

Air Emissions Risk Assessment (AERA)

Project Name:	Agilent Polymers (Workbook issued to EA)
Author	REDACTED
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Date Reviewed	REDACTED

Sheets	
1. EAL	Dervied EAL (colour coded)
2. Emissions	Emissions data compiled from Aligent Stack monitoring reports
3. H1 Screen	AERA H1 Screening Calculations
4. Summary Tables	Summary of H1 screen results
4. Look Up Values	Look up values used in 'H1Screen'
6. Conversion Factors	Conversion factors used in 'H1 screen'

Substance	CAS	EC List No	Other Names	AER A	EH40	ECHA	Cal/OSH A	EPA IRIS	OSHA	Other Data source	Basis of EAL Derivation	Uncertainty factors applied	Total Uncertainty factor	Derived TCA / EAL (µg/m³) Assuming maximum Uncertainty Factor
Ethanol	64-17-5	200-578-6		NO	1,920 mg/m³ 8 hour TWA					EA H1 guidance 2003 LT EAL 19,200 µg/m³ ST EAL 576,000 µg/m³	OEL (8hr) = 1,920 mg/m³ Old EAL derivation method from EH40/2001 OEL			
Diethylbenzene	25340-17-4	246-874-9	1,2-diethylbenzene	NO	NO	Workforce - Long Term DNEL 21.2 mg/m³ NOAEC = 95.5 - 190mg/m³ LC50 for inhalation toxicity (7-hr) in rats is >2100 ppm (11520 mg/m³ highest technically feasible dose with a water bath at 100 degrees C) Repeat Exposure Toxicity -Inhalation (RAT) NOAEL = 190 mg/m³	NO	NO			NOAEL = 190 mg/m³	10 for inter-species variation 10 for inter-individual variation 1 length of study (NOAEL derived from chronic repeat exposure data) 1 use of NOAEL not LOAEL 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	100 - 1000	190
Ethylene diamine	107-15-3	203-468-6	1,2-Diamino ethane-Ethane-1,2-diamine	NO	NO	Public - Long Term DNEL 6.25 mg/m³ Workforce - Long Term DNEL 25 mg/m³ Acute Toxicity - Inhalation 4h LC50 14.7 mg/l Repeat Exposure Toxicity - Inhalation (Rat) NOAEC = 132 ppm (327 mg/m³)	NO	not evaluated			NOAEL = 327 mg/m³	10 for inter-species variation 10 for inter-individual variation 1 length of study (NOAEL derived from chronic repeat exposure data) 1 use of NOAEL not LOAEL 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	100 - 1000	327
Heptane	142-82-5	205-563-8	Dipropyl methane, n-heptane	NO	2085 mg/m³ 8-hr TWA	Public - Long Term DNEL 447 mg/m³ Workforce - Long Term DNEL 2,085 mg/m³ Acute Toxicity - Inhalation - Not Classified Repeat Exposure Toxicity -Inhalation - Not Classified 4h LC50 (Rat) >29,290 mg/m³ up to 73,500 mg/m³ 2085 mg/m³ STEL	1600mg/m³ PEL 2000mg/m³ STEL	not evaluated			OEL (8hr) = 2085 mg/m³	4.2 for continuous exposure 10 for inter-individual variation 1 as OEL aligns with DNEL which already has an assessment factor applied in its derivation. 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	42- 420	4960
Iso-Amyl Alcohol / 3-Methyl-1-butanol	123-51-3	204-633-5	-	NO	366 mg/m³ 8hr TWA WEL 458 mg/m³ 15 minute STEL	EU Occupational LTEL = 18.0 mg/m³ EU Occupational STEL = 37.0 mg/m³ Workforce - Long Term Exposure - Inhalation - DNEL 73.16mg/m³ Workforce - Acute / Short term - Inhalation - DNEL 292 mg/m³ Public - Long Term Exposure - Inhalation - DNEL 13 mg/m³ Public - Acute / Short term - Inhalation - DNEL 218 mg/m³ Repeat Exposure Toxicity - NOAEL = 2.16 mg/l	NO	NO			OEL (8hr) = 366 mg/m³	4.2 for continuous exposure 10 for inter-individual variation 5 as OEL aligns with LOAEL 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	210 - 2100	174
Vinylbenzene chloride	30030-25-2	250-005-9	(chloromethyl)styrene, (chloromethyl)vinylbenzene	NO	NO	Acute Toxicity - Inhalation (Rat) 6.75h LC50 3.66 mg/l Repeat Exposure Toxicity - Inhalation (Rat) LOAEC = 1 ppm (6.24mg/m³)	As styrene 215 mg/m³ PEL 425 mg/m³ STEL	NO			LOAEC = 6.24 mg/m³	10 for inter-species variation 10 for inter-individual variation 1 length of study (LOAEL derived from chronic repeat exposure data) 5 use of LOAEL 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	500 - 5000	1.24
Divinylbenzene	1321-74-0	215-325-5	1,2-diethenylbenzene, 1,2-divinylbenzene	NO	NO	Public - Long Term DNEL 21.4 mg/m³ NOAEC = 535.7 - 3000 mg/m³ Workforce - Long Term DNEL 120.6 mg/m³ NOAEC = 1510 - 3000 mg/m³ LC50 for inhalation toxicity (7-hr) in rats is >351,000 mg/m³ Repeat Exposure Toxicity -Inhalation (RAT) NOAEL = 3000 mg/m³	NO	NO			NOAEL = 3000 mg/m³	10 for inter-species variation 10 for inter-individual variation 1 length of study (NOAEL derived from chronic repeat exposure data) 1 use of NOAEL not LOAEL 1 - 10 as appropriate - factor for severity of effect etc. 100% Relative source contribution - no other local sources	100 - 1000	3000

