

Appendix A: Estimated Annual Emissions of all Substances from Commercial Sources

A.1 AGRICULTURAL MACHINERY MANUFACTURING**Table A-1: Annual emissions from agricultural machinery manufacturing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0323	0	0	0	0.0323
1,2,4-TRIMETHYLBENZENE	0.0173	0	0	0	0.0173
1,3,5-TRIMETHYLBENZENE	0.0243	0	0	0	0.0243
CUMENE (1-METHYLETHYLBENZENE)	0.0116	0	0	0	0.0116
ETHYLBENZENE	0.00136	0	0	0	0.00136
HEXADECANE	0.000069	0	0	0	0.000069
ISOMERS OF XYLENE	0.0208	0	0	0	0.0208
M-ETHYLTOLUENE	0.0276	0	0	0	0.0276
N-DODECANE	0.00189	0	0	0	0.00189
N-HEPTADECANE	0.000023	0	0	0	0.000023
N-PENTADECANE	0.000322	0	0	0	0.000322
N-PROPYLBENZENE	0.0141	0	0	0	0.0141
N-TETRADECANE	0.00092	0	0	0	0.00092
N-TRIDECANE	0.00127	0	0	0	0.00127
N-UNDECANE	0.000621	0	0	0	0.000621
O-ETHYLTOLUENE	0.0237	0	0	0	0.0237
P-ETHYLTOLUENE	0.0455	0	0	0	0.0455
TOLUENE	0.00637	0	0	0	0.00637
TOTAL VOLATILE ORGANIC COMPOUNDS	0.23	0	0	0	0.23

A.2 AIRCRAFT MANUFACTURING**Table A-2: Annual emissions from aircraft manufacturing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA	13.8	0	0	0	13.8
ARSENIC & COMPOUNDS	0.0056	0	0	0	0.0056
BENZENE	14	0	0	0	14
BERYLLIUM & COMPOUNDS	0.000333	0	0	0	0.000333
CADMIUM & COMPOUNDS	0.0315	0	0	0	0.0315
CARBON DIOXIDE	3430000	0	0	0	3430000
CARBON MONOXIDE	2350	0	0	0	2350
CHROMIUM (III) COMPOUNDS	0.0366	0	0	0	0.0366
CHROMIUM (VI) COMPOUNDS	0.00193	0	0	0	0.00193
COBALT & COMPOUNDS	0.00228	0	0	0	0.00228
COPPER & COMPOUNDS	0.0245	0	0	0	0.0245
CYCLOHEXANE	3.5	0	0	0	3.5
FORMALDEHYDE	28	0	0	0	28
ISOMERS OF HEXANE	3.5	0	0	0	3.5
ISOMERS OF PENTANE	31.5	0	0	0	31.5
LEAD & COMPOUNDS	0.014	0	0	0	0.014
MANGANESE & COMPOUNDS	0.0107	0	0	0	0.0107

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MERCURY & COMPOUNDS	0.00735	0	0	0	0.00735
METHANE	196	0	0	0	196
N-BUTANE	31.5	0	0	0	31.5
NICKEL & COMPOUNDS	0.0595	0	0	0	0.0595
NITRIC OXIDE	1740	0	0	0	1740
NITROGEN DIOXIDE	140	0	0	0	140
NITROUS OXIDE	6.49	0	0	0	6.49
N-PENTANE	21	0	0	0	21
OXIDES OF NITROGEN	2800	0	0	0	2800
PARTICULATE MATTER ≤ 10 µm	213	0	0	0	213
PARTICULATE MATTER ≤ 2.5 µm	213	0	0	0	213
POLYCHLORINATED DIOXINS AND FURANS	3.33x10 ⁻⁰⁸	0	0	0	3.33x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0193	0	0	0	0.0193
PROPANE	14	0	0	0	14
SELENIUM & COMPOUNDS	0.000665	0	0	0	0.000665
SULFUR DIOXIDE	14.6	0	0	0	14.6
TOLUENE	7	0	0	0	7
TOTAL SUSPENDED PARTICULATE	213	0	0	0	213
TOTAL VOLATILE ORGANIC COMPOUNDS	154	0	0	0	154
ZINC & COMPOUNDS	0.805	0	0	0	0.805

A.3 ALUMINIUM ROLLING, DRAWING, EXTRUDING

Table A-3: Annual emissions from aluminium rolling, drawing, extruding

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	0	1.2	1.2	0	2.4
PARTICULATE MATTER ≤ 10 µm	0	1.2	69.3	0	70.5
PARTICULATE MATTER ≤ 2.5 µm	0	1.2	69.3	0	70.5
TOTAL SUSPENDED PARTICULATE	0	1.2	69.3	0	70.5
ZINC & COMPOUNDS	0	0	68.1	0	68.1

A.4 AUTOMOTIVE COMPONENT MANUFACTURING N.E.C.

Table A-4: Annual emissions from automotive component manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.508	0	0	0	0.508
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0.984	0.984
1,4-BUTANEDIOL	579	0	0	0	579
1,4-DIETHYL-CYCLOHEXANE	0	0	0	3.12	3.12
2,4-DIMETHYLHEXANE	537	0	58.8	23.5	619

