

Health Consultation

Numbers 0003, 0012, 0026, 0027, 0028, 0029, 0030, 0031

ST. LUCIE RESIDENCES

ST. LUCIE, ST. LUCIE COUNTY, FLORIDA

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U.S. DEPARTMENT OF HEALTH AND HUMAN SERVICES

Public Health Service

Agency for Toxic Substances and Disease Registry

Division of Health Assessment and Consultation

Atlanta, Georgia 30333

Health Consultation: A Note of Explanation

An ATSDR health consultation is a verbal or written response from ATSDR to a specific request for information about health risks related to a specific site, a chemical release, or the presence of hazardous material. In order to prevent or mitigate exposures, a consultation may lead to specific actions, such as restricting use of or replacing water supplies; intensifying environmental sampling; restricting site access; or removing the contaminated material.

In addition, consultations may recommend additional public health actions, such as conducting health surveillance activities to evaluate exposure or trends in adverse health outcomes; conducting biological indicators of exposure studies to assess exposure; and providing health education for health care providers and community members. This concludes the health consultation process for this site, unless additional information is obtained by ATSDR which, in the Agency's opinion, indicates a need to revise or append the conclusions previously issued.

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ST. LUCIE RESIDENCES

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Prepared by:

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Division of Health Assessment and Consultation
Agency for Toxic Substances and Disease Registry

BACKGROUND AND STATEMENT OF ISSUES

The Florida Department of Health requested the Agency for Toxic Substances and Disease Registry (ATSDR) to review the results of environmental samples collected from different residences in St. Lucie County, Florida, and to evaluate the possible health implications associated with exposure to the substances reported.

From January 1998 through June 1998, the Florida Department of Health collected well water, soil, indoor air, and air conditioner dust samples from eight residences in St. Lucie County, Florida [1].

The results indicate that most of the chemicals analyzed for in soil, indoor air, air conditioner dust, and well water samples were not detected. The values that were reported by the analytical laboratory for various contaminants were estimated values that were between the method of detection limit and the practical quantitation limit.

DISCUSSION

An evaluation of the environmental sampling data provided to ATSDR indicates that most of the chemicals analyzed for in different media (i.e., soil, indoor air, air conditioner dust, and well water) were not detected. The estimated concentrations for each contaminant that were reported in soil, well water, air conditioner dust, and air samples are within normal background levels. Additionally, the concentrations of VOCs that were reported in the air samples are within normal background ranges and are probably related to the use of household products. For example, the estimated values for benzene reported by the analytical laboratory ranged from non-detect to 1.8 ppb. An air quality study for benzene from 185 residences in the United States reported that the median value for benzene was at 2.2 ppb in residences of non-smokers [2]. Another study showed that the average indoor air concentration of benzene in homes without smokers was 3.1 ppb in the fall and winter and 1.5 ppb in the spring and summer [3]. A national survey reported that the average outdoor air concentration of benzene was 2.8 ppb and the median outdoor air concentration was 1.7 ppb [1]. Therefore, the levels of VOCs detected in certain homes do not exceed background levels. Additionally, the estimated concentrations for the chemicals reported in indoor air, soil, air conditioner dust and well water do not pose a health threat for cancerous or non-cancerous adverse health effects.

CONCLUSIONS

Based on the data reviewed, levels of contaminants detected in soil, well water, air, and air conditioner dust samples are below concentrations that would result in an increased cancer risk. Also, contaminants are below levels that pose a non-cancer health threat.

RECOMMENDATION

No follow-up investigations are recommended. If further clarification is necessary, or if additional sampling data become available, ATSDR is available to assist upon request.

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REFERENCES

1. Data Package for St. Lucie County Cancer Cluster Investigation, prepared by the Florida Department of Health Bureau of Laboratories, Jacksonville, FL, September 16, 1998.
2. ATSDR Update Toxicological Profile for Benzene, February 20, 1996.
3. Exposure to the general population to gasoline, Akland, G., Environmental Health Perspectives 1993; 101 Suppl. 6:27-32.