The study was done during the winter of 1997 on a statistical sample of the population of Santiago. This paper presents the distribution of water consumption by age (<1 year; 1–10 years; 11–19 years; 20–64 years; >64 years), socio-economic groups (A–B–C1, C2–C3, D, E), and sex. The relative errors in the measurements and the consumption times during the day also are included. This information is relevant for the exposure to copper contained in drinking water and the consumption of water from other beverages. Water contained in foods, except soups, is not included in the calculation of drinking-water consumption.

Conceptual framework for evaluating basin-scale multiple pathway exposure to pesticides

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There is a need to create a better conceptual framework for analysing and interpreting the environmental release of pesticides and how they impact human populations. Current drainage basin-scale models do not consider multiple pathways of human exposure for estimates of risk. Furthermore, exposure models typically have oversimplified transport components. In this study, a basin-scale model was combined with a multiple pathway exposure model by translating temporal and spatial media concentrations into values of total exposure from different pathways. This new conceptual framework gave more refined estimates of total risk to human populations living in a drainage basin.

Exposure of the population of Santiago, Chile, to copper contained in drinking water

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Copper present in drinking water originates from natural and anthropogenic (mainly copper plumbing pipes) sources. In spite of the long life of copper plumbing pipes, estimated to be 60 years or more, copper is liberated to drinking water as a result of electrochemical and thermodynamic processes. A model has been created in order to estimate the population exposure to copper contained in drinking water. This exposure depends on several variables such as the physicochemical characteristics of the water, the length and diameter of the pipe involved, the stagnation period of the water during the day and night, and the age of the pipes. Measurement of these variables was carried out in 250 homes in the Santiago Metropolitan Area. The 250 homes are a sub-sample of a larger sample surveyed in Santiago to determine water consumption habits. The

model yields the copper consumption distribution for the Santiago area, including average, maximum, and minimum distributions. The distributions include the estimation of maximum and minimum exposure of the population, which could be relevant from the point of view of deficiency (copper is an essential element) and/or toxicity.