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,4-DIMETHYLPENTANE	127	0	13.9	5.55	146
2-METHYL-3-HEXANONE	280	0	30.6	12.3	323
ACETONE	783	0	10.4	4.15	798
AMMONIA (TOTAL)	1.83	0	0.0157	0	1.85
ANTIMONY & COMPOUNDS	0.0808	0	0	0	0.0808
ARSENIC & COMPOUNDS	0.0159	0	0.0000064	0	0.016
BENZALDEHYDE	0	0	0	0.822	0.822
BENZENE	1.24	0	0.016	0	1.25
BERYLLIUM & COMPOUNDS	0.0000294	0	0.00000038	0	0.0000298
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	483	0	52.9	21.2	557
C10 OLEFINS	0	0	0	7.76	7.76
C8 INTERNAL ALKENES	11.2	0	1.23	0.49	12.9
CADMIUM & COMPOUNDS	0.00635	0	0.000036	0	0.00638
CARBON DIOXIDE	303000	0	3920	0	307000
CARBON MONOXIDE	208	0	2.69	0	210
CHLOROFORM (TRICHLOROMETHANE)	0.381	0	0	0	0.381
CHROMIUM (III) COMPOUNDS	0.066	0	0.0000418	0	0.0661
CHROMIUM (VI) COMPOUNDS	0.00623	0	0.0000022	0	0.00623
COBALT & COMPOUNDS	0.0275	0	0.0000026	0	0.0275
COPPER & COMPOUNDS	0.178	0	0.000028	0	0.178
CYCLOHEXANE	39.1	0	4.25	1.7	45
DIBROMOETHANE	0	0	0	0.984	0.984
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.572	0	0	1.32	1.89
DIETHYLCYCLOHEXANE	0	0	0	8.61	8.61
DIMETHYLCYCLOHEXANES	299	0	32.7	15.3	347
DIMETHYLHEPTANES	50	0	5.47	2.19	57.6
ETHYL ACETATE	152	0	16.7	6.66	175
ETHYLBENZENE	40.3	0	4.41	2.77	47.5
ETHYLCYCLOHEXANE	107	0	11.7	4.67	123
ETHYLCYCLOPENTANE	16.4	0	1.8	0.719	18.9
ETHYLHEPTENE	0	0	0	2.44	2.44
ETHYLTOLUENES {METHYLETHYLBENZENES}	14.9	0	1.63	0.653	17.2
FORMALDEHYDE	2.54	0	0.032	0	2.57
HYDROCHLORIC ACID	0.0088	0	0	0	0.0088
ISOMERS OF C10H18	0	0	0	4.81	4.81
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0	6.99	6.99
ISOMERS OF HEXANE	0.309	0	0.004	0	0.313
ISOMERS OF NONANE (C9 PARAFFIN)	208	0	22.8	14.8	246
ISOMERS OF PENTANE	2910	0	0.036	0	2910
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0	1.76	1.76
ISOMERS OF XYLENE	768	0	66.7	29.6	864
ISOPROPYL ALCOHOL	0	0	0	5.31	5.31
LEAD & COMPOUNDS	0.149	0	0.000016	0	0.149
MANGANESE & COMPOUNDS	1.76	0	0.0000122	0	1.76

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MERCURY & COMPOUNDS	0.0113	0	0.0000084	0	0.0114
METHANE	650	0	0.224	0	650
METHYL AMYL KETONE	61.9	0	6.78	2.71	71.4
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	626	0	4.41	6.15	636
METHYL ISOBUTYL KETONE	68.3	0	2.94	1.18	72.4
METHYLCYCLOHEXANE	269	0	29.5	22.2	321
METHYLCYCLOPENTANE	167	0	0	0	167
MOLYBDENUM	0.00594	0	0	0	0.00594
N-BUTANE	2.78	0	0.036	0	2.82
N-BUTYL ACETATE	709	0	77.6	41.1	827
N-HEPTANE	219	0	24	12.9	256
N-HEXANE	46.7	0	0	0	46.7
NICKEL & COMPOUNDS	0.0794	0	0.000068	0	0.0794
NITRIC OXIDE	153	0	1.98	0	155
NITROGEN DIOXIDE	12.4	0	0.16	0	12.5
NITROUS OXIDE	0.574	0	0.00742	0	0.581
N-PENTANE	1.86	0	0.024	0	1.88
N-UNDECANE	0	0	0	2.71	2.71
OXIDES OF NITROGEN	247	0	3.2	0	251
PARTICULATE MATTER ≤ 10 µm	250	0	0.243	0	250
PARTICULATE MATTER ≤ 2.5 µm	76.8	0	0.243	0	77.1
P-DICHLOROBENZENE	0.0635	0	0	0	0.0635
PERCHLOROETHYLENE	0.445	0	0	0	0.445
PHTHALIC ANHYDRIDE	0	0	0	0.822	0.822
POLYCHLORINATED DIOXINS AND FURANS	2.94x10 ⁻⁰⁹	0	3.8x10 ⁻¹¹	0	2.98x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0.0017	0	0.000022	0	0.00172
PROPANE	1.24	0	0.016	0	1.25
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	0	1.14	1.14
SELENIUM & COMPOUNDS	0.00244	0	0.00000076	0	0.00244
SULFUR DIOXIDE	1.29	0	0.0167	0	1.31
TOLUENE	3000	0	309	140	3450
TOTAL SUSPENDED PARTICULATE	1210	0	0.243	0	1210
TOTAL VOLATILE ORGANIC COMPOUNDS	12700	0	807	429	14000
TRICHLOROETHYLENE (TCE)	0.0635	0	0	0	0.0635
TRIMETHYLBENZENES	8.21	0	0.898	0.359	9.46
TRIMETHYLCYCLOHEXANES	124	0	13.6	5.42	143
TRIMETHYLCYCLOPENTANE	12.7	0	1.39	0.555	14.6
VANADIUM & COMPOUNDS	0.0844	0	0	0	0.0844
ZINC & COMPOUNDS	1.25	0	0.00092	0	1.25

