

Texas Commission on Environmental Quality

INTEROFFICE MEMORANDUM

To: Richard Garcia, Director
Rick Hite, Air Section Manager
TCEQ Region 13–San Antonio

Date: September 15, 2004

From: Allison Jenkins, Toxicology Section, Chief Engineer's Office

Subject: Health Effects Review of 2003 Data collected from the Ambient Air Network Monitoring Site in Region 13, San Antonio

Conclusions

- All annual average concentrations of all reported VOCs were below their long-term ESLs and are not a health concern.

Background Information

This memorandum conveys the Toxicology Section's evaluation of ambient air sampling conducted at the network monitoring site in Region 13–San Antonio during 2003. We reviewed summary results for volatile organic compounds (VOCs) from 24-hour samples canister samples collected generally every sixth day from the site at:

- 254 Seale Road in San Antonio, AIRS No. 48-029-0051 (Van Dyke Service Center).

It should be noted that 24-hour air samples are designed to provide representative long-term average concentrations. Therefore, annual averages from 24-hour samples were evaluated for potential chronic health concern. Twenty-four-hour samples do not show short-term or peak concentrations, and therefore, have limited use in evaluating the potential for acute health effects or odors.

The measured chemical concentrations were compared to TCEQ health-based Effects Screening Levels (ESLs). An ESL is a guideline concentration which is protective of the general public including sensitive members of the population, such as the elderly, children, and persons with pre-existing health conditions. Health-based ESLs are guideline comparison levels set well below levels at which adverse health effects have been reported in the scientific literature. If an air concentration of a pollutant is below the ESL, we do not expect adverse health effects to occur. If an air concentration of a pollutant is above the health-based ESL, it is not indicative that adverse effects will necessarily occur, but rather, that further evaluation may be warranted. Evaluation of the potential for cumulative effects will be presented in a later report.

Evaluation

All annual average concentrations of all reported VOCs were below their long-term ESLs and are not a health concern. In addition, 24-hour concentrations for all reported VOCs were below levels that would cause acute health effects or odors. However, because 24-hour composite samples do not provide information about shorter-term and peak concentrations, potential for acute health effects and odors could not be fully evaluated. TCEQ's goal for data completeness for this monitoring site is 75 percent data return, or 60 valid samples per year. However, all monitored chemicals, except for dichlorodifluoromethane and methyl chloride, had a data return of 70 percent. Dichlorodifluoromethane and methyl chloride had a data return of 43 percent.

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If you have any questions about this evaluation, please contact me at 512.239.2492.

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