ARCO Recycling, 1705 Noble Road

Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)

January 31, 2017- June 28, 2017

24 Hour Residential Sampling Results

Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	3.32	BDL	7.13	19	13,000	MRLs (intermed.)
Acrolein*	0.31	BDL	0.87	3	0.04	MRLs (intermed.)
Benzene	0.27	0.12	1.06	26	6	MRLs (intermed.)
n-Butane	1.38	0.47	3.54	26	18,000	MAGLC
2-Butanone	0.31	BDL	0.70	5	200,000	AEGL-1
Carbon tetrachloride	0.06	BDL	0.12	7	30	MRLs (intermed.)
Chloromethane	0.70	0.55	0.98	26	200	MRLs (intermed.)
Dichlorodifluoromethane	0.58	0.47	0.78	26	24,000	MAGLC
Ethanol	4.17	BDL	10.50	25	1,800,000	MAGLC
n-Heptane	0.05	BDL	0.11	2	10,000	MAGLC
Hexane	0.19	BDL	0.36	21	1,190	MAGLC
2-Hexanone	0.05	BDL	0.12	1	120	MAGLC
Isopropyl alcohol	0.92	BDL	6.07	17	5,000	MAGLC
Methyl methacrylate	0.06	BDL	0.19	1	17,000	AEGL-1
Methylene chloride	0.14	BDL	0.56	23	300	MRLs (intermed.)
Naphthalene	0.11	BDL	0.25	1	240	MAGLC
n-Pentane	0.56	0.18	1.11	26	14,286	MAGLC
Propylene	0.56	0.28	1.30	26	11,905	MAGLC
Styrene	0.07	BDL	0.43	2	5,000	MRLs
Tetrachloroethylene	0.11	BDL	0.29	3	6	MRLs (intermed.)
Trichloroethene	0.05	BDL	0.11	1	0	MRLs (intermed.)
Toluene	0.32	0.10	0.60	26	2000	MRLs
Trichlorofluoromethane	0.23	0.17	0.30	26	24,000	MAGLC
1,1,2-Trichloro-1,2,2-	0.10	BDL	0.10	2	24,000	MAGLC
1,2,4-Trimethylbenzene	0.07	BDL	0.14	9	595	MAGLC
Vinyl acetate	0.13	BDL	0.31	3	10	MRLs (intermed.)
o-Xylene	0.06	BDL	0.21	2	600	MRLs (intermed.)
Total m&p-xylenes	0.13	BDL	0.28	7	600	MRLs (intermed.)

BDL= below detection limits

ATSDR Minimum Risk Level (MRLs)

AEGL-1 = Acute exposure guideline levels for mild effects

MAGLC= TLV/42

* Acrolein: Sample results for Acrolein are suspect. This compound can be created within the sample canister itself: U.S. EPA is refining the test method to correct for this problem.

** Average (½ method detection limit): The arithmetic mean (average) listed uses one-half of the method detection limit (1/2 MDL) as the numerical value for non-detected compounds when computing the average of multiple sampling events. This method is standard practice to estimate averages with non-detected values.

Method Detection limit: The method detection limit is the lowest measurement the collection / analysis procedure can accurately quantify as a true measurement of the ambient air concentration.

*** Count: Total detections out of 26 sampling events (other samples were below detection limits)

ARCO Recycling, 1705 Noble Road

Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)

January 31, 2017- June 28, 2017

24 Hour Upwind Sampling Results

Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	3.80	BDL	6.97	21	13,000	MRLs (intermed.)
Acrolein*	0.29	BDL	0.74	3	0.04	MRLs (intermed.)
Benzene	0.24	0.10	0.85	26	6	MRLs (intermed.)
n-Butane	1.36	0.31	3.98	26	18,000	MAGLC
2-Butanone	0.38	BDL	0.75	9	200,000	AEGL-1
Carbon tetrachloride	0.06	BDL	0.11	7	30	MRLs (intermed.)
Chloromethane	0.70	0.55	1.02	26	200	MRLs (intermed.)
Dichlorodifluoromethane	0.57	0.43	0.76	26	24,000	MAGLC
Ethanol	4.25	BDL	14.00	24	1,800,000	MAGLC
Ethyl Acetate	0.06	BDL	0.21	2	9,500	MAGLC
n-Heptane	0.06	BDL	0.14	4	10,000	MAGLC
Hexane	0.18	BDL	0.41	22	1,190	MAGLC
2-Hexanone	0.07	BDL	0.48	1	120	MAGLC
Isopropyl alcohol	1.28	BDL	5.85	19	5,000	MAGLC
Methyl methacrylate	0.06	BDL	0.23	1	17,000	AEGL-1
Methylene chloride	0.13	BDL	0.42	22	300	MRLs (intermed.)
n-Pentane	0.51	0.16	1.20	26	14,286	MAGLC
Propylene	0.69	0.28	1.45	25	11,905	MAGLC
Styrene	0.07	BDL	0.48	2	5,000	MRLs
Toluene	0.29	BDL	0.62	25	2000	MRLs
Tetrachloroethylene	0.06	BDL	0.28	2	6	MRLs (intermed.)
Trichlorofluoromethane	0.22	0.16	0.32	26	24,000	MAGLC
1,2,4-Trimethylbenzene	0.08	BDL	0.27	8	595	MAGLC
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.05	BDL	0.11	2	24000	MAGLC
Vinyl acetate	0.16	BDL	0.52	7	10	MRLs (intermed.)
o-Xylene	0.06	BDL	0.17	4	600	MRLs (intermed.)
Total m&p-xylenes	0.13	BDL	0.27	5	600	MRLs (intermed.)