A.5 AUTOMOTIVE FUEL RETAILING**Table A-5: Annual emissions from automotive fuel retailing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	145	13.1	6.39	36.2	201
1,2,4-TRIMETHYLBENZENE	989	128	94.1	420	1630
1,3,5-TRIMETHYLBENZENE	109	9.87	4.81	27.3	151
1,4-PENTADIENE	3040	402	302	1330	5070
1-BUTENE	14000	1850	1390	6140	23300
1-PENTENE	16700	2210	1660	7340	27900
2,2,3,TRIMETHYLHEXANE	304	40.2	30.2	133	507
2,2,3-TRIMETHYLBUTANE	607	80.4	60.5	267	1010
2,2,4-TRIMETHYLPENTANE	14900	1970	1480	6540	24900
2,2-DIMETHYLBUTANE	4550	603	453	2000	7610
2,2-DIMETHYLHEXANE	607	80.4	60.5	267	1010
2,2-DIMETHYLPENTANE	1520	201	151	667	2540
2,3,3-TRIMETHYLPENTANE	1520	201	151	667	2540
2,3,4-TRIMETHYLPENTANE	1520	201	151	667	2540
2,3-DIMETHYLBUTANE	24600	3260	2450	10800	41100
2,3-DIMETHYLHEXANE	2430	322	242	1070	4060
2,3-DIMETHYLPENTANE	5470	724	544	2400	9130
2,4-DIMETHYLHEXANE	4250	563	423	1870	7100
2,4-DIMETHYLPENTANE	4860	644	484	2130	8120
2,5-DIMETHYLHEXANE	2130	282	212	934	3550
2-METHYL-1-BUTENE	34300	4550	3420	15100	57300
2-METHYL-2-BUTENE	135000	17800	13400	59100	225000
2-METHYLHEPTANE	4550	603	453	2000	7610
2-METHYLHEXANE	15500	2050	1540	6800	25900
2-METHYLNONANE	304	40.2	30.2	133	507
2-METHYLOCTANE	304	40.2	30.2	133	507
2-METHYLPENTANE	145000	19200	14400	63800	243000
2-METHYLPROPANE; ISOBUTANE	92600	12300	9220	40700	155000
3,3-DIMETHYLPENTANE	1820	241	181	800	3040
3-ETHYLPENTANE	3040	402	302	1330	5070
3-METHYL-1-BUTENE	911	121	90.7	400	1520
3-METHYLHEPTANE	4250	563	423	1870	7100
3-METHYLHEXANE	19100	2530	1900	8400	32000
3-METHYLOCTANE	607	80.4	60.5	267	1010
3-METHYLPENTANE	71000	9410	7070	31200	119000
4-METHYLHEPTANE	2430	322	242	1070	4060
4-METHYLOCTANE	304	40.2	30.2	133	507
BENZENE	23700	3140	2360	10400	39600
CIS-1,3-DIMETHYLCYCLOPENTANE	6680	885	665	2930	11200
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	4250	563	423	1870	7100
CIS-1-2-DIMETHYLCYCLOPENTANE	4250	563	423	1870	7100
CIS-2-BUTENE	9110	1210	907	4000	15200

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	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-2-PENTENE	49200	6520	4900	21600	82200
CUMENE (1-METHYLETHYLBENZENE)	52.1	4.71	2.3	13	72.1
CYCLOHEXANE	1520	201	151	667	2540
CYCLOPENTENE	911	121	90.7	400	1520
ETHYLBENZENE	3040	403	303	1340	5080
ETHYLCYCLOPENTANE	911	121	90.7	400	1520
HEXADECANE	0.31	0.028	0.0137	0.0775	0.429
ISOMERS OF PENTANE	1500000	199000	150000	661000	2510000
ISOMERS OF XYLENE	16800	2220	1670	7360	28000
METHYLCYCLOPENTANE	8810	1170	877	3870	14700
M-ETHYLTOLUENE	1950	253	187	831	3220
N-BUTANE	405000	53600	40300	178000	676000
N-DECANE	304	40.2	30.2	133	507
N-DODECANE	8.48	0.767	0.374	2.12	11.7
N-HEPTADECANE	0.103	0.00935	0.00456	0.0258	0.143
N-HEPTANE	11800	1570	1180	5200	19800
N-HEXANE	6680	885	665	2930	11200
N-NONANE	304	40.2	30.2	133	507
N-PENTADECANE	1.45	0.131	0.0638	0.362	2
N-PROPYLBENZENE	671	86.2	63.3	283	1100
N-TETRADECANE	4.14	0.374	0.182	1.03	5.73
N-TRIDECANE	5.69	0.514	0.251	1.42	7.87
N-UNDECANE	2.79	0.252	0.123	0.697	3.86
O-ETHYLTOLUENE	107	9.64	4.7	26.6	148
P-ETHYLTOLUENE	1120	139	99.7	451	1810
TOLUENE	57700	7640	5740	25400	96500
TOTAL VOLATILE ORGANIC COMPOUNDS	2940000	389000	292000	1290000	4910000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	304	40.2	30.2	133	507
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	911	121	90.7	400	1520
TRANS-1,3-DIMETHYLCYCLOPENTANE	2130	282	212	934	3550
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	1210	161	121	534	2030
TRANS-1-2-DIMETHYLCYCLOPENTANE	1520	201	151	667	2540
TRANS-2-BUTENE	85900	11400	8550	37800	144000
TRANS-2-ETHYLMETHYLCYCLOPENTANE	911	121	90.7	400	1520
TRANS-2-PENTENE	89300	11800	8890	39200	149000

A.6 BASIC IRON AND STEEL MANUFACTURING**Table A-6: Annual emissions from basic iron and steel manufacturing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0323	0	0	0	0.0323
1,2,4-TRIMETHYLBENZENE	0.0173	0	0	0	0.0173
1,3,5-TRIMETHYLBENZENE	0.0243	0	0	0	0.0243
1,3-DIETHYL-5-METHYL CYCLOHEXANE	98.4	0	0	0	98.4
1,4-DIETHYL-CYCLOHEXANE	312	0	0	0	312
2,4-DIMETHYLHEXANE	7.92	0	2.55	0	10.5
2,4-DIMETHYLPENTANE	0.555	0	0.602	0	1.16
2-METHYL-3-HEXANONE	63.2	0	1.33	0	64.5
ACETONE	21.4	0	0.449	0	21.9
AMMONIA (TOTAL)	4.99	0	26.7	0	31.7
ANTIMONY & COMPOUNDS	0.0547	0	0	0	0.0547
ARSENIC & COMPOUNDS	0.0125	0	0.0109	0	0.0234
BENZALDEHYDE	82.2	0	0	0	82.2
BENZENE	5.07	0	27.2	0	32.3
BERYLLIUM & COMPOUNDS	0.000121	0	0.000646	0	0.000767
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	2.12	0	2.29	0	4.41
C10 OLEFINS	776	0	0	0	776
C8 INTERNAL ALKENES	8.39	0	0.0531	0	8.45
CADMIUM & COMPOUNDS	0.0138	0	0.0612	0	0.075
CARBON DIOXIDE	1240000	0	6670000	0	7910000
CARBON MONOXIDE	853	0	4570	0	5420
CHROMIUM (III) COMPOUNDS	0.331	0	2.77	0	3.1
CHROMIUM (VI) COMPOUNDS	0.0048	0	0.00374	0	0.00854
COBALT & COMPOUNDS	0.0193	0	0.00442	0	0.0237
COPPER & COMPOUNDS	0.138	0	1.15	0	1.29
CUMENE (1- METHYLETHYLBENZENE)	0.0116	0	0	0	0.0116
CYCLOHEXANE	9.99	0	6.98	0	17
DIBROMOETHANE	98.4	0	0	0	98.4
DICHLOROMETHANE {METHYLENE CHLORIDE}	132	0	0	0	132
DIETHYLCYCLOHEXANE	861	0	0	0	861
DIMETHYLCYCLOHEXANES	216	0	1.42	0	218
DIMETHYLHEPTANES	0.219	0	0.237	0	0.456
ETHYL ACETATE	34.4	0	0.722	0	35.2
ETHYL ALCOHOL	200	0	0	0	200
ETHYLBENZENE	110	0	0.191	0	110
ETHYLCYCLOHEXANE	6.25	0	0.506	0	6.76
ETHYLCYCLOPENTANE	12.4	0	0.0779	0	12.4
ETHYLHEPTENE	244	0	0	0	244
ETHYLTOLUENES {METHYLETHYLBENZENES}	3.38	0	0.0708	0	3.45
FORMALDEHYDE	10.1	0	54.4	0	64.5

