


ARCO Recycling, 1705 Noble Road						
Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)						
January 31, 2017- August 24, 2017						
24 Hour Residential Sampling Results						
Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	4.00	BDL	8.36	33	13,000	MRLs (intermed.)
Acrolein*	0.31	BDL	0.87	5	0.04	MRLs (intermed.)
Benzene	0.26	0.12	1.06	40	6	MRLs (intermed.)
n-Butane	1.34	0.47	3.54	39	18,000	MAGLC
2-Butanone	0.35	BDL	0.87	11	200,000	AEGL-1
Carbon tetrachloride	0.06	BDL	0.12	10	30	MRLs (intermed.)
Chloromethane	0.68	0.44	0.98	40	200	MRLs (intermed.)
Cyclohexane	0.05	BDL	0.12	1	2,400	MAGLC
Dichlorodifluoromethane	0.56	0.38	0.78	39	24,000	MAGLC
Ethanol	4.88	BDL	15.80	39	1,800,000	MAGLC
Ethyl Acetate	0.06	BDL	0.24	3	9,500	MAGLC
Ethyl Benzene	0.06	BDL	0.18	4	5,000	MRLs (intermed.)
n-Heptane	0.07	BDL	0.24	8	10,000	MAGLC
Hexane	0.23	BDL	0.74	35	1,190	MAGLC
2-Hexanone	0.05	BDL	0.12	1	120	MAGLC
Isopropyl alcohol	0.96	BDL	6.07	30	5,000	MAGLC
Methyl methacrylate	0.06	BDL	0.27	2	17,000	AEGL-1
4-Methyl-2-pentanone	0.06	BDL	0.18	2	476	MAGLC
Methylene chloride	0.12	BDL	0.56	28	300	MRLs (intermed.)
Naphthalene	0.11	BDL	0.25	2	240	MAGLC
n-Pentane	0.70	0.18	2.63	40	14,286	MAGLC
Propylene	0.58	0.28	1.30	40	11,905	MAGLC
Styrene	0.07	BDL	0.43	3	5,000	MRLs
Tetrachloroethylene	0.11	BDL	0.29	3	6	MRLs (intermed.)
Trichloroethene	0.05	BDL	0.11	1	0.4	MRLs (intermed.)
Toluene	0.40	0.10	1.24	40	2000	MRLs
Trichlorofluoromethane	0.23	0.16	0.42	40	24,000	MAGLC
1,1,2-Trichloro-1,2,2-	0.10	BDL	0.10	2	24,000	MAGLC
1,2,4-Trimethylbenzene	0.08	BDL	0.28	16	595	MAGLC
2,2,4-Trimethylpentane	0.11	BDL	0.22	2	7,143	MAGLC
Vinyl acetate	0.14	BDL	0.58	7	10	MRLs (intermed.)
o-Xylene	0.07	BDL	0.23	8	600	MRLs (intermed.)
Total m&p-xylenes	0.16	BDL	0.56	15	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 37 sampling events (other samples were below detection limits)



ARCO Recycling, 1705 Noble Road						
Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)						
January 31, 2017- August 24, 2017						
24 Hour Upwind Sampling Results						
Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	4.53	BDL	10.80	35	13,000	MRLs (intermed.)
Acrolein*	0.32	BDL	0.74	7	0.04	MRLs (intermed.)
Benzene	0.24	0.10	0.85	40	6	MRLs (intermed.)
1,3-Butadiene	0.05	BDL	0.20	1	10000	ERPG-1
n-Butane	1.33	0.31	3.98	30	18,000	MAGLC
2-Butanone	0.38	BDL	1.06	12	200,000	AEGL-1
Carbon tetrachloride	0.06	BDL	0.11	9	30	MRLs (intermed.)
Chloromethane	0.68	0.47	1.02	40	200	MRLs (intermed.)
Cyclohexane	0.05	BDL	0.12	1	2,400	MAGLC
Dichlorodifluoromethane	0.56	0.41	0.76	40	24,000	MAGLC
Ethanol	4.70	BDL	14.70	38	1,800,000	MAGLC
Ethyl acetate	0.06	BDL	0.21	3	9,500	MAGLC
Ethylbenzene	0.05	BDL	0.15	2	2,000	MRLs (intermed.)
n-Heptane	0.06	BDL	0.15	7	10,000	MAGLC
Hexane	0.20	BDL	0.58	36	1,190	MAGLC
2-Hexanone	0.06	BDL	0.48	1	120	MAGLC
Isopropyl alcohol	1.35	BDL	7.49	29	5,000	MAGLC
Methyl methacrylate	0.07	BDL	0.46	2	17,000	AEGL-1
Methylene chloride	0.11	BDL	0.42	29	300	MRLs (intermed.)
4-Methyl-2-pentanone	0.05	BDL	0.15	1	476	MAGLC
Naphthalene	0.11	BDL	0.37	3	240	MAGLC
n-Pentane	0.59	0.16	1.98	40	14,286	MAGLC
Propylene	0.75	0.28	2.48	39	11,905	MAGLC
Styrene	0.08	BDL	0.60	4	5,000	MRLs
Toluene	0.37	BDL	1.42	39	2000	MRLs
Tetrachloroethylene	0.06	BDL	0.28	2	6	MRLs (intermed.)
Trichlorofluoromethane	0.23	0.16	0.42	40	24,000	MAGLC
1,2,4-Trimethylbenzene	0.09	BDL	0.29	16	595	MAGLC
2,2,4-Trimethylpentane	0.10	BDL	0.21	1	7,143	MAGLC
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.05	BDL	0.11	2	24000	MAGLC
Vinyl acetate	0.17	BDL	0.70	11	10	MRLs (intermed.)
o-Xylene	0.06	BDL	0.20	6	600	MRLs (intermed.)
Total m&p-xylenes	0.14	BDL	0.47	9	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 37 sampling events (other samples were below detection limits)						

