Supplementary Material

Characterization and assessment of the potential toxicity/pathogenicity of Russian commercial chrysotile

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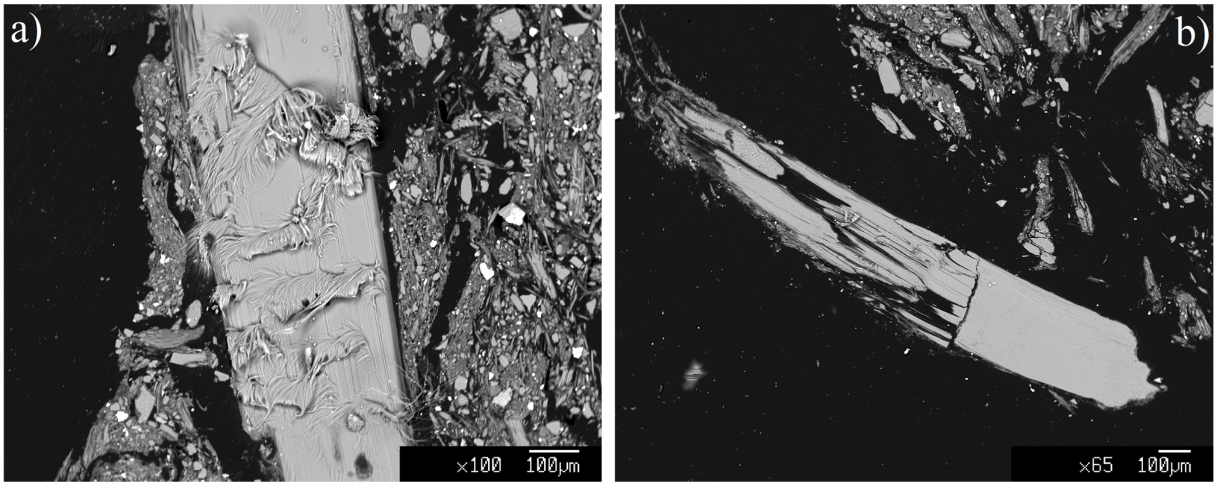

Figure OM1. Backscattered-Electron (BSE) images of chrysotile particles embedded in epoxy resin, acquired during the EPMA session. Large chrysotile bundles and clusters (**a**) and (**b**). Some fibers curl after being ripped from the bundle due to the sample lapping (**a**). Magnetite particles appear as bright white spots (**a)** and (**b**).

