

## Research papers

### a) Occupational health and toxicology

- AMADORI, D. (2001) Silicosis and carcinogenesis. *Cer. Acta*, **13(4-5)**, 68–77.
- ALBRECHT, C.; KNAAPEN, A.M.; BECKER, A. HÖHR, D.; HABERZETTL, P.; VAN SCHOOTEN, F.J.; BORM, P.J.A.; SCHINS, R.P.F. (2005) The crucial role of particle surface reactivity in respirable quartz-induced reactive oxygen/nitrogen species formation and APE/Ref-1 induction in rat lung. *Resp. Res.*, **6(129)**.
- BEGIN, R. ; MASSE, S.; ROLA-PLESZCZYNSKI, M.; MARTEL, M. ; DESMARAIS, Y. ; GEOFFROY, M. ; LE BOUFFANT, L. ; DANIEL, H. ; MARTIN, J. (1986). Aluminium lactate treatment alters the lung biological activity of quartz. *Exp. Lung Res.*, **10**, 385–399.
- BROWN, G.M.; DONALDSON, K. (1996) Modulation of quartz toxicity by aluminium. En: CASTRANOVA, V.; VALLYATHAN, V.; WALLACE W. E. (Eds.) *Silica and Silica-Induced Lung Diseases*. Boca Raton: CRC Press, pp. 293–298.
- BROWN, G.M.; DONALDSON, K.; BROWN, D.M. (1989) Bronchoalveolar leukocyte response in experimental silicosis: Modulation by a soluble aluminum compound. *Toxicol. App. Pharm.*, **101(1)**, 95–105.
- CASTRANOVA, V. (1996) Suppression of the cytotoxicity and fibrogenicity of silica with PVPNO. In: CASTRANOVA, V.; VALLYATHAN, V.; WALLACE W.E. (Eds.) *Silica and Silica-Induced Lung Diseases*. Boca Raton: CRC Press, pp. 293–298
- CASTRANOVA, V.; VAN DYKE, K.; WU, L.; DALAI, N.S.; VALLYATHAN, V. (1996) Suppression of silica-induced toxicity with organosilane surface coating. In: CASTRANOVA, V.; VALLYATHAN, V.; WALLACE W.E. (Eds.) *Silica and Silica-Induced Lung Diseases*. Boca Raton: CRC Press, pp. 283–291.
- CHERRY, N.M.; BURGESS, G.L.; TURNER, S.; MCDONALD, J. C. (1998) Crystalline silica and risk of lung cancer in the potteries. *Occup. Enviro. Med.*, **55**, 779-785.
- CLOUTER, A.; DONALDSON, K. (1999) Workplace quartz samples are less inflammogenic than DQ12 standard quartz at equal mass. *7<sup>th</sup> International Symposium on Particles Toxicology*, Maastricht, 13-15 October 1999.
- CLOUTER, A.; BROWN, D.M.; HÖHR, D.; BORM, P.J.; DONALDSON, K. (2001) Inflammatory effects of respirable quartz collected in workplaces versus standard DQ12 quartz: particle surface correlates. *Toxicol. Sci.*, **63**, 90–98.
- CREUTZENBERG, O.; OBERDÖRSTER, G.; AMPIAN, S.G.; MOLL, W.F; HAMILTON, R.; MUHLE, H. (2003) Inflammatory effects of quartz samples after intratracheal instillation in rats. *Toxicologist*, **72**, 214.
- CREUTZENBERG, O.; HANSEN, T.; ERNST, H.; MUHLE, H.; OBERDÖRSTER, G.; HAMILTON, R. (2008) Toxicity of a quartz with occluded surfaces in a 90-day intratracheal instillation study in rats. *Inhalation Toxicol.*, **20**, 995–1008.
- DING, M.; CHEN, F.; SHI, X.; YUCESOY, B.; MOSSMAN, B.; VALLYATHAN, V. (2002) Diseases caused by silica: mechanisms of injury and disease development. *Int. Immunopharmacol.*, **2**, 173–182.
- DONALDSON, K.; BORM, P.J. (1998) The quartz hazard: a variable entity. *Ann. Occup. Hyg.* **42(5)**, 287–294.
- DUFFIN, R.; GILMOUR, P.S.; SCHINS, R.P.F.; CLOUTER, A.; GUY, K.; BROWN, D.M.; MACNEE, W.; BORM, P.J.; DONALDSON, K.; STONE, V. (2001) Aluminium lactate