ARCO Recycling, 1705 Noble Road						
Ambient Air Sampling Results-Volatile Organic Compounds(VOCs)						
January 31, 2017- August 24, 2017						
24 Hour Downwind Sampling Results						
Compound list	Average (1/2mdl)**	Minimum	Maximum	Count***	Short-term Screening Values	Source
	ppb	ppb	ppb		ppb	
Acetone	4.95	BDL	13.50	37	13,000	MRLs (intermed.)
Acrolein*	0.41	BDL	3.06	8	0.04	MRLs (intermed.)
Benzene	0.29	BDL	1.95	39	6	MRLs (intermed.)
1,3-Butadiene	0.06	BDL	0.16	1	10,000	ERPG-1
n-Butane	0.98	BDL	2.97	36	18,000	MAGLC
2-Butanone	0.41	BDL	1.61	17	200,000	AEGL-1
Carbon disulfide	0.25	BDL	1.03	1	1,000	ERPG-1
Carbon tetrachloride	0.08	BDL	0.25	10	30	MRLs (intermed.)
Chloromethane	0.76	0.43	2.34	40	200	MRLs (intermed.)
Cyclohexane	0.05	BDL	0.12	1	2,400	MAGLC
Dichlorodifluoromethane	0.73	0.38	2.76	41	24,000	MAGLC
Ethanol	4.08	BDL	11.90	33	1,800,000	MAGLC
Ethyl acetate	0.07	BDL	0.21	6	9,500	MAGLC
Ethylbenzene	0.10	BDL	1.84	4	2,000	MRLs
n-Heptane	0.07	BDL	0.16	6	10,000	MAGLC
Hexane	0.18	BDL	0.56	34	1,190	MAGLC
2-Hexanone	0.05	BDL	0.12	1	120	MAGLC
Isopropyl alcohol	1.19	BDL	7.12	26	5,000	MAGLC
Methylene chloride	0.11	BDL	0.21	28	300	MRLs (intermed.)
Methyl methacrylate	0.06	BDL	0.26	3	1,190	MAGLC
4-Methyl-2-pentanone	0.06	BDL	0.12	3	476	MAGLC
Naphthalene	0.13	BDL	0.93	3	240	MAGLC
n-Pentane	0.52	BDL	1.81	38	14,286	MAGLC
Propylene	0.52	BDL	1.21	37	11,905	MAGLC
Styrene	0.08	BDL	0.41	5	5,000	MRLs
Tetrahydrofuran	0.20	BDL	2.82	5	1190	MAGLC
Tetrachloroethylene	0.08	BDL	0.92	2	6	MRLs (intermed.)
Toluene	0.47	BDL	6.10	36	2000	MRLs
Trichloroethene	0.06	BDL	0.12	1	0.4	MRLs (intermed.)
Trichlorofluoromethane	0.35	0.15	1.52	41	24,000	MAGLC
1,1,2-Trichloro-1,2,2-Trifluoroethane	0.07	BDL	0.55	4	24,000	MAGLC
1,3,5-Trimethylbenzene	0.22	BDL	5.22	1	595	MAGLC
1,2,4-Trimethylbenzene	0.24	BDL	6.25	17	595	MAGLC
2,2,4-Trimethylpentane	0.11	BDL	0.21	3	7,143	MAGLC
Vinyl acetate	0.17	BDL	0.85	12	10	MRLs (intermed.)
o-Xylene	0.11	BDL	0.24	5	600	MRLs (intermed.)
Total m&p-xylenes	0.29	BDL	6.28	12	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						
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ARCO Recycling, 1705 Noble Road																						Ohio Environmental Protection Agency	
Ambient Air Sampling Results-Reduced Sulfur Compounds																							
January 31, 2017- August 14, 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 028203/SN 11500	EPA 028202/SN 11490	EPA028372/SN20893	EPA 027733/SN11514	EPA 027743/SN11 518	EPA 028378/SN2 0912	EPA 028469/SN20 085	EPA 027121/SN 11407	EPA027731/SN11492	EPA 011518	EPA 027116	EPA 028377	EPA 28205	EPA 027733	EPA 028374	Short-term Screening Values	Source
DAT Sample ID:	0117038-1	217004	217012	217022	217022	217030	317014	0317050-1	0417013-1	0517015-1	0517036-1	0617014-1	0617019-1	0617027-1	0717001-1	0717025-1	"	7/25/2017-	0817003-01	0817012-1	0817018-1		
Date Analyzed:	1/12/2017-27/2017	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	03/08/2017-03/09/2017	03/29/2017-03/30/2017	04/10/2017-04/11/2017	5/8/2017-5/9/17	5/18/2017-5/19/2017	6/07/17-6/08/17	6/12/2017-6/13/2017	6/22/2017-6/23/2017	7/03/2017-7/04/2017	7/17/2017-7/18/2017	7/20/2017-7/21/2017	7/25/2017-7/26/2017	8/01/2017-8/09/2017	8/08/2017-8/09/2017	8/14/2017-8/15/2017		
		ppb	ppb	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	ND	70	
Carbonyl sulfide	463-58-1	ND	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	ND	7,300	AEGL 2
Ethyl mercaptan	75-08-1	ND	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	ND	500	
Carbon disulfide	75-15-0	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	1000	EPRG-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	ND		
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	ND		
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	ND		
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	ND	10	EPRG1