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	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXADECANE	0.000069	0	0	0	0.000069
ISOMERS OF C10H18	481	0	0	0	481
ISOMERS OF DECANE (C10 PARAFFINS)	699	0	0	0	699
ISOMERS OF HEXANE	1.27	0	6.8	0	8.07
ISOMERS OF NONANE (C9 PARAFFIN)	600	0	0.987	0	601
ISOMERS OF PENTANE	11.4	0	61.2	0	72.6
ISOMERS OF UNDECANE (C11 PARAFFINS)	176	0	0	0	176
ISOMERS OF XYLENE	414	0	2.89	0	417
ISOPROPYL ALCOHOL	531	0	0	0	531
LEAD & COMPOUNDS	31.7	0	0.0272	0	31.7
MAGNESIUM OXIDE FUME	449	0	0	0	449
MANGANESE & COMPOUNDS	5.76	0	38	0	43.8
MERCURY & COMPOUNDS	0.00991	0	0.0143	0	0.0242
METHANE	71	0	381	0	452
METHYL AMYL KETONE	13.9	0	0.294	0	14.2
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	448	0	0.191	0	448
METHYL ISOBUTYL KETONE	6.04	0	0.127	0	6.16
METHYLCYCLOHEXANE	1150	0	1.28	0	1150
M-ETHYLTOLUENE	0.0276	0	0	0	0.0276
MOLYBDENUM	0.00402	0	0	0	0.00402
N-BUTANE	11.4	0	61.2	0	72.6
N-BUTYL ACETATE	1150	0	3.36	0	1150
N-DODECANE	0.00189	0	0	0	0.00189
N-HEPTADECANE	0.000023	0	0	0	0.000023
N-HEPTANE	413	0	1.04	0	414
NICKEL & COMPOUNDS	0.393	0	2.02	0	2.41
NITRIC OXIDE	1960	0	3370	0	5330
NITROGEN DIOXIDE	158	0	272	0	430
NITROUS OXIDE	2.35	0	12.6	0	15
N-PENTADECANE	0.000322	0	0	0	0.000322
N-PENTANE	7.61	0	40.8	0	48.4
N-PROPYLBENZENE	0.0141	0	0	0	0.0141
N-TETRADECANE	0.00092	0	0	0	0.00092
N-TRIDECANE	0.00127	0	0	0	0.00127
N-UNDECANE	271	0	0	0	271
O-ETHYLTOLUENE	0.0237	0	0	0	0.0237
OXIDES OF NITROGEN	3160	0	5440	0	8600
PARTICULATE MATTER ≤ 10 µm	9450	0	457	0	9910
PARTICULATE MATTER ≤ 2.5 µm	7860	0	457	0	8320
P-ETHYLTOLUENE	0.0455	0	0	0	0.0455
PHTHALIC ANHYDRIDE	82.2	0	0	0	82.2
POLYCHLORINATED DIOXINS AND FURANS	0.00000398	0	6.46x10 ⁻⁰⁸	0	0.00000405
POLYCYCLIC AROMATIC	0.00698	0	0.0374	0	0.0444

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCARBONS					
PROPANE	5.07	0	27.2	0	32.3
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	114	0	0	0	114
SELENIUM & COMPOUNDS	0.00185	0	0.00129	0	0.00314
SULFUR DIOXIDE	5.3	0	28.4	0	33.7
TOLUENE	2050	0	27	0	2080
TOTAL SUSPENDED PARTICULATE	14400	0	457	0	14900
TOTAL VOLATILE ORGANIC COMPOUNDS	12000	0	334	0	12300
TRIMETHYLBENZENES	1.92	0	0.0389	0	1.96
TRIMETHYLCYCLOHEXANES	6.47	0	0.587	0	7.06
TRIMETHYLCYCLOPENTANE	9.5	0	0.0602	0	9.56
VANADIUM & COMPOUNDS	0.0571	0	0	0	0.0571
ZINC & COMPOUNDS	1.09	0	1.56	0	2.65

A.7 BASIC NON-FERROUS METAL MANUFACTURING N.E.C.