- treatment of DQ12 quartz inhibits its ability to cause inflammation, chemokine expression, and nuclear factor- $\kappa$ B activation. *Toxicol. App. Pharm.* **176(1)**, 10–17.
- FUBINI, B. (1998) Surface chemistry and quartz hazard. *Ann. Occup. Hyg.* **42(8)**, 521–530.
- FUBINI, B.; GIAMELLO, E.; VOLANTE, M; BOLIS V. (1990) Chemical functionalities at the silica surface determining its reactivity when inhaled. Formation and reactivity of surface radicals. *Toxicol. Ind. Health*, **6(6)**, 571–98.
- GAO, N.; KEANE, M.J.; ONG, T.; YE, J.; MILLER, W.E.; WALLACE, W.E. (2001) Effects of phospholipid surfactant on apoptosis induction by respirable quartz and kaolin in NR8383 rat pulmonary macrophages. *Toxicol. App. Pharm.*, **175**, 217–225.
- GOLDSMITH, D.F.; GUIDOTTI, T.L.; JOHNSON, D.R. (1982) Does occupational exposure to silica cause lung cancer? *Am. J. Ind. Med.*, **3**, 423.
- HARRISON, J.; CHEN, J.-Q. MILLER, W.; CHEN, W.; HNIZDO, E.; LU, J.; CHISHOLM, W.; KEANE, M.; GAO, P.; WALLACE, W. (2005) Risk of silicosis in cohorts of Chinese tin and tungsten miners and pottery workers (II): Workplace-specific silica particle surface composition. *Am. J. Ind. Med.*, **48(1)**, 10-15.
- HEFFERNAN, P. (1946) Aluminium therapy of silicosis. *Br Med J.*, **1(4458)**, 928.
- HEPPLESTON, A.G. (1986) Determinants of pulmonary fibrosis and lipidosis in the silica models. *Br. J. Exp. Pathol.*, **67**, 879–888.
- Kawasaki H (2016) A mechanistic review of silica-induced inhalation toxicity. *Inhalation Toxicology*, *27*, 27:8, 363-377. DOI: 10.3109/08958378.2015.1066905
- KNAAPEN, A.M.; BORM, P.J.A.; ALBRECHT, C.; SCHINS, R.P.F. (2004) Inhaled particles and lung cancer. Part A: mechanisms. *Int. J. Cancer*, **109**, 799–809.
- KEANE, M.J; WALLACE W.E. (1996) Pulmonary surfactant adsorption and the expression of silica toxicity. In: CASTRANOVA, V.; VALLYATHAN, V.; WALLACE W.E. (Eds.) *Silica and Silica-Induced Lung Diseases*. Boca Raton: CRC Press, pp. 283–291.
- KRIEGSEIS, W.; SCHARMANN, A.; SERAFIN, J. (1987) Investigations of surface properties of silica dusts with regard to their cytotoxicity. *Ann.Occup. Hyg.*, **31**, 417–424.
- LE BOUFFANT, L.; DANIEL, H.; MARTIN, J.C. (1975) The therapeutic action of aluminium compounds on the development of experimental lesions produced by pure quartz or mixed dusts. *Inhaled Part.*, **4(1)**, 389–401.
- MCDONALD, C. (1995) Silica and lung cancer. In: CASTRANOVA, V.; VALLYATHAN, V.; WALLACE W. E. (Eds.) *Silica and Silica-Induced Lung Diseases*. Boca Raton: CRC Press, pp. 383–396.
- MONFORT, E.; IBAÑEZ, M.J.; ESCRIG, A.; JACKSON, P.; CARTLIDGE, D.; GORBUNOV, B.; CREUTZENBERG, O.; ZIEMANN, C. (2008) Respirable crystalline silica in the ceramic industries. Sampling, Exposure and Toxicology. *cfi/Ber. DKG*, **85(12)**, 36–42.
- SCHINS, R.P.F.; DUFFIN, R.; HÖHR, D.; KNAAPEN, A.M.; SHI, T.; WEISHAUPT, C.; STONE, V.; DONALDSON, K.; BORM, P.J.A. (2002). Surface modification of quartz inhibits toxicity, particle uptake, and oxidative DNA damage in human lung epithelial cells. *Chem. Res. Tox.*, **15**, 1166–1173.
- SCHLIPKÖTER, H.W.; BROCKHAUS, A. (1961) Die hemmung der experimentellen silikose durch subcutane verabreichung von polyvinylpyridin-N-oxyde. *J. Molec. Medicine*, **39(22)**, 1182–1189.
- STACEY, P. (2005) The assessment of the exposure of workers to respirable crystalline silica (RCS) and the work of the International Standard Organisation (ISO) Working

Group TC146/SC2/WG7 Silica. IOHA 2005 North West Province (South Africa) 19 - 23 September 2005.