Stack	Summary Results	Avg Conc mgC/m³	Max Conc mgC/m³	Avg Mass g/h	Max Mass g/h
Unit 1 – Lab Extract (RHS)	Acetone	0.61	0.84	3.34	4.59
Unit 2 - Old R&D Lab	Acetone	1.66	3.70	8.33	18.60
Unit 3 - (Stack 4)	Acetone	8.90	14.66	54.83	90.34
Unit 3 – (Stack 2)	Acetone	13.74	26.92	115.97	227.13
Unit 3 - (Stack 3)	Acetone	20.75	51.55	126.61	314.55
Unit 3 - (Stack 5)	Acetone	5.77	6.43	34.81	38.82
Unit 3 - Analytical Lab LEV	Acetone	1.20	1.38	1.61	1.85
Unit 3 -Impingement Scrubber Exhaust	Acetone	13.87	331.24	25.02	597.72
Unit 3 – (Stack 1)	Acetone	8.60	16.96	110.53	217.91
Unit 1- Lab Extract (LHS) Column Production Lab LEV	Acetone (50%)	4.48	8.47	32.59	61.62
Unit 2 - New R&D Lab	Acetone (50%)	1.16	1.85	13.60	21.68
Unit 3 -Impingement Scrubber Exhaust	Diethylbenzene	0.32	0.90	0.58	1.63
Unit 3 - (Stack 4)	Diethylbenzene (assumed at 0.1%)	0.01	0.02	0.07	0.11
Unit 3 - (Stack 4)	Divinylbenzene	0.13	0.13	0.77	0.77
Unit 2 - Old R&D Lab	Divinylbenzene (5%)	0.10	0.23	0.52	1.16
Unit 2 - New R&D Lab	Divinylbenzene (50%)	1.16	1.85	13.60	21.68
Unit 3 – (Stack 1)	Ethanol	5.73	11.30	73.69	145.28
Unit 1 – Lab Extract (RHS)	Ethylbenzene	0.61	0.84	3.34	4.59
Unit 2 - Old R&D Lab	Ethylene Diamine assumed at 0.1%	0.00	0.00	0.01	0.02
Unit 1 – Lab Extract (RHS)	Heptane	0.61	0.84	3.34	4.59
Unit 3 - (Stack 4)	Isoamyl Alcohol	0.11	0.18	0.69	1.13
Unit 3 -Impingement Scrubber Exhaust	Iso-Amyl Alcohol	0.32	0.90	0.64	1.81
Unit 1 – Lab Extract (RHS)	Methanol	0.61	0.84	3.34	4.59
Unit 1- Lab Extract (LHS) Column Production Lab LEV	Methanol	4.48	8.47	32.59	61.62
Unit 3 - (Stack 4)	Methanol	2.11	3.48	13.02	21.46
Unit 3 – (Stack 2)	Methanol	13.74	26.92	115.97	227.13
Unit 3 - (Stack 5)	Methanol	5.19	5.79	31.33	34.93
Unit 3 - Analytical Lab LEV	Methanol	1.20	1.38	1.61	1.85
Unit 3 -Impingement Scrubber Exhaust	Methanol	12.24	250.61	22.08	452.23
Unit 2 - Old R&D Lab	Styrene	0.10	0.23	0.52	1.16
Unit 3 - (Stack 4)	Styrene	2.13	2.13	13.11	13.11
Unit 3 -Impingement Scrubber Exhaust	Tetrahydrofuran*	16.71	317.61	30.15	573.13
Unit 3 - (Stack 5)	THF assumed at 0.1%	0.01	0.01	0.07	0.08
Unit 3 - (Stack 5)	Toluene	0.58	0.64	3.48	3.88
Unit 2 - Old R&D Lab	Toluene assumed at 20%	0.41	0.92	2.08	4.65
Unit 2 - New R&D Lab	Toluene assumed at 50%	1.16	1.85	13.60	21.68
Unit 1 – Lab Extract (RHS)	Total VOC	2.44	3.36	13.35	18.36
Unit 1- Lab Extract (LHS) Column Production Lab LEV	Total VOC	8.96	16.93	65.18	123.23
Unit 2 - New R&D Lab	Total VOC	2.32	3.69	27.21	43.35
Unit 2 - Old R&D Lab	Total VOC	2.07	4.62	10.42	23.25
Unit 3 - (Stack 4)	Total VOC	11.12	18.33	68.53	112.93
Unit 3 – (Stack 1)	Total VOC	14.34	28.26	184.22	363.19
Unit 3 – (Stack 2)	Total VOC	27.49	53.84	231.93	454.25
Unit 3 - (Stack 3)	Total VOC	20.75	51.55	126.61	314.55
Unit 3 - (Stack 5)	Total VOC	11.53	12.86	69.63	77.63
Unit 3 - Analytical Lab LEV	Total VOC	2.40	2.76	3.22	3.70
Unit 3 -Impingement Scrubber Exhaust	Total VOC	41.89	331.24	785.00	1,627.00
Unit 3 - (Stack 4)	Total VOC (alternate processing)	2.50	2.50	15.42	15.42
Unit 3 - (Stack 4)	Vinylbenzene chloride	0.25	0.25	1.54	1.54