Table A-7: Annual emissions from basic non-ferrous metal manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,4-BUTANEDIOL	101	0	0	0	101
ACETONE	120	0	0	0	120
AMMONIA (TOTAL)	5.48	0	0	0	5.48
ARSENIC & COMPOUNDS	0.00223	0	0	0	0.00223
BENZENE	5.57	0	0	0	5.57
BERYLLIUM & COMPOUNDS	0.000132	0	0	0	0.000132
CADMIUM & COMPOUNDS	0.0125	0	0	0	0.0125
CARBON DIOXIDE	1370000	0	0	0	1370000
CARBON MONOXIDE	936	0	0	0	936
CHROMIUM (III) COMPOUNDS	0.0146	0	0	0	0.0146
CHROMIUM (VI) COMPOUNDS	0.000766	0	0	0	0.000766
COBALT & COMPOUNDS	0.000906	0	0	0	0.000906
COPPER & COMPOUNDS	5.78	0	0	0	5.78
CYCLOHEXANE	1.39	0	0	0	1.39
FORMALDEHYDE	11.1	0	0	0	11.1
ISOMERS OF HEXANE	1.39	0	0	0	1.39
ISOMERS OF PENTANE	517	0	0	0	517
LEAD & COMPOUNDS	3.71	0	0	0	3.71
MANGANESE & COMPOUNDS	0.00425	0	0	0	0.00425
MERCURY & COMPOUNDS	0.00293	0	0	0	0.00293
METHANE	78	0	0	0	78
METHYL ALCOHOL	3.19	0	0	0	3.19
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	101	0	0	0	101
METHYL ISOBUTYL KETONE	7.2	0	0	0	7.2

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLCYCLOPENTANE	29	0	0	0	29
N-BUTANE	12.5	0	0	0	12.5
N-HEXANE	8.1	0	0	0	8.1
NICKEL & COMPOUNDS	0.0237	0	0	0	0.0237
NITRIC OXIDE	691	0	0	0	691
NITROGEN DIOXIDE	55.8	0	0	0	55.8
NITROUS OXIDE	2.58	0	0	0	2.58
N-PENTANE	8.36	0	0	0	8.36
OXIDES OF NITROGEN	1120	0	0	0	1120
PARTICULATE MATTER ≤ 10 µm	10000	0	0	0	10000
PARTICULATE MATTER ≤ 2.5 µm	7550	0	0	0	7550
POLYCHLORINATED DIOXINS AND FURANS	0.00000221	0	0	0	0.00000221
POLYCYCLIC AROMATIC HYDROCARBONS	0.00766	0	0	0	0.00766
PROPANE	5.57	0	0	0	5.57
SELENIUM & COMPOUNDS	0.000265	0	0	0	0.000265
SULFUR DIOXIDE	134	0	0	0	134
TOLUENE	33.6	0	0	0	33.6
TOTAL SUSPENDED PARTICULATE	15800	0	0	0	15800
TOTAL VOLATILE ORGANIC COMPOUNDS	965	0	0	0	965
ZINC & COMPOUNDS	0.32	0	0	0	0.32

A.8 BEER AND MALT MANUFACTURING

Table A-8: Annual emissions from beer and malt manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	98	0	0	0	98
1,1,2-TRICHLOROETHANE	79.8	0	0	0	79.8
1,1,3-TRIMETHYLCYCLOHEXANE	4.56	0	0	0	4.56
1,2,4-TRIMETHYLBENZENE	2.28	0	0	0	2.28
1,2-BUTADIENE {METHYLLALLENE}	91.2	0	0	0	91.2
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	2.28	0	0	0	2.28
1,2-DICHLOROETHANE	132	0	0	0	132
1,3,5-TRIMETHYLBENZENE	6.84	0	0	0	6.84
1,3-BUTADIENE	153	0	0	0	153
1-BUTENE	91.2	0	0	0	91.2
1-BUTYNE (ETHYLACETYLENE)	4.56	0	0	0	4.56
1-DECENE	2.28	0	0	0	2.28
1-HEXENE	6.84	0	0	0	6.84
1-PENTENE	123	0	0	0	123
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	88.9	0	0	0	88.9

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,2,4-TRIMETHYLPENTANE	2.28	0	0	0	2.28
2,2-DICHLORONITROANILINE	2.28	0	0	0	2.28
2,3-DIMETHYLBUTANE	2.28	0	0	0	2.28
2,4,4-TRIMETHYL-1-PENTENE	2.28	0	0	0	2.28
2,4-DIMETHYLHEXANE	13.7	0	0	0	13.7
2,4-DIMETHYLPENTANE	9.12	0	0	0	9.12
2,4-TOLUENE DIISOCYANATE {TDI}	150	0	0	0	150
2-BUTYNE	2.28	0	0	0	2.28
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	82.1	0	0	0	82.1
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	82.1	0	0	0	82.1
2-FURFURAL	84.4	0	0	0	84.4
2-HEXENES	2.28	0	0	0	2.28
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	88.9	0	0	0	88.9
2-METHYL-1-BUTENE	2.28	0	0	0	2.28
2-METHYL-2-PENTENE	2.28	0	0	0	2.28
2-METHYL-3-HEXANONE	16	0	0	0	16
2-METHYL-BUTANE	18.2	0	0	0	18.2
2-METHYLPENTANE	4.56	0	0	0	4.56
2-METHYLPROPANE; ISOBUTANE	98	0	0	0	98
3-ETHYL-2,2-DIMETHYL PENTANE	2.28	0	0	0	2.28
3-ETHYLHEXANE	4.56	0	0	0	4.56
3-METHYLHEXANE	2.28	0	0	0	2.28
3-METHYLPENTANE	6.84	0	0	0	6.84
4-METHYLANILINE	6.84	0	0	0	6.84
9,10-ANTHRAQUINONE	2.28	0	0	0	2.28
ACENAPHTHYLENE	4.56	0	0	0	4.56
ACETALDEHYDE	192	0	0	0	192
ACETIC ACID	166	0	0	0	166
ACETIC ANHYDRIDE	79.8	0	0	0	79.8
ACETONE	335	0	0	0	335
ACETYLENE	196	0	0	0	196
ACROLEIN (2-PROPENAL)	176	0	0	0	176
ACRYLIC ACID	103	0	0	0	103
ACRYLONITRILE	132	0	0	0	132
ADIPIC ACID	91.2	0	0	0	91.2
ALIPHATICS	22.8	0	0	0	22.8
ALKENE KETONE	2.28	0	0	0	2.28
AMMONIA (TOTAL)	27.9	0	0	0	27.9
ANILINE {AMINO BENZENE}	180	0	0	0	180
A-PINENE	79.8	0	0	0	79.8
ARSENIC & COMPOUNDS	0.0114	0	0	0	0.0114
BENZALDEHYDE	4.56	0	0	0	4.56
BENZENE	671	0	0	0	671
BENZOIC ACID	9.12	0	0	0	9.12
BENZYL CHLORIDE	95.8	0	0	0	95.8

