

## TCEQ Interoffice Memorandum

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**To:** Ryan Slocum, Regional Director, R7

**From:** Nnamdi Nnoli, Ph.D. *nn*  
Toxicology, Risk Assessment, and Research Division, Office of the Executive Director

**Date:** January 29, 2026

**Subject:** Health Effects Review of 2024 Ambient Air Network Monitoring Data in Region 7, Midland

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### Conclusions

- All measured 24-hour and annual average concentrations of the 84 volatile organic compounds (VOCs) monitored were below their respective Texas Commission on Environmental Quality (TCEQ) air monitoring comparison values (AMCVs) and would not be expected to cause adverse health or welfare effects.
- All measured hourly and annual average concentrations of the 46 VOCs monitored were below their respective AMCVs and would not be expected to cause adverse health effects, vegetation effects, or odor concerns.
- Reported 30-minute concentrations of hydrogen sulfide (H<sub>2</sub>S) exceeded the numerical value of the 30-minute H<sub>2</sub>S state standard for residential areas (i.e., 80 parts per billion (ppb)) 42-, 326-, and 13-times at Odessa Westmark Street, Goldsmith Street, and Midland Avalon Drive monitoring sites, respectively. The measured levels of H<sub>2</sub>S could result in the perception of odors if exposure were to occur. However, the measured levels do not represent an immediate threat to human health or wellness as the lowest concentration that has shown H<sub>2</sub>S-specific health effects in people (i.e., mild respiratory effects in 2 out of 10 asthmatic individuals exposed for 30-minutes) is 2,000 ppb.

### Background

Ambient air sampling data collected at four monitoring network sites in Region 7, Midland, during 2024 were evaluated by the Toxicology, Risk Assessment, and Research Division (TD). The TD reviewed air monitoring summary results for VOCs from 1-hour and 24-hour samples collected continuously and every-sixth day, respectively. TCEQ Region 7 monitoring site information is presented in Table 1, along with hyperlinks to detailed information regarding the monitoring sites and their maps. List 1 and 2, which can be found in Attachment A, provide the target analytes for the monitoring sites. The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. All data collected met data completeness objective of 75 percent data return, except for propylene at Odessa Westmark Street, acetylene at

Midland Avalon Drive, and 1,2,3-trimethylbenzene, 1,2,4-trimethylbenzene, 1,3,5-trimethylbenzene, n-decane and acetylene at Goldsmith Street monitoring sites. Because short-term or peak concentrations are not necessarily captured by 24-hour samples, daily concentrations have limited use in evaluating the potential for acute health effects. Rather, 24-hour air samples collected every-sixth day for a year are intended to provide representative long-term average concentrations. Therefore, 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 measured chemical concentrations to long-term AMCVs. One-hour autoGC VOC samples were compared to TCEQ’s short-term AMCVs, while H<sub>2</sub>S samples were compared to the 30-minute state regulatory standard for H<sub>2</sub>S (i.e., 80 parts per billion (ppb)). To enable evaluation of 24-hour monitoring data more fully, TCEQ has also developed 24-hour acute 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; carbon tetrachloride; ethylene dibromide; ethylene dichloride; and n-hexane. More information about AMCVs is available online at: <https://www.tceq.texas.gov/toxicology/amcv/about>.

**Table 1. Monitoring Sites Located in TCEQ Region 7**

Site Name and Location	County	EPA Site ID	Monitored Compounds
<a href="#">Odessa-Hays Elementary School</a> Barrett and Monahans Streets	Ector	48-135-0003	VOCs (24-hour canister)
<a href="#">Odessa Westmark Street</a> 11695 West Westmark Street	Ector	48-135-1092	VOCs (autoGC), H <sub>2</sub> S
<a href="#">Goldsmith Street</a> <sup>a</sup> 520 North Goldsmith Street	Ector	48-135-1093	VOCs (autoGC), H <sub>2</sub> S
<a href="#">Midland Avalon Drive</a> 5510-U Avalon Drive	Midland	48-329-1095	VOCs (autoGC), H <sub>2</sub> S

<sup>a</sup> There are two autoGCs at this site

## Evaluation

### VOCs

All the measured 24-hour concentrations of the 84 monitored VOCs evaluated at the Odessa-Hays Elementary School site and all the measured 1-hour concentrations of the 46 VOCs evaluated at the Odessa Westmark Street, Goldsmith Street, and Midland Avalon Drive sites were below their respective short-term AMCVs and would not be expected to cause short-term adverse health or welfare effects. All the reported annual average concentrations of the 84 monitored VOCs evaluated at the Odessa-Hays Elementary School site and of the 46 VOCs evaluated at the Odessa Westmark Street, Goldsmith Street, and Midland Avalon Drive sites were below their respective long-term AMCVs and would not be expected to cause long-term adverse health or welfare effects.

### H<sub>2</sub>S

Of the 30-minute H<sub>2</sub>S samples collected at the Odessa Westmark Street, Goldsmith Street, and Midland Avalon Drive monitoring sites, 42, 326, and 13 individual samples collected at Odessa Westmark Street, Goldsmith Street, and Midland Avalon Drive monitoring sites, respectively, exceeded the numerical value of the 30-minute H<sub>2</sub>S state regulatory standard of 80 ppb. The highest reported 30-minute concentration was 178.6 ppb at Odessa Westmark Street, 328.8 ppb at Goldsmith Street, and 93.2 ppb at Midland Avalon Drive monitoring sites. Because the odor range for H<sub>2</sub>S is 0.5-300 ppb, these measured levels of H<sub>2</sub>S could result in the perception of odors if exposure were to occur. Overall, the exceedances of the state regulatory standard are much lower than concentrations that are known to produce adverse health effects; the lowest concentration that has shown H<sub>2</sub>S-specific health effects in people (i.e., mild respiratory effects in 2 out of 10 asthmatic individuals exposed for 30 minutes) is 2,000 ppb. Adverse health effects would not be expected due to exposure to these concentrations. However, the TD encourages H<sub>2</sub>S reductions in the area, if possible.

If you have any questions about this evaluation, please contact Nnamdi Nnoli at [nnamdi.nnoli@tceq.texas.gov](mailto:nnamdi.nnoli@tceq.texas.gov) or (512) 239-1785.

## Attachment A

### List 1 Target VOC Analytes in Canister Samples

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

**List 2 Target VOC Analytes in AutoGC**

1-Butene	Benzene	n-Decane
1-Pentene	c-2-Butene	n-Heptane
1,2,3-Trimethylbenzene	c-2-Pentene	n-Hexane
1,2,4-Trimethylbenzene	Cyclohexane	n-Nonane
1,3-Butadiene	Cyclopentane	n-Octane
1,3,5-Trimethylbenzene	Ethane	n-Pentane
2-Methylheptane	Ethyl Benzene	n-Propyl benzene
2-Methylhexane	Ethylene	o-Xylene
2,2-Dimethylbutane	Isobutane	p-Xylene + m-Xylene
2,2,4-Trimethylpentane	Isopentane	Propane
2,3-Dimethylpentane	Isoprene	Propylene
2,3,4-Trimethylpentane	Isopropyl Benzene - Cumene	Styrene
2,4-Dimethylpentane	Methylcyclohexane	t-2-Butene
3-Methylheptane	Methyl cyclopentane	t-2-Pentene
3-Methylhexane	n-Butane	Toluene
Acetylene		