Increase of consumption of yeast-distilled beverages has led researchers to verify the presence of contaminants, such as metals. Copper (Cu), Lead (Pb) and Arsenic (As) are widely used as material in the composition of stills and other equipment used in the production of fermented beverages, and they may be carried to the product during the process, contaminating them. Brazilian legislation established maximum amounts allowed for these inorganic contaminants in sugar cane spirits: 5 mg/L for Cu, 200 µg/L for Pb and 100 µg/L for As, although limits were not established for other alcoholic drinks. Among the beverages consumed in Brazil, Tiquira (cassava spirits) is a typical yeast-distilled food from Maranhão, where there is no control of process variables during production, increasing the incidence of contamination by metals. Thus, the objective of this study was to quantify Cu, Pb and As by atomic absorption in 11 samples of Tiquira produced in different municipalities in Maranhão, acquired in local markets, sold in bottles containing 360 mL. Results showed that all the samples were contaminated by Copper (Cu), between 1.83 and 10.20 mg/L, and 54.5% had values above the permitted level. The metals Pb and As were not identified in quantifiable levels. Presence of Cu represents a risk for the consumers, because the substance is associated with the formation of ethyl carbamate.