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0.000675	0	0	0	0.000675
BIPHENYL {PHENYL BENZENE}	2.28	0	0	0	2.28
B-PHELLANDRENE {1(7)-2-P-MENTHADIENE}	2.28	0	0	0	2.28
B-PINENE	52.4	0	0	0	52.4
BROMODINITROBENZENE	2.28	0	0	0	2.28
BUTOXYBUTENE	2.28	0	0	0	2.28
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	100	0	0	0	100
BUTYL ISOPROPYL PHTHALATE	11.4	0	0	0	11.4
BUTYLCYCLOHEXANE	2.28	0	0	0	2.28
BUTYRALDEHYDE	100	0	0	0	100
C10 AROMATIC	2.28	0	0	0	2.28
C10 OLEFINS	6.84	0	0	0	6.84
C2 ALKYL INDAN	9.12	0	0	0	9.12
C2 CYCLOHEXANE	2.28	0	0	0	2.28
C3 CYCLOHEXANE	2.28	0	0	0	2.28
C3/C4/C5 ALKYL BENZENES	6.84	0	0	0	6.84
C4 SUBSTITUTED CYCLOHEXANE	2.28	0	0	0	2.28
C4 SUBSTITUTED CYCLOHEXANONE	2.28	0	0	0	2.28
C5 ESTER	4.56	0	0	0	4.56
C5 OLEFIN	2.28	0	0	0	2.28
C5 PARAFFIN	2.28	0	0	0	2.28
C5 SUBSTITUTED CYCLOHEXANE	2.28	0	0	0	2.28
C6 SUBSTITUTED CYCLOHEXANE	2.28	0	0	0	2.28
C6H18O3SI3	20.5	0	0	0	20.5
C7 CYCLOPARAFFINS	162	0	0	0	162
C7-C16 PARAFFINS	34.2	0	0	0	34.2
C8 CYCLOPARAFFINS	11.4	0	0	0	11.4
C8H24O4SI4	6.84	0	0	0	6.84
CADMIUM & COMPOUNDS	0.0639	0	0	0	0.0639
CAMPHENE	2.28	0	0	0	2.28
CARBARYL	6.84	0	0	0	6.84
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	105	0	0	0	105
CARBON DIOXIDE	6960000	0	0	0	6960000
CARBON DISULFIDE	20.5	0	0	0	20.5
CARBON MONOXIDE	4770	0	0	0	4770
CARBON TETRACHLORIDE	148	0	0	0	148
CARBONYL SULFIDE	6.84	0	0	0	6.84
CHLOROBENZENE	162	0	0	0	162
CHLORODIFLUOROMETHANE (F-22)	36.5	0	0	0	36.5
CHLOROETHANE (ETHYL CHLORIDE)	66.1	0	0	0	66.1
CHLOROFORM (TRICHLOROMETHANE)	116	0	0	0	116
CHLOROPENTAFLUOROETHANE (F115)	4.56	0	0	0	4.56
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	77.5	0	0	0	77.5
CHLOROTRIFLUOROMETHANE (F-13)	11.4	0	0	0	11.4

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (III) COMPOUNDS	0.0742	0	0	0	0.0742
CHROMIUM (VI) COMPOUNDS	0.00391	0	0	0	0.00391
CHRYSENE	2.28	0	0	0	2.28
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	2.28	0	0	0	2.28
CIS-3-HEXENE	2.28	0	0	0	2.28
COAL TAR	84.4	0	0	0	84.4
COBALT & COMPOUNDS	0.00462	0	0	0	0.00462
COPPER & COMPOUNDS	0.0497	0	0	0	0.0497
CRESOLS	86.6	0	0	0	86.6
CUMENE (1-METHYLETHYLBENZENE)	86.6	0	0	0	86.6
CYCLOHEXANE	212	0	0	0	212
CYCLOHEXANOL	103	0	0	0	103
CYCLOHEXANONE	121	0	0	0	121
CYCLOHEXENE	2.28	0	0	0	2.28
CYCLOPENTANE	2.28	0	0	0	2.28
CYCLOPENTENE	91.2	0	0	0	91.2
DENATURANT	22.8	0	0	0	22.8
DIBROMOETHANE	95.8	0	0	0	95.8
DIBUTYL PHTHALATE	9.12	0	0	0	9.12
DICHLOROBENZENES	4.56	0	0	0	4.56
DICHLORODIFLUOROMETHANE (F-12)	79.8	0	0	0	79.8
DICHLOROMETHANE {METHYLENE CHLORIDE}	171	0	0	0	171
DIETHYL CYCLOHEXANE	6.84	0	0	0	6.84
DIETHYLBENZENES	6.84	0	0	0	6.84
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	100	0	0	0	100
DIETHYLENE GLYCOL BUTYL ETHER ACETATE	2.28	0	0	0	2.28
DIISOPROPYL BENZENE (MIXED ISOMERS)	86.6	0	0	0	86.6
DIMETHOXYMETHANE (METHYLAL)	38.8	0	0	0	38.8
DIMETHYL ETHER	255	0	0	0	255
DIMETHYL FORMAMIDE	82.1	0	0	0	82.1
DIMETHYL PHTHALATE	13.7	0	0	0	13.7
DIMETHYLCYCLOHEXANES	11.4	0	0	0	11.4
DIMETHYLCYCLOPENTANE	2.28	0	0	0	2.28
DIMETHYLOCTANES	6.84	0	0	0	6.84
DIPROPYLENE GLYCOL	150	0	0	0	150
D-LIMONENE	11.4	0	0	0	11.4
EPICHLOROHYDRIN	95.8	0	0	0	95.8
ETHANE	317	0	0	0	317
ETHANOLAMINE	100	0	0	0	100
ETHYL ACETATE	102	0	0	0	102
ETHYL ACRYLATE	114	0	0	0	114
ETHYL ALCOHOL	986	0	0	0	986
ETHYL ETHER	141	0	0	0	141
ETHYL ISOPROPYL ETHER	4.56	0	0	0	4.56