Summary Results						Screening of Long term (Annual Average) EAL									
		Avg Conc mgC/m ³	Max Conc mgC/m ³	Avg Mass g/s (as Carbon)	Max Mass g/s (as Carbon)	Effective Release Height m	Dispersion Factor (g/m ³ s)	Operative Time Factor	EAL	Emission Rate (g/s)	PC (g/m ³ s) g/s (as %age of EAL)	PC Frequency Factor / Time	PC (as %age of EAL) PC/hrs	PC Impacts VPS	
Acetone															
Unit 1 - Lab Extract (RHS)	Acetone	0.61	0.84	3.34	4.59	0	140	8760	1.0	10.100	0.24	0.44%	0.19%	YES	
Unit 1 - Lab Extract (LHS) Column Production Lab LEV	Acetone (50%)	4.48	6.47	32.99	61.62	0	140	8760	1.0	10.100	0.01509	-	2.46	0.01% YES	
Unit 2 - New RAD Lab	Acetone (50%)	1.16	1.85	13.60	21.68	0	140	8760	1.0	10.100	0.0009	-	0.20	0.00% YES	
Unit 2 - Old RAD Lab	Acetone	1.66	3.70	6.33	18.40	0	140	8760	1.0	10.100	0.00173	-	0.42	0.00% YES	
Unit 3 - (Stack 4)	Acetone	8.80	14.66	54.63	90.34	0	140	8760	1.0	10.100	0.02455	-	5.63	0.02% YES	
Unit 3 - (Stack 1)	Acetone	8.80	14.66	110.53	217.81	0	140	8760	1.0	10.100	0.05059	-	12.42	0.05% YES	
Unit 3 - (Stack 3)	Acetone	13.74	25.92	115.97	227.13	0	140	8760	1.0	10.100	0.01592	-	7.69	0.04% YES	
Unit 3 - (Stack 5)	Acetone	20.75	31.56	126.61	314.56	0	140	8760	1.0	10.100	0.05059	-	12.42	0.05% YES	
Unit 3 - Analytical Lab LEV	Acetone	5.77	8.43	34.81	38.92	0	140	8760	1.0	10.100	0.01509	-	2.41	0.01% YES	
Unit 3 - Impingement Scourer Exhaust	Acetone	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.11	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Acetone	13.87	331.24	25.52	597.72	0	140	8760	1.0	10.100	0.01509	-	1.86	0.01% YES	
Methanol															
Unit 1 - Lab Extract (RHS)	Methanol	0.61	0.84	3.34	4.59	0	140	8760	1.0	10.100	0.18	0.44%	0.91%	VPS	
Unit 1 - Lab Extract (LHS) Column Production Lab LEV	Methanol	4.48	6.47	32.99	61.62	0	140	8760	1.0	10.100	0.002	-	0.27	0.13% YES	
Unit 2 - New RAD Lab	Methanol	2.11	3.45	13.60	21.68	0	140	8760	1.0	10.100	0.00095	-	1.43	0.00% YES	
Unit 2 - (Stack 1)	Methanol	13.74	25.92	115.97	227.13	0	140	8760	1.0	10.100	0.009	-	11.72	0.04% YES	
Unit 2 - (Stack 2)	Methanol	5.19	8.79	31.33	34.93	0	140	8760	1.0	10.100	0.002	-	4.43	0.13% YES	
Unit 3 - Analytical Lab LEV	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	12.24	250.61	22.08	452.23	0	140	8760	1.0	10.100	0.002	-	2.42	0.02% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1.36	1.61	1.85	0	140	8760	1.0	10.100	0.0009	-	0.13	0.00% YES	
Unit 3 - Impingement Scourer Exhaust	Methanol	1.20	1												

