

TCEQ Interoffice Memorandum

To: David Van Soest, Regional Director, R11
Lori Wilson, Assistant Regional Director, R11

From: Angela Curry, M.S. *AC*
Toxicology, Risk Assessment, and Research Division, Office of the Executive Director

Date: March 4, 2022

Subject: Health Effects Review of 2020 Ambient Air Network Monitoring Data in Region 11, Austin

Conclusion

- All 24-hour and annual average concentrations of 84 volatile organic compounds (VOCs) from canister samples collected in Region 11 – Austin were below their respective Texas Commission on Environmental Quality (TCEQ) Air Monitoring Comparison Values (AMCVs) and would not be expected to cause adverse health effects or vegetation effects.

Background

This memorandum conveys the Toxicology Division's (TD's) evaluation of ambient air sampling conducted at the Region 11 monitoring site in Austin during 2020. The TD evaluated summary results for VOCs collected at the Austin Webberville Road monitoring site on a 24-hour, every sixth-day schedule. TCEQ Region 11 monitoring site information is presented in Table 1 along with hyperlinks to detailed information regarding the monitoring site and maps. The target analytes are listed in Attachment A.

Table 1. Monitoring Site Located in TCEQ Region 11

City and Site Location	County	Monitor ID	Monitored Compounds
Austin Webberville Road 2600B Webberville Rd	Travis	48-453-0021	VOC ^a

^aevery sixth-day 24-hour canister

The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. The data collected for the 84 VOCs at the Austin Webberville Road monitoring

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site met the data completeness objective of 75 percent data return, or at least 45 valid samples per year.

Twenty four-hour air samples, collected every sixth-day for a year, are designed to provide representative long-term average concentrations. In order to be able to evaluate 24-hour monitoring data more fully, the TCEQ has developed 24-hour AMCVs for specific chemicals. As such, 24-hour samples were compared to the available TCEQ 24-hour AMCVs for 1,3-butadiene; 2,2-dimethylbutane; 2,3-dimethylbutane; 2-methylpentane; 3-methylpentane; benzene; ethylene dibromide; ethylene dichloride; and n-hexane. Short-term or peak concentrations are not necessarily captured by 24-hour samples; thus, daily concentrations have limited use in evaluating the potential for acute health effects. The TD evaluated the reported annual average concentrations from 24-hour samples for each target analyte for potential chronic health and vegetation concerns by comparing annual averages of measured chemical concentrations to their respective long-term AMCVs. More information about AMCVs is available on the Toxicology [AMCV](https://www.tceq.texas.gov/toxicology/amcv/about) webpage (<https://www.tceq.texas.gov/toxicology/amcv/about>).

Evaluation

The reported 24-hour concentrations and annual average concentrations of the 84 VOCs were below their respective AMCVs. Therefore, adverse health or vegetation effects would not be expected to occur as a result of short- or long-term exposure to the reported levels of these chemicals.

If you have any questions about this evaluation, please contact me at angela.curry@tceq.texas.gov.

Attachment A

Target VOC Analytes in Canister Samples

1,1,2,2-Tetrachloroethane	Acetylene	Trichloroethylene
1,1,2-Trichloroethane	Benzene	Trichlorofluoromethane
1,1-Dichloroethane	Bromomethane	Vinyl Chloride
1,1-Dichloroethylene	Carbon Tetrachloride	cis-1,3-Dichloropropene
1,2,3-Trimethylbenzene	Chlorobenzene	cis-2-Butene
1,2,4-Trimethylbenzene	Chloroform	cis-2-Hexene
1,2-Dichloropropane	Chloromethane	cis-2-Pentene
1,3,5-Trimethylbenzene	Cyclohexane	m-Diethylbenzene
1,3-Butadiene	Cyclopentane	m-Ethyltoluene
1-Butene	Cyclopentene	m/p Xylene
1-Hexene & 2-Methyl-1-Pentene	Dichlorodifluoromethane	n-Butane
1-Pentene	Dichloromethane	n-Decane
2,2,4-Trimethylpentane	Ethane	n-Heptane
2,2-Dimethylbutane	Ethylbenzene	n-Hexane
2,3,4-Trimethylpentane	Ethylene	n-Nonane
2,3-Dimethylbutane	Ethylene Dibromide	n-Octane
2,3-Dimethylpentane	Ethylene Dichloride	n-Pentane
2,4-Dimethylpentane	Isobutane	n-Propylbenzene
2-Chloropentane	Isopentane	n-Undecane
2-Methyl-2-Butene	Isoprene	o-Ethyltoluene
2-Methylheptane	Isopropylbenzene	o-Xylene
2-Methylhexane	Methyl Chloroform	p-Diethylbenzene
2-Methylpentane	Methylcyclohexane	p-Ethyltoluene
3-Methyl-1-Butene	Methylcyclopentane	trans-1,3-Dichloropropene
3-Methylheptane	Propane	trans-2-Butene
3-Methylhexane	Propylene	trans-2-Hexene
3-Methylpentane	Styrene	trans-2-Pentene
4-Methyl-1-Pentene	Tetrachloroethylene	
	Toluene	