Science Publications

American J. of Environmental Sciences
Quarterly Publication

Title: Trace Metal Mercury Levels in Residential Homes in Kuwait

Author: L. AL-Awadi, A. R. Khan and R. Al-Kandari

Source: American J. of Environmental Sciences 4(1): 77-83 , 2008

Abstract: Kuwait is an oil rich state on the northeastern corner of Arabian Peninsula and has faced the unprecedented man made environmental disaster in early 1991 of igniting over 600 oil wells those continually burnt for a period of over six months. The use of crude and heavy fuel oil in the power generating facilities has aggravated the pollution due to particulate matters that carry trace metals. The climatic conditions in this part of the world result into very frequent dust storm transporting particulate matters short and long distance. Mercury in atmosphere is mainly due to burning of fossil fuel, incinerators, crematoriums, extraction of precious metals and salt-chlorine industries. This study has been initiated for mercury measurements from an old salt-chlorine industrial site that has been closed since 1984. To compare the mercury levels elsewhere, a comprehensive measurement program was devised and conducted to obtain mercury levels in most of the urban areas in Kuwait. Domestic dust samples from selected residences were collected for a period of a week. These samples were analyzed using KISR/T0-345 method especially developed for precise measurements of trace metals in particulate matter. It is required to identify the sources of mercury that resulted into such mercury levels in indoor air in the urban areas. For those areas where mercury levels are substantially high mitigation methods have been proposed to reduce the impact on to the residents.