BDL= below detection limits

ATSDR Minimum Risk Level (MRLs)

AEGL-1 = Acute exposure guideline levels for mild effects

ERPG-Emergency Response Planning Guidelines.The first tier (e.g., ERPG-1) is a temporary, non-disabling effects threshold

MAGLC= TLV/42

* Acrolein: Sample results for Acrolein are suspect. This compound can be created within the sample canister itself: U.S. EPA is refining the test method to correct for this problem.

** Average (½ method detection limit): The arithmetic mean (average) listed uses one-half of the method detection limit (1/2 MDL) as the numerical value for non-detected compounds when computing the average of multiple sampling events. This method is standard practice to estimate averages with non-detected values.

Method Detection limit: The method detection limit is the lowest measurement the collection / analysis procedure can accurately quantify as a true measurement of the ambient air concentration.

*** Count: Total detections out of 26 sampling events (other samples were below detection limits)

ARCO Recycling, 1705 Noble Road

Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)

January 31, 2017- June 28, 2017

24 Hour Downwind Sampling Results

Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	4.46	BDL	13.50	23	13,000	MRLs (intermed.)
Acrolein*	0.48	BDL	3.06	6	0.04	MRLs (intermed.)
Benzene	0.31	BDL	1.95	25	6	MRLs (intermed.)
1,3-Butadiene	0.06	BDL	0.16	1	10,000	ERPG-1
n-Butane	0.96	BDL	2.97	23	18,000	MAGLC
2-Butanone	0.39	BDL	1.61	9	200,000	AEGL-1
Carbon disulfide	0.26	BDL	1.03	1	1,000	ERPG-1
Carbon tetrachloride	0.08	BDL	0.14	9	30	MRLs (intermed.)
Chloromethane	0.82	0.43	2.34	27	200	MRLs (intermed.)
Cyclohexane	0.05	BDL	0.12	1	2,400	MAGLC
Dichlorodifluoromethane	0.75	0.47	2.76	27	24,000	MAGLC
Ethanol	3.72	BDL	11.90	20	1,800,000	MAGLC
Ethyl acetate	0.07	BDL	0.21	4	9,500	MAGLC
Ethylbenzene	0.06	BDL	0.10	2	2,000	MRLs
n-Heptane	0.07	BDL	0.16	5	10,000	MAGLC
Hexane	0.16	BDL	0.34	20	1,190	MAGLC
2-Hexanone	0.05	BDL	0.12	1	120	MAGLC
Isopropyl alcohol	1.33	BDL	7.12	17	5,000	MAGLC
Methylene chloride	0.12	BDL	0.21	21	300	MRLs (intermed.)
Methyl methacrylate	0.06	BDL	0.19	2	1,190	MAGLC
Naphthalene	0.14	BDL	0.93	3	240	MAGLC
n-Pentane	0.44	BDL	0.87	25	14,286	MAGLC
Propylene	0.50	BDL	1.21	24	11,905	MAGLC
Styrene	0.07	BDL	0.41	4	5,000	MRLs
Tetrahydrofuran	0.25	BDL	2.82	5	1190	MAGLC
Tetrachloroethylene	0.09	BDL	0.92	2	6	MRLs (intermed.)
Toluene	0.28	BDL	0.94	22	2000	MRLs
Trichloroethene	0.06	BDL	0.12	1	0.4	MRLs (intermed.)
Trichlorofluoromethane	0.35	0.17	1.52	27	24,000	MAGLC
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.08	BDL	0.55	4	24,000	MAGLC
1,2,4-Trimethylbenzene	0.09	BDL	0.21	10	595	MAGLC
Vinyl acetate	0.17	BDL	0.85	7	10	MRLs (intermed.)
o-Xylene	0.11	BDL	0.24	3	600	MRLs (intermed.)
Total m&p-xylenes	0.13	BDL	0.24	6	600	MRLs (intermed.)