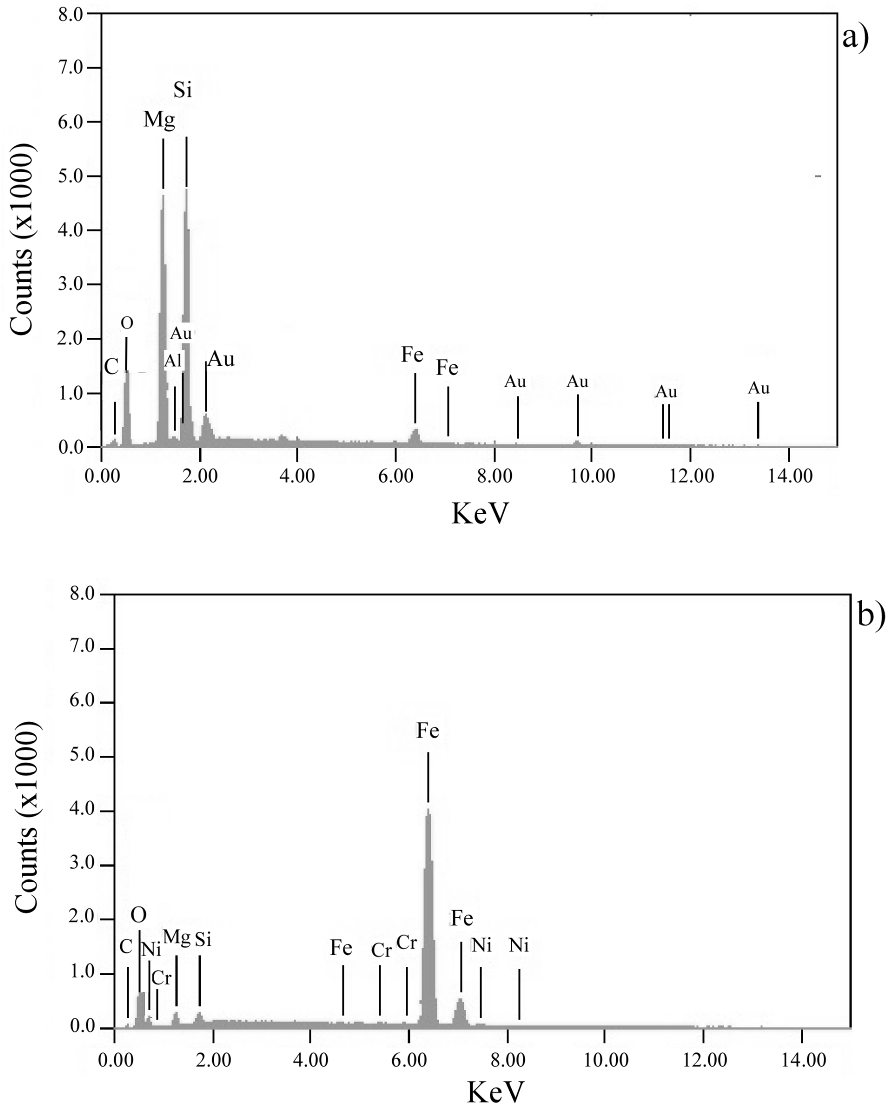

Figure OM2. EDX spectra acquired during the SEM investigation. (**a**) EDX spectrum of a chrysotile fiber bundle. (**b**) EDX spectrum of a magnetite particle.

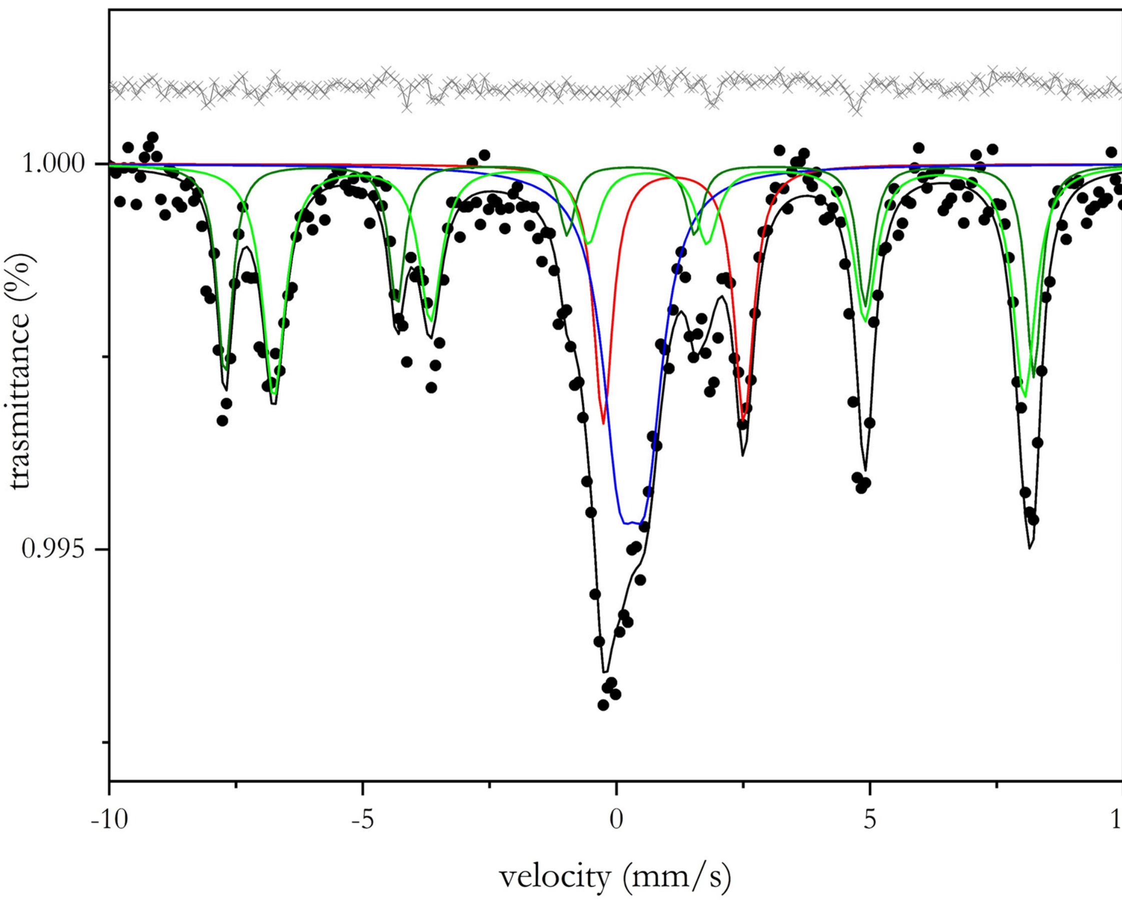

Figure OM3. ^{57}Fe Mössbauer spectrum of Russian chrysotile fitted by the superimposition of three doublets (see text for details).

