

TCEQ Interoffice Memorandum

To: Lorinda Gardner, Regional Director
David Ramirez, Border and Permian Basin Area Director
Tara Capobianco, Air Permits Division APWL Coordinator

From: Tracie Phillips, Ph.D. *TP*
Toxicology Division, Office of the Executive Director

Date: July 11, 2013

Subject: Health Effects Review of 2012 Ambient Air Network Monitoring Data in Region 7, Midland

Conclusions

- Exposure to monitored levels of the 47 reported volatile organic compounds (VOCs) for Region 7 – Midland would not be expected to cause acute or chronic adverse health effects, vegetation effects, or odor conditions.

Background

This memorandum conveys the Toxicology Division's (TD's) evaluation of ambient air sampling conducted at the network monitoring site in Region 7 – Midland during 2012. The TD evaluated summary results for VOCs collected at Odessa-Hays monitoring site, which is an hourly automated gas chromatograph (autoGC) site. TCEQ Region 7 monitoring site information is presented in Table 1 along with a hyperlink to the monitoring site map and detailed information. List 1, in Attachment A, gives the target analytes for the monitoring site.

Table 1. Monitoring Sites Located in TCEQ Region 7

City and Site Location	County	Monitor ID	Monitored Compounds
Odessa-Hays , Barrett and Monahans Streets	Ector	48-135-0003	VOCs (hourly autoGC)

The TCEQ Monitoring Division reported the data for all chemicals evaluated in this memorandum. Of the 47 VOCs sampled for the monitoring site, all but three met the data completeness objective of 75 percent data return, or at least 6,570 valid samples per year. The three that did not were 2-methylheptane, 2-methylpentane, and 2,4-dimethylpentane. Therefore, annual average data for 2-methylheptane, 2-methylpentane, and 2,4-dimethylpentane were not evaluated. The available data for the 44 VOCs at the Odessa-Hays site are expected to provide representative annual average VOC concentrations. Hourly concentrations for 47 of the reported

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VOCs and annual average concentrations for 44 of the reported VOCs were compared to their respective short-term and long-term Air Monitoring Comparison Values (AMCVs). More information about AMCVs is available online at:

<http://www.tceq.state.tx.us/implementation/tox/AirToxics.html#amcv>.

Evaluation

Short-Term Data

All of the measured hourly concentrations of each of the reported 47 VOCs evaluated were well below their respective short-term AMCVs. Therefore, adverse health effects would not be expected to occur as a result of short-term exposure to the reported levels of these chemicals at the Odessa-Hays monitoring site.

Long-Term Data

All of the 2012 annual average concentrations of the reported 44 VOCs evaluated were well below their respective long-term AMCVs. Therefore, adverse health effects would not be expected to occur as a result of long-term exposure to the reported levels of these chemicals.

If you have any questions about this evaluation, please contact me at (512) 239-2269 or tracie.phillips@tceq.texas.gov.

Attachment A

List 1. Target VOC Analytes for AutoGC Samples

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