lowered the incidence of pulmonary fibrosis among talc miners. The authors indicate that, while both types of talc can produce pulmonary fibrosis, the fibrous or tremolite variety is the more pathogenic.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

* This card annuls and replaces the card already issued with the same CIS number, which bore the incorrect code Fsh Mpz : sl.

SUVA	CIS	Fsh Gtz Mpz
2-1969	1083-1969	

Silicatoses (asbestosis, talcosis) (Silikatosen (Asbestose, Talkose)). (Also published in French.) Schlegel, H. "Berufskrankheiten - Maladies professionnelles", Schweizerische Unfallversicherungsanstalt, Lucerne, Switzerland, November 1968, Merkblatt Nr. 1. 7 pp. Illus. 6 bibl. refs.

First of a series of information sheets published by the Swiss National Accident Insurance Institute and designed for the Swiss medical corps. Subjects dealt with include asbestos and talc hazards and working environments where they may be encountered, uptake and pathogenic effects of asbestos and talc particles; diagnosis; prophylaxis and technical protection; insurance practices; incidence of asbestosis and talcosis in Switzerland.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

59

USPHS	CIS	Fsh Gtz Mpz
73-1967	1602-1967	

Commercial talc and talcosis Weiss B., and Boettner E.A "Archives of Environmental Health", Chicago Ill USA February 1967, Vol. 14 No. 2 pp 30[illegible]-[illegible] Illus. 13 bibl. refs

The authors state that it has still not been fully determined whether talcosis is caused by mineral talc or by other minerals that exist in commercial talc One difficulty in the study of this subject is the lack of mineralogical uniformity between different talc deposits, and in order to clarify mineralogy from the occupational health standpoint the authors have studied the principal talc deposits worked in the United States. These deposits fall into 2 groups: (a) deposits formed from carbonate rocks usually consisting primarily of talc, tremolite and anthophyllite, (b) lenticular ores of serpentine origin containing talc, magnesite and chlorite. The former type was found to be a greater industrial hazard. It is thought that the latter type may be innocuous and if this fact could be confirmed, it would indicate the need for at least 2 different threshold limit values for commercial talc depending on the origin of the material

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

75

ILO	CIS	Fsh Gtz Mpz
457-1966	847-1967	

"Experimental" talcosis in man (Talcose "expérimentale" chez l'homme). (Published in French.) Lob, M. "Bulletin des Arbeitsmedizin fur Gewerbepathologie und Gewerbehygiene", Berne (Western Switzerland), 15 August 1966, Vol 22, No 8, pp 194-201. Illus. 14 bibl. refs

A [illegible] year [illegible] who had been [illegible] blowing talc powder into conduit which had been [illegible] in connection with electric wiring. He did this by sucking the talc into a [illegible] tube by mouth, and then insufflating it into the conduit. A [illegible] pneumoconiosis was found, unaccompanied by any subjective symptoms. A slight [illegible] in the radiological picture was noted between 1964 and 1966.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

ROSPA	CIS	Fsh Gtz Mpz
205-1961	81-1965	

Talc pneumoconiosis (talcosis). McLaughlin, A.I.G. "Occupational Health", London, United Kingdom, July-August 1961, Vol. 16, No. 4, pp. 180-188. Illus. 7 bibl. refs.

Surveys of workers exposed to talc dust in several countries and industries have shown widely differing results but in all of them a percentage of the workers showed X-ray evidence of lung disease. The period of exposure before onset of pneumoconiosis also shows wide variations, and concurrent exposure to other products, e.g. free silica and granite, may be a possible cause of lung damage. Association between the intensity of exposure and the time factor appears to exist. Some of the industries using talc are listed, cases of pneumoconiosis have been found in most of them. Fatal cases of talc pneumoconiosis have occurred in the rubber industry, in the process of tyre making and extruding when powdered talc is blown through the extruded tyre to prevent sticking of internal surfaces, and in the cable making industry in which cables are coiled into large pans containing talc. In all industrial uses there should be adequate dust control and preventive measures against inhalation, with substitution where possible.

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

43

ENPI	CIS	Fsh Gtz Mpz Qmj
14-1964	1134-1964	

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

Dust exposure in talc grinding and corresponding hazard (Esposizione e rischio nelle operazioni di macinatura del talco). Tronzano, L., Coscia, G.C., and Capellaro, F. "Medicina del lavoro", Milan, Italy, November 1963, Vol. 54, No. 11, pp. 744-745. Illus. 2 bibl. refs.

Paper read at the 25th Italian National Congress of Occupational Health (Taormina, Sicily, October 1962). The authors studied 25 workers engaged in the milling of talc, none of whom had previously been engaged on dusty work. The mean average age of the whole group was 47.3 years with an average duration of exposure of 12.5 years. The workers were divided into 3 groups (up to 10 years' exposure, 11-20 years' exposure, more than 20 years' exposure). Nearly 50% presented no evidence of pneumoconiosis. The following symptoms were found in the 11-20 years group : increased linear markings (5 cases); nodulation (2 cases), calcification or pleuro-lesions (4 cases); emphysema (3 cases), enlarged hilum shadows (2 cases). The authors conclude that the longer the duration of exposure, the more frequent were the number of cases of pneumoconiosis which could be diagnosed radiologically.

USPHS	CIS	Fsh Gtz Mpz Pop
78-1965	1249-1965*	

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

Lung function changes in talc pneumoconiosis. Kleinfeld, M., Messite, J., Shapiro, J., Swencicki, R., and Sarfety, J. "Journal of Occupational Medicine", Chicago, Ill., USA, January 1965, Vol. 7, No. 1, pp. 12-17. Illus. 11 bibl. refs.

Pulmonary function tests were performed in 16 workers who were engaged in the milling of talc for more than 10 years and who had clinical and roentgenographic findings consistent with talc pneumoconiosis. In 14 of the 16 workers, the pneumoconiosis was symptomatic. Dyspnoea was the predominant symptom. Cough was present but not consistent. The mean duration of exposure was 20.4 years, with a range of 13-26, and the mean weighted average exposure was 68.9 mppcf (millions of particles per cubic foot of air). The latter exceeds the present threshold of 20 mppcf as recommended by the American Conference of Governmental Industrial Hygienists. The changes indicated that there was an impairment in ventilatory function and diffusion capacity for carbon monoxyde (DLCO) in a significant number of individuals.

(NLM)

ILO	CIS	Fsh Gtz Mpz Msb : mn
146-1966	843-1966	

CIS INTERNATIONAL OCCUPATIONAL SAFETY AND HEALTH INFORMATION CENTRE

Determination of dust particle size in the lungs and lymph nodes of talc industry workers by means of the electron and phase contrast microscope (Elektronen- und lichtmikroskopische Korngrößenbestimmungen an Lungen- und Lymphknotenstäuben von Talkumarbeitern). Einbrodt, H.J., Metze, H., and Klosterkötter, W. "Archiv für Hygiene und Bakteriologie", Munich, Germany (Fed Rep.), 1965, Vol. 149, No. 5/6, 8 pp. (special issue). Illus. 12 bibl. refs.

Dust isolated by means of formamide from 12 lungs, including 9 with lymph nodes, was examined to determine the particle size distribution. In all cases, the lungs were those of workers in the talc industry and mines in Styria (Austria). The dust was counted by electron and phase contrast microscopy, and the result expressed in summation graphs. It was found that particles in the 0.05 μ to 0.2 μ size range were especially prone to be taken up in the lymph. This selectivity is ascribed to the silica content of the dust, since no preferential transport via the lymph is observable in pure talcosis. It may be assumed that the hazardous particles are to be found in this particle size range.