BDL= below detection limits

ATSDR Minimum Risk Level (MRLs)

ERPG-Emergency Response Planning Guidelines.The first tier (e.g., ERPG-1) is a temporary, non-disabling effects threshold

AEGL-1 = Acute exposure guideline levels for mild effects

MAGLC= TLV/42

* Acrolein: Sample results for Acrolein are suspect. This compound can be created within the sample canister itself: U.S. EPA is refining the test method to correct for this problem.

** Average (½ method detection limit): The arithmetic mean (average) listed uses one-half of the method detection limit (1/2 MDL) as the numerical value for non-detected compounds when computing the average of multiple sampling events. This method is standard practice to estimate averages with non-detected values.

Method Detection limit: The method detection limit is the lowest measurement the collection / analysis procedure can accurately quantify as a true measurement of the ambient air concentration.

*** Count: Total detections out of 27 sampling events (other samples were below detection limits)

ARCO Recycling, 1705 Noble Road																							
Ambient Air Sampling Results-Reduced Sulfur Compounds																							
		January 25, 2017-June 23, 2017																					
		24 Hour Downwind Sampling Results																					
Client Sample ID:		**EPA 028473/SN 20101**	**EPA 027118/SN 11491**	**EPA 027747/SN 11496**	**EPA 028472/SN 20100 Canister**	**EPA 028472/SN 20100 Canister**	**EPA 027735/SN 11515**	**EPA 027126/SN 11493**	**EPA027743/SN11518**	**EPA 028203/SN 11500**	**EPA 028202/SN 11490**	**EPA028372/SN20893**	**EPA027115/SN11523**	**EPA 027733/SN11514**	**EPA 027743/SN11518**	**EPA 027123/SN11527**	**EPA 028381/SN20916**	**EPA 028378/SN20912**	**EPA 028469/SN20085**	**EPA 027121/SN11407**		
DAT Sample ID:		0117038-1	217004	217012	217022	217022	217030	217032	0317007-1	317014	0317050-1	0417013-1	0417048-1	0517015-1	0517036-1	0517049-1	0617003-1	0617014-1	0617019-1	0617027-1		
Date Analyzed:		01/25/17-01//26/2017	01/31/2017-02/01/2017	02/07/2017-02/08/2017	02/14/2017-02/15/2017	02/14/2017-02/15/2017	02/22/2017-02/23/2017	2/23/2017	03/02/2017-03/03/2017	03/08/2017-03/09/2017	03/29/2017-03/30/2017	04/10/2017-04/11/2017	5/5/2017-5/6/17	5/8/2017-5/9/17	5/18/2017-5/19/2017	5/25/2017-5/26/2017	5/31/17-6/01/17	6/07/17-6/08/17	6/12/2017-6/13/2017	6/22/2017-6/23/2017		
		24hr.	24hr.	24hr.	24hr.	Duplicate Lab analysis, 24hr.	24hr.	grab	24hr.	24hr.	24hr.	24hr.	24hr.	24hr.	24hr	24hr	24hr	24hr	24hr	24hr	**Short-term Screening Values**	**Source**
Analyte:	**CAS #**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	**ppb**	
Hydrogen sulfide	773-06-4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	70	**MRLs**
Carbonyl sulfide	463-58-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	23,000	AEGL 2
Methyl mercaptan	74-93-6	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ERPG-1
Ethyl mercaptan	75-08-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	AEGL 2
Dimethyl sulfide	75-17-3	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	500	ERPG-1
Carbon disulfide	75-15-0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	ERPG-1
tert-Butyl mercaptan	75-66-1	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value	
n-Propyl mercaptan	107-03-9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value	
n-Butyl mercaptan	109-79-5	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	No Value	
Dimethyl disulfide	75-18-3	ND	ND	ND	0.2	0.187	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	10	ERPG-1
ATSDR Minimum Risk Level(MRLs)																						
ERPG-1-Emergency Response Planning Guidelines.The first tier (e.g., ERPG-1) is a temporary, non-disabling effects threshold																						
AEGL-2 = Acute exposure guideline levels for irreversible or other serious, long-lasting adverse health effects or an impaired ability to escape.																						