Screening of Short Term (1 Hour) EAL													
Effective Release Height (m)	Dispersion Factor (g/m ³ s)	Operative Time Factor	EAL (mgC/m ³)	Emission Rate (g/s)	PC (g/m ³ s) (g/s (as % of EAL))	PC Frequency per Year	PC Impacts and PC/N						
Acetone													
0	3500	0760	1.0	364.000	0.71	2.54%	YES						
0	3500	0760	1.0	364.000	0.62	0.17%	YES						
0	3500	0760	1.0	364.000	0.9276	0.273	0.03%	YES					
0	3500	0760	1.0	364.000	0.6992	0.24	0.03%	YES					
0	3500	0760	1.0	364.000	0.5993	0.19	0.02%	YES					
0	3500	0760	1.0	364.000	0.5495	0.17	0.02%	YES					
0	3500	0760	1.0	364.000	0.5000	0.16	0.02%	YES					
0	3500	0760	1.0	364.000	0.4506	0.14	0.02%	YES					
0	3500	0760	1.0	364.000	0.4013	0.13	0.02%	YES					
0	3500	0760	1.0	364.000	0.3520	0.12	0.02%	YES					
0	3500	0760	1.0	364.000	0.3027	0.11	0.02%	YES					
0	3500	0760	1.0	364.000	0.2534	0.10	0.02%	YES					
0	3500	0760	1.0	364.000	0.2041	0.09	0.02%	YES					
0	3500	0760	1.0	364.000	0.1548	0.08	0.02%	YES					
0	3500	0760	1.0	364.000	0.1054	0.07	0.02%	YES					
0	3500	0760	1.0	364.000	0.0561	0.06	0.02%	YES					
0	3500	0760	1.0	364.000	0.0068	0.0022	0.0002%	YES					
Methanol													
0	3500	0760	1.0	33.300	0.68	0.253%	YES						
0	3500	0760	1.0	33.300	0.59	0.218%	YES						
0	3500	0760	1.0	33.300	0.4966	0.183%	YES						
0	3500	0760	1.0	33.300	0.3953	0.148%	YES						
0	3500	0760	1.0	33.300	0.2940	0.113%	YES						
0	3500	0760	1.0	33.300	0.1927	0.088%	YES						
0	3500	0760	1.0	33.300	0.0914	0.063%	YES						
0	3500	0760	1.0	33.300	0.0016	0.0005%	YES						
0	3500	0760	1.0	33.300	-	-	0.000%	YES					
Styrene													
0	3500	0760	1.0	800	0.004	0.22%	YES						
0	3500	0760	1.0	800	0.004	0.17%	YES						
0	3500	0760	1.0	800	0.005	0.23	0.02%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					
0	3500	0760	1.0	800	-	-	0.000%	YES					

