CHEMICAL HAZARDS PROGRAM
Environmental Health Branch
Georgia Department of Community Health
Atlanta, GA

Technical Assistance | Fulton County

Defoors Crossing Apartments
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Late last week, the Georgia Environmental Protection Division (GEPD) sent the Georgia Division of Public Health (GDPH) a report of indoor air sampling performed in a metro Atlanta apartment complex. The conclusion of the report states "Chlorinated VOCs, specifically PCE and TCE, are present in indoor air at the Defoors Crossing Apartments at concentrations above the U.S. EPA's residential Target Indoor Air Concentrations." GEPD requested that we evaluate the data to determine whether contaminant levels were elevated enough to warrant actions to protect public health.

Results of indoor air sampling conducted in August 2008 showed that tetrachloroethene (PCE) were detected in two apartments at a concentration of 9.5 micrograms per cubic meter (ug/m3). February 2009 air sampling results show PCE in all apartments sampled at concentrations that ranged from 9.5 to 20 ug/m3. Trichloroethene (TCE) was also detected in all apartments sampled during February. TCE concentrations ranged from 0.81 to3.3 ug/m3.

To evaluate the potential for adverse health effects from exposure to PCE and TCE, GDPH examines the concentrations of these contaminants, and compares these concentrations to health-based Comparison Values (CVs). CVs are concentrations of a contaminant that can reasonably (and conservatively) be regarded as harmless to human health, assuming default conditions of exposure. The CVs generally include ample safety factors to ensure protection of sensitive populations. Because CVs do not represent thresholds of toxicity, exposure to contaminant concentrations above CVs will not necessarily lead to adverse health effects. GDPH then considers how people may come into contact with the contaminants. Because the level of exposure depends on the route and frequency of exposure and the concentration of the contaminants, this exposure information is essential to determine if a public health hazard exists.

Conservatively looking at the highest concentrations of PCE (20 ug/m3) found at the apartment complex, we compare this value with the lowest CV for chronic (greater than one year) exposure to PCE in air. The CV for chronic exposure to PCE in air is 300 ug/m3. For the highest concentration of TCE found (3.3 ug/m3), the lowest CV available for air is for intermediate exposure, and is 500 ug/m3. Assuming year-round exposure, the highest levels of PCE and TCE found are 15 times lower than the chronic exposure CV for PCE, and 25 times lower than the intermediate exposure CV for TCE.

Based on our conservative exposure assumptions, GDPH concludes that residents living at the Defoors Crossing Apartments are not at risk for adverse health effects from exposure to reported levels of PCE and TCE in indoor air. However, for those residents who wish to decrease or eliminate their exposure, it is recommended that the apartments be ventilated, which would include opening windows.