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL MERCAPTAN	75.2	0	0	0	75.2
ETHYL STYRENE {ETHYLVINYLBENZENE}	6.84	0	0	0	6.84
ETHYLBENZENE	148	0	0	0	148
ETHYLCYCLOHEXANE	4.56	0	0	0	4.56
ETHYLCYCLOPENTANE	2.28	0	0	0	2.28
ETHYLENE	652	0	0	0	652
ETHYLENE GLYCOL	84.4	0	0	0	84.4
ETHYLENE OXIDE	86.6	0	0	0	86.6
ETHYLENEAMINES	100	0	0	0	100
ETHYLHEPTENE	2.28	0	0	0	2.28
ETHYLMETHYLCYCLOHEXANES	4.56	0	0	0	4.56
ETHYL-PHENYL-PHENYL-ETHANE	2.28	0	0	0	2.28
ETHYLTOLUENES {METHYLETHYLBENZENES}	13.7	0	0	0	13.7
FLUORANTHENE	2.28	0	0	0	2.28
FLUORENE	2.28	0	0	0	2.28
FORMALDEHYDE	410	0	0	0	410
FORMIC ACID	95.8	0	0	0	95.8
FURFURYL ALCOHOL	4.56	0	0	0	4.56
GLYOXAL	4.56	0	0	0	4.56
HEPTENES	116	0	0	0	116
HEXADECANE	2.28	0	0	0	2.28
HEXAFLUOROETHANE {F-116}	91.2	0	0	0	91.2
HEXAMETHYLENEDIAMINE	153	0	0	0	153
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	82.1	0	0	0	82.1
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	0.611	0	0	0	0.611
ISOBUTYL ACRYLATE {2-PROPENOIC ACID}	86.6	0	0	0	86.6
ISOBUTYL ALCOHOL	96	0	0	0	96
ISOBUTYL ISOBUTYRATE	88.9	0	0	0	88.9
ISOBUTYRALDEHYDE	95.8	0	0	0	95.8
ISOMERS OF BUTENE	11.4	0	0	0	11.4
ISOMERS OF C10H18	2.28	0	0	0	2.28
ISOMERS OF DECANE (C10 PARAFFINS)	91.2	0	0	0	91.2
ISOMERS OF DODECANE (C12 PARAFFINS)	105	0	0	0	105
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	2.28	0	0	0	2.28
ISOMERS OF HEPTANE	57	0	0	0	57
ISOMERS OF HEXANE	130	0	0	0	130
ISOMERS OF NONANE (C9 PARAFFIN)	43.3	0	0	0	43.3
ISOMERS OF OCTADECANE (C18 PARAFFINS)	2.28	0	0	0	2.28
ISOMERS OF OCTANE (C8 PARAFFIN)	38.8	0	0	0	38.8
ISOMERS OF PENTADECANE (C15 PARAFFINS)	95.8	0	0	0	95.8

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF PENTANE	317	0	0	0	317
ISOMERS OF PENTENE	11.4	0	0	0	11.4
ISOMERS OF PROPYL BENZENE	4.56	0	0	0	4.56
ISOMERS OF TETRADECANE (C14 PARAFFINS)	2.28	0	0	0	2.28
ISOMERS OF UNDECANE (C11 PARAFFINS)	11.4	0	0	0	11.4
ISOMERS OF XYLENE	545	0	0	0	545
ISOPRENE	91.2	0	0	0	91.2
ISOPROPYL ACETATE	107	0	0	0	107
ISOPROPYL ALCOHOL	166	0	0	0	166
LACTOL SPIRITS	82.1	0	0	0	82.1
LEAD & COMPOUNDS	0.0284	0	0	0	0.0284
MALEIC ANHYDRIDE	16	0	0	0	16
MANGANESE & COMPOUNDS	0.0217	0	0	0	0.0217
MERCURY & COMPOUNDS	0.0149	0	0	0	0.0149
METHANE	2080	0	0	0	2080
METHYL ACETATE	162	0	0	0	162
METHYL ACRYLATE	86.6	0	0	0	86.6
METHYL ALCOHOL	319	0	0	0	319
METHYL AMYL KETONE	116	0	0	0	116
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	88.9	0	0	0	88.9
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	278	0	0	0	278
METHYL FORMATE	47.9	0	0	0	47.9
METHYL HEXANE	6.84	0	0	0	6.84
METHYL ISOBUTYL KETONE	128	0	0	0	128
METHYL METHACRYLATE	105	0	0	0	105
METHYL PALMITATE {METHYL HEXADECANOATE}	18.2	0	0	0	18.2
METHYL PROPYL CYCLOHEXANES	2.28	0	0	0	2.28
METHYL STEARATE {METHYL OCTADECANOATE}	25.1	0	0	0	25.1
METHYL STYRENE (MIXED) {VINYL TOLUENE}	93.5	0	0	0	93.5
METHYL T-BUTYL ETHER (MTBE)	75.2	0	0	0	75.2
METHYL CYCLOHEXANE	29.6	0	0	0	29.6
METHYL CYCLOPENTANE	61.6	0	0	0	61.6
METHYL DECANES	4.56	0	0	0	4.56
METHYLENE BROMIDE	6.84	0	0	0	6.84
METHYLNAPHTHALENES	9.12	0	0	0	9.12
METHYLNONANE	4.56	0	0	0	4.56
METHYLOCTANES	2.28	0	0	0	2.28
METHYLPENTANE	2.28	0	0	0	2.28
M-ETHYLTOLUENE	6.84	0	0	0	6.84
METHYLUDECANE	2.28	0	0	0	2.28
MINERAL SPIRITS	146	0	0	0	146
MYRCENE	2.28	0	0	0	2.28