Calculation of Long-Term Process Contribution (PC) & Predicted Impacts on Long Term EAL

Substance	Emission Rate (g/s)	Dispersion Factor ($\mu\text{g}/\text{m}^3/\text{s}$)	Calculated PC ($\mu\text{g}/\text{m}^3$)	EAL ($\mu\text{g}/\text{m}^3$)	PC as % of EAL	Insignificant (PC<1%)
Acetone	0.24	148	34.94	18,100	0.2%	YES
Methanol	0.16	148	24.12	2,660	1%	YES
Styrene	0.004	148	N/A	260	N/A	N/A
Tetrahydrofuran	0.01	148	1.86	3,000	0.06%	YES
Toluene	0.01	148	0.86	1,910	0.05%	YES
Ethanol	0.04	148	5.81	19,200	0.03%	YES
Diethylbenzene	0.0002	148	0.03	190	0.02%	YES
Ethylene diamine	0.00001	148	0.001	327	0.0003%	YES
Heptane	0.0011	148	0.08	4,960	0.003%	YES
Iso-Amyl Alcohol	0.0005	148	0.16	174	0.05%	YES
Vinylbenzene chloride	0.0006	148	N/A	5	N/A	N/A
Divinylbenzene	0.0045	148	N/A	3,000	N/A	N/A

Calculation of Short-Term Process Contribution (PC) & Predicted Impacts on Short Term EAL

Substance	Emission Rate (g/s)	Dispersion Factor ($\mu\text{g}/\text{m}^3/\text{s}$)	Calculated PC ($\mu\text{g}/\text{m}^3$)	EAL ($\mu\text{g}/\text{m}^3$)	PC as % of EAL	Insignificant (PC<1%)
Acetone	0.71	3900	2,784.80	362,000	0.77%	YES
Methanol	0.60	3900	2,322.86	33,300	6.98%	YES
Styrene	0.004	3900	16.76	800	2.09%	YES
Tetrahydrofuran	0.24	3900	932.03	59,900	1.56%	YES
Toluene	0.01	3900	35.86	8,000	0.45%	YES
Ethanol	0.08	3900	301.82	576,000	0.05%	YES
Diethylbenzene	0.0005	3900	2.11	190	1.11%	YES
Ethylene diamine	0.00002	3900	2.11	190	1.11%	YES
Heptane	0.0015	3900	5.93	4,960	0.12%	YES
Iso-Amyl Alcohol	0.0012	3900	4.67	174	2.69%	YES
Vinylbenzene chloride	0.001	3900	2.36	30	7.86%	YES
Divinylbenzene	0.01	3900	27.72	3,000	0.92%	YES

Substance	LT g/s	Tonne/s	Tonnes/year
Acetone	0.24	2.4E-07	7.44
Methanol	0.16	1.6E-07	5.14
Styrene Note: Styrene is a mono	0.00	4.1E-09	0.13
Tetrahydrofuran	0.01	1.3E-08	0.40
Toluene	0.01	5.8E-09	0.18
Ethanol	0.04	3.9E-08	1.24
Diethylbenzene	0.00	2.0E-10	0.01
Ethylene diamine	0.00	7.2E-12	0.00
Heptane	0.00	1.1E-09	0.03
Iso-Amyl Alcohol / 3-Methyl-1-butanol	0.00	5.4E-10	0.02
Vinylbenzene chlorideNote: Vinylbenzene	0.00	6.0E-10	0.02
DivinylbenzeneNote: divinylbenzene	0.00	4.5E-09	0.14