VOC Canister Analysis:

Description of Method:

For this study the method of sampling the ambient air for VOCs involves the collection of a gas sample in an evacuated Summa Canister that is then sent to a laboratory for analysis using Gas Chromatography/Mass Spectroscopy (GC/MS). This method of sampling for VOCs is the standard method outlined by the EPA in its document "EPA Method TO-15 Determination Of Volatile Organic Compounds (VOCs) In Air Collected In Specially-Prepared Canisters And Analyzed By Gas Chromatography/ Mass Spectrometry (GC/MS)". The VOC sample will be collected using a summa canister supplied by Air Toxics Ltd. Upon completion of the sample collection the canister will be sent to Air Toxics Limited for analysis. Both the sampler and analytical laboratory are used by the regulatory agencies for the environmental sampling.

Hardware:

Sampler - Summa Canister

Analytic Laboratory – Air Toxics Ltd.

Sample Compounds

Chemical	Det Limit ppb	Chemical	Det Limit ppb
1,1,1-Trichloroethane	0.5	Chlorobenzene	0.5
1,1,2,2-Tetrachloroethane	0.5	Chloroethane	0.5
1,1,2-Trichloroethane	0.5	Chloroform	0.5
1,1-Dichloroethane	0.5	Chloromethane	2
1,1-Dichloroethene	0.5	cis-1,2-Dichloroethene	0.5
1,2,4-Trichlorobenzene	2	cis-1,3-Dichloropropene	0.5
1,2,4-Trimethylbenzene	0.5	Cumene	0.5
1,2-Dibromoethane	0.5	Cyclohexane	0.5
1,2-Dichlorobenzene	0.5	Dibromochloromethane	0.5
1,2-Dichloroethane	0.5	Ethanol	2
1,2-Dichloropropane	0.5	Ethyl Benzene	0.5
1,3,5-Trimethylbenzene	0.5	Freon 11	0.5
1,3-Butadiene	0.5	Freon 113	0.5
1,3-Dichlorobenzene	0.5	Freon 114	0.5
1,4-Dichlorobenzene	0.5	Freon 12	0.5
1,4-Dioxane	2	Heptane	0.5
2,2,4-Trimethylpentane	0.5	Hexachlorobutadiene	2
2-Butanone (MEK)	0.5	Hexane	0.5
2-Hexanone	2	m,p-Xylene	0.5
2-Propanol	2	Methyl tert-butyl ether	0.5
3-Chloropropene	2	Methylene Chloride	0.5
4-Ethyltoluene	0.5	o-Xylene	0.5
4-Methyl-2-pentanone	0.5	Propylbenzene	0.5
Acetone	2	Styrene	0.5
alpha-Chlorotoluene	0.5	Tetrachloroethene	0.5
Benzene	0.5	Tetrahydrofuran	0.5
Bromodichloromethane	0.5	Toluene	0.5
Bromoform	0.5	trans-1,2-Dichloroethene	0.5
Bromomethane	0.5	trans-1,3-Dichloropropene	0.5
Carbon Disulfide	0.5	Trichloroethene	0.5
Carbon Tetrachloride	0.5	Vinyl Chloride	0.5

Sample Frequency:

To be determined

Sample Location: Neighborhood Monitoring Location

Quality Control / Quality Assurance:

- Standard Operating Procedure Manual for the Sampling Instrument.
- Sample will be transferred to analytic laboratory using chain-of-custody procedures outline by EPA.
- Sample will be analyzed using GC/MS using EPA Method TO-15
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Reference Documents:

Appendix A - Brochures from the supplier of the air sampler and the analytic laboratory

Appendix B - EPA's Method TO-15

Appendix C– Air Toxics, Ltd. Canister Analysis Guide