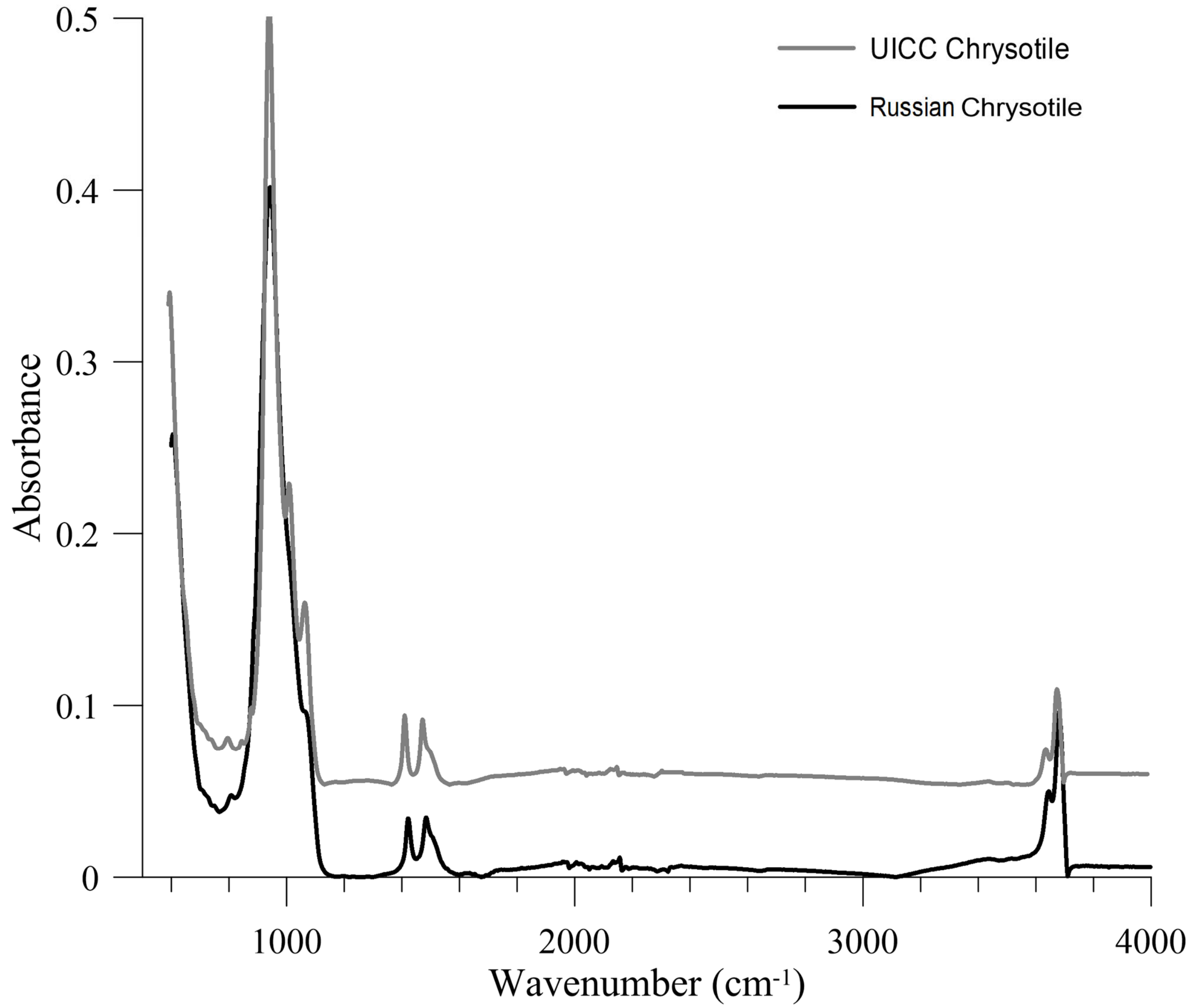

Figure OM4. FTIR spectrum of the Russian chrysotile (500-4000 cm^{-1}). For comparison, the FTIR trace of UICC standard chrysotile is included.

