Conclusions From the above results, the positive effect of essential elements to health examination values were not clear, little does the influence to the other non-essential elements. However, the damage from occupational non-essential elements exposure still needs to be concerned. Interaction to multi-elements also needs further research.

Objectives To determine phagocytic capacity of PMN leukocytes in workers occupationally exposed to benzene.

Method Cross-sectional study that included 54 workers of a paint manufacture company in Mexico City; exposure to benzene was determined through S-phenylmercapturic acid (SPMA) presence in urine. The PMN phagocytic capacity analysis included three parameters: 1) nitro-blue tetrazolium (NBT) reduction, 2) hydrogen peroxide (H₂O₂) production, and 3) cell adhesion (CAD).

Results In the whole of workers included in the study, NBT reduction = 0.419 ± 0.075, H₂O₂ production = 6.7 ± 1.4 ng, and CAD = 58.3 ± 6.2 µg. SPMA was identified in all workers although 24 of them are not in occupationally exposure to organic solvents (2.3 ± 0.81 µmol/mol creatinine), while the remaining 30 handle these substances (3.2 ± 1.8, p = 0.02). Among these exposure groups, there were not statistically differences in any of the parameters analysed. Although the simple regression analysis of these parameters with the concentration of SPMA identified in urine, a decrease was observed in NBT reduction (β=-0.009, R²=0.01), in H₂O₂ production (β=-0.16, R²=0.02), and in CAD (β=-0.53, R²=0.01), none was statistically significant (p ≥ 0.05).

Conclusions PMN phagocytic capacity in the workers studied seems to be intact. Attract attention the consistently decrease of the three parameters in relation to the concentration of SPMA identified in urine even when there was no statistical significance. Some limitations do not allow a more complete analysis, so it is encouraged to make further studies.