

De, V., I, K. Wilke, and H. Ruden. 1994. [Bacteria-reducing properties of copper-containing and non-copper-containing materials. II. Relationship between microbiocide effect of copper-containing materials and copper ion concentration after contamination with moist and dry hands]. *Zentralbl.Hyg.Umweltmed.* 195:516-528.

Abstract: The bactericide quality of different materials containing copper (copper, brass, brass-sheet) was tested and particularly the effect of humidity and copper-concentration was examined. In first examinations (I. communication) (19) the materials were contaminated by hands, which were dipped into a suspension of different microorganisms (*Micrococcus luteus*, *Staphylococcus aureus*, *Enterococcus faecium*, *Escherichia coli*, *Enterobacter cloacae*, *Pseudomonas aeruginosa*). The survival rate of the microorganisms on the surfaces was determined after defined exposure times (0, 5, 30, 60, 120 min). The following ways of contaminating the test materials were chosen: single contamination with wet hands, repeated contamination with wet and dry hands. In this examination the results were tested for statistical significance and in parallel experiments the copper-concentration on the surfaces of the materials was determined. Materials containing copper contaminated with wet hands show a significant bactericide effect after an exposure time of 120 min. The bactericide effect on *Micrococcus luteus* and *Pseudomonas aeruginosa* is inhibited after contamination with dry hands. This results can not be explained by a different copper-concentration on the surfaces of the materials, because a statistically significant difference of copper-ion concentrations between contamination with wet and dry hands could not be obtained.