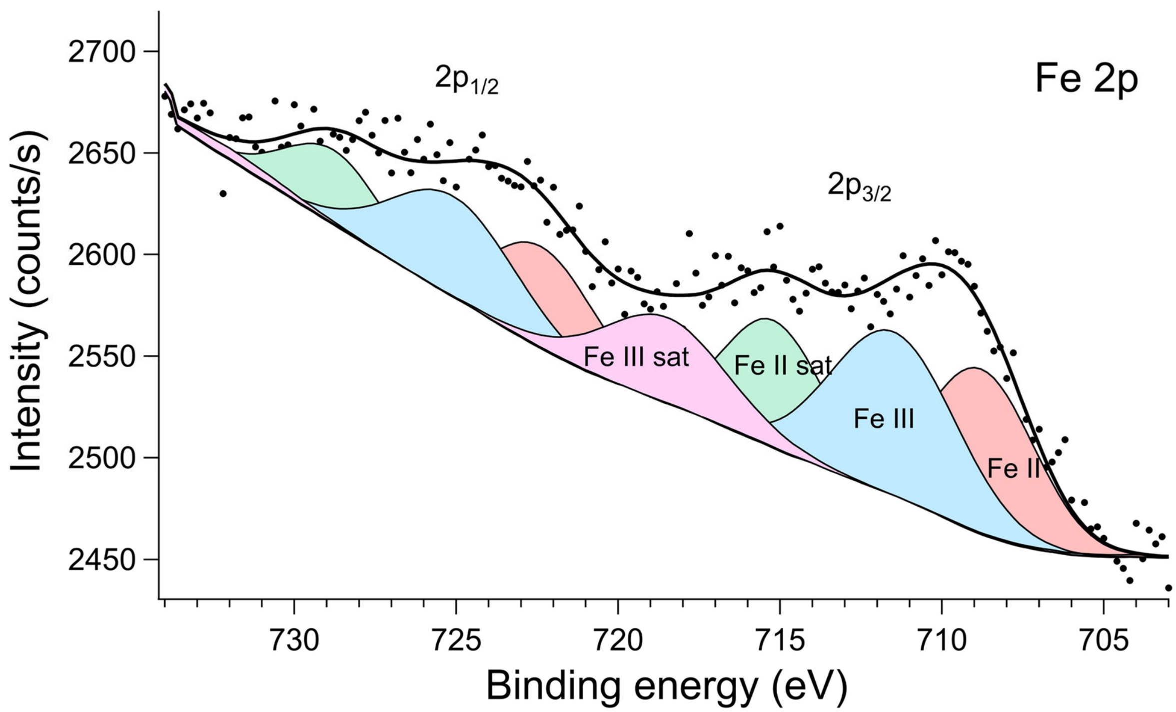

Figure OM5. The XPS Fe 2p region of the Russian chrysotile.

Table OM1. Mean values of the EPMA analyses of the Russian chrysotile. Wt% (weight percent); the standard deviation is shown in brackets. The chemical composition of the UICC chrysotile standard and other Italian chrysotile samples is reported for comparison (after Pollastri et al. 2016).

Wt%	Russian chrysotile	UICC chrysotile	Balangero chrysotile	Valmalenco chrysotile
SiO_2	42.43 (1.5)	42.5(3)	40.6(5)	42.5(2)
TiO_2	0.03 (0.01)	0.01(2)	0.01(2)	0.06(5)
Al_2O_3	0.62 (0.2)	0.20(1)	2.40(6)	0.20(8)
Cr_2O_3	0.14 (0.1)	0.05(4)	0.20(3)	0.08(8)
MnO	0.06 (0.01)	0.05(4)	0.06(4)	0.06(4)
MgO	41.21 (1.8)	41.9(2)	39.8(6)	41.6(2)
CaO	0.05 (0.01)	0.01(1)	0.02(2)	0.09(6)
Na_2O	0.02 (0.01)	0.013(9)	0.012(9)	0.02(1)
K_2O	0.01 (0.01)	0.004(5)	0.003(7)	0.05(9)
NiO	0.15 (0.1)	0.06(4)	0.05(7)	0.20(1)
FeO	0.70 (0.8)	1.40(3)	2.50(5)	1.40(1)
Fe_2O_3	1.27 (0.8)	0.20(2)	0.40(3)	0.01(2)
Tot	86.67 (1.7)	86.4	86.1	86.3

References

Pollastri, S., Perchiazzi, N., Lezzerini. M., Plaisier, J.R., Cavallo, A., Dalconi, M.C., Bursi Gandolfi, N., Gualtieri, A.F., 2016. The crystal structure of mineral fibres. 1. Chrysotile. Periodico di Mineralalogia, 85, 249-259.