- STEENLAND, K.; MANNETJE, A.; BOFFETTA, P.; STAYNER, L.; ATTFIELD, M.; CHEN, J.; DOSEMECI, M.; DEKLERK, N.; HNIZDO, E.; KOSKELA, R. and CHECKOWAY, H. (2001) Pooled exposure-response analyses and risk assessment for lung cancer in 10 cohorts of silica-exposed workers: an IARC multicentre study. *Cancer Causes Control*, **12**, 773-784.
- STONE, V.; JONES, R.; ROLLO, K.; DUFFIN, R.; DONALDSON, K. and BROWN, D.M. (2004) Effect of coal mine dust and clay extracts on the biological activity of the quartz surface. *Toxicol. Lett.*, **149**, 255–259.
- TIMELLINI, G.; FREGNI, G.F. (2001) The control of exposure to crystalline silica in the ceramic industry: technical and economical aspects. *Cer. Acta*, **13(4-5)**, 88-92.
- Turci F et al. (2016) Revisiting the paradigm of silica pathogenicity with synthetic quartz crystals: the role of crystallinity and surface disorder. *Particle and Fibre Toxicology* 13:32. DOI: 10.1186/s12989-016-0136-6
- VALLYATHAN, V.; SHI, X.; DALAL, N.S.; IRR, W.; CASTRANOVA, V. (1988) Generation of free radicals from freshly fractured silica dust. Potential role in acute silica-induced lung injury. *Am. Rev. Respir. Dis.*, **138(5)**, 1213–1219.
- VALLYATHAN, V.; CASTRANOVA, V.; DALAL, N.S.; VAN DIKE, K.; ALL OF MORGANTOWN, W. VA. (1992) *Prevention of the acute cytotoxicity associated with silica containing minerals*. US 5096733, 1992-03-17.
- WALLACE, W.E.; VALLYATHAN, V.; KEANE, M.J.; ROBINSON V. (1985) *In vitro* biologic toxicity of native and surface-modified silica and kaolin. *J Toxicol. Environ. Health.*, **16(3-4)**, 415–424.
- WENDLANDT, R.F.; HARRISON, W.F.; VAUGHAN, D.J. (2007) Surface coatings on quartz grains in bentonites and their relevance to human health. *Appl. Geochem.*, **22**, 2290–2306.
- WHO (2000) Crystalline silica, quartz (Concise international chemical assessment document; 24); Programme on Chemical Safety II.Series, ISBN 92 4 153023 5, Wissenschaftliche Verlagsgesellschaft mbH, D-70009 Stuttgart
- WYART-REMY, M. (2001) Crystalline silica: the EU regulatory approach. *Cer. Acta*, **13(4-5)**, 54-62.

## **b) Materials science**

- GALLAS, J.-P.; GOUPIL, J.-M.; VIMONT, A.; LAVALLEY, J.-C.; GIL, B.; GILSON, J.-P.; MISERQUE, O. (2009) Quantification of water and silanol species on various silicas by coupling IR spectroscopy and in-situ thermogravimetry. *Langmuir*, **25(10)**, 5825–5834.
- GULICOVSKI, J.J.; CEROVIC, L.S.; MILONJIC, S.K. (2008) Point of zero charge and isoelectric point of alumina. *Mater. Manuf. Processes*, **23**, 615–619.
- JEREZ, J.; FLURY, M.; SHANG, J.; DENG, Y. (2006) Coating of silica sand with aluminosilicate clay. *J. Colloid Interface Sci.*, **294(1)**, 155–164.
- SANCHEZ, E.; GARCIA-TEN, J.; REGUEIRO, M. (2007) Matières premières pour l'industrie céramique espagnole. Situation actuelle et perspectives, 3<sup>e</sup> partie. *Industrie Céramique Verrière*, **1014**, 29–32.

STOJANOVIC, D.; ORLOVIC, A.; GLISIC, S.B.; MARKOVIC, S.; RADMILOVIC, V.; USKOKOVIC, P.S.; ALEKSIC R. (2010) Preparation of MEMO silane-coated SiO<sub>2</sub> nanoparticles under high pressure of carbon dioxide and ethanol. *J. of Supercritical Fluids*, **52(3)**, 276–284.

WALLACE, W.E.; HARRISON, J.C.; GRAYSON, R.L.; KEANE, M.J.; BOLSAITIS, P.; KENNEDY, R.D.; WEARDEN, A.Q.; ATTFIELD, M.D. (1994) Aluminosilicate surface contamination of respirable quartz particles from coal mine dusts and from clay works dusts. *Ann. occup. Hyg.*, **38**, 439-445.

## EU documents

AGREEMENT (2006/C 279/02) on workers' health protection through the good handling and use of crystalline silica and products containing it.

ETUC (2007) *Response to the 2<sup>nd</sup> phase consultation on Directive 2004/37/EC*.

IARC (1997) Silica; In: *Silica, some Silicates, Coal Dust and Para-Aramid Fibrils*. Lyon: *IARC Monogr. Eval Carcinogen.Risks Hum.* **68**,. 41-242.

SCOEL (2002) *Recommendation from Scientific Committee on Occupational Exposure Limits for silica, crystalline (respirable dust)*.

SWD(2016) 152 final Commission Staff Working Document. Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council Amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work. Brussels, 13.5.2016

SWD(2016) 153 final. Commission Staff Working Document Executive Summary of the Impact Assessment Accompanying the document Proposal for a Directive of the European Parliament and of the Council Amending Directive 2004/37/EC on the protection of workers from the risks related to exposure to carcinogens or mutagens at work. Brussels, 13.5.2016