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NAPHTHA	107	0	0	0	107
NAPHTHALENE	41	0	0	0	41
N-BUTANE	477	0	0	0	477
N-BUTYL ACETATE	132	0	0	0	132
N-BUTYL ACRYLATE	98	0	0	0	98
N-BUTYL ALCOHOL	157	0	0	0	157
N-BUTYL BENZOATE	47.9	0	0	0	47.9
N-BUTYLBENZENE	13.7	0	0	0	13.7
N-DECANE	123	0	0	0	123
N-DODECANE	157	0	0	0	157
N-HEPTANE	319	0	0	0	319
N-HEXANE	312	0	0	0	312
NICKEL & COMPOUNDS	0.121	0	0	0	0.121
NITRIC OXIDE	3520	0	0	0	3520
NITROBENZENE	75.2	0	0	0	75.2
NITROGEN DIOXIDE	284	0	0	0	284
NITROUS OXIDE	13.2	0	0	0	13.2
N-NONANE	20.5	0	0	0	20.5
N-OCTANE	47.9	0	0	0	47.9
NONENONE	4.56	0	0	0	4.56
N-PENTADECANE	38.8	0	0	0	38.8
N-PENTANE	204	0	0	0	204
N-PENTYLCYCLOHEXANE	2.28	0	0	0	2.28
N-PROPYL ALCOHOL	95.8	0	0	0	95.8
N-TETRADECANE	16	0	0	0	16
N-TRIDECANE	22.8	0	0	0	22.8
N-UNDECANE	31.9	0	0	0	31.9
OCTAMETHYLCYCLOTETRASILOXANE	2.28	0	0	0	2.28
O-DICHLOROBENZENE	91.2	0	0	0	91.2
O-TOLUALDEHYDE	9.12	0	0	0	9.12
OXIDES OF NITROGEN	5680	0	0	0	5680
PALMITIC ACID {N-HEXADECANOIC ACID}	45.6	0	0	0	45.6
PARAFFINS (C16-C34)	4.56	0	0	0	4.56
PARTICULATE MATTER ≤ 10 µm	3390	0	0	0	3390
PARTICULATE MATTER ≤ 2.5 µm	3390	0	0	0	3390
P-DICHLOROBENZENE	164	0	0	0	164
PERCHLOROETHYLENE	160	0	0	0	160
PHENANTHRENE	13.7	0	0	0	13.7
PHENOL (CARBOLIC ACID)	100	0	0	0	100
PHENYL ISOCYANATE	27.4	0	0	0	27.4
PHTHALIC ANHYDRIDE	45.6	0	0	0	45.6
PIPERYLENE {1,3-PENTADIENE} (MIXED ISOMERS)	91.2	0	0	0	91.2
POLYCHLORINATED DIOXINS AND FURANS	6.75x10 ⁻⁰⁸	0	0	0	6.75x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0391	0	0	0	0.0391

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPANE	576	0	0	0	576
PROPIONALDEHYDE	95.8	0	0	0	95.8
PROPIONIC ACID	91.2	0	0	0	91.2
PROPYL ACETATE	112	0	0	0	112
PROPYLCYCLOHEXANE	2.28	0	0	0	2.28
PROPYLENE	319	0	0	0	319
PROPYLENE DICHLORIDE	4.56	0	0	0	4.56
PROPYLENE GLYCOL	86.6	0	0	0	86.6
PROPYLENE OXIDE	114	0	0	0	114
PYRENE	2.28	0	0	0	2.28
SEC-BUTYL ALCOHOL	77.5	0	0	0	77.5
SELENIUM & COMPOUNDS	0.00135	0	0	0	0.00135
STYRENE (ETHENYLBENZENE)	274	0	0	0	274
SUBSTITUTED C9 ESTER (C12)	20.5	0	0	0	20.5
SULFUR DIOXIDE	8910	0	0	0	8910
TERT-BUTYL ALCOHOL	95.8	0	0	0	95.8
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	6.84	0	0	0	6.84
TOLUENE	479	0	0	0	479
TOTAL AROMATIC AMINES	9.12	0	0	0	9.12
TOTAL C2-C5 ALDEHYDES	27.4	0	0	0	27.4
TOTAL SUSPENDED PARTICULATE	3390	0	0	0	3390
TOTAL VOLATILE ORGANIC COMPOUNDS	21900	0	0	0	21900
TRANS-2-BUTENE	2.28	0	0	0	2.28
TRANS-2-PENTENE	2.28	0	0	0	2.28
TRICHLOROBENZENES (MIXED)	2.28	0	0	0	2.28
TRICHLOROETHYLENE (TCE)	98	0	0	0	98
TRICHLOROFLUOROMETHANE	139	0	0	0	139
TRICHLOROTRIFLUOROETHANE-F113	91.2	0	0	0	91.2
TRIFLUOROMETHANE (F-23)	68.4	0	0	0	68.4
TRIMETHYLBENZENES	25.1	0	0	0	25.1
TRIMETHYLDECENES	4.56	0	0	0	4.56
TRIMETHYLFLUOROSILANE	157	0	0	0	157
TRIMETHYLHEPTANES	4.56	0	0	0	4.56
VINYL ACETATE	125	0	0	0	125
VINYL CHLORIDE MONOMER	95.8	0	0	0	95.8
ZINC & COMPOUNDS	1.63	0	0	0	1.63

A.9 BISCUIT MANUFACTURING

Table A-9: Annual emissions from biscuit manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	40.6	0	0	0	40.6
ARSENIC & COMPOUNDS	0.0165	0	0	0	0.0165
BENZENE	41.3	0	0	0	41.3

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0.000981	0	0	0	0.000981
CADMIUM & COMPOUNDS	0.0929	0	0	0	0.0929
CARBON DIOXIDE	10100000	0	0	0	10100000
CARBON MONOXIDE	6940	0	0	0	6940
CHROMIUM (III) COMPOUNDS	0.108	0	0	0	0.108
CHROMIUM (VI) COMPOUNDS	0.00568	0	0	0	0.00568
COBALT & COMPOUNDS	0.00671	0	0	0	0.00671
COPPER & COMPOUNDS	0.0723	0	0	0	0.0723
CYCLOHEXANE	10.3	0	0	0	10.3
FORMALDEHYDE	82.6	0	0	0	82.6
ISOMERS OF HEXANE	10.3	0	0	0	10.3
ISOMERS OF PENTANE	92.9	0	0	0	92.9
LEAD & COMPOUNDS	0.0413	0	0	0	0.0413
MANGANESE & COMPOUNDS	0.0315	0	0	0	0.0315
MERCURY & COMPOUNDS	0.0217	0	0	0	0.0217
METHANE	578	0	0	0	578
N-BUTANE	92.9	0	0	0	92.9
NICKEL & COMPOUNDS	0.176	0	0	0	0.176
NITRIC OXIDE	5120	0	0	0	5120
NITROGEN DIOXIDE	413	0	0	0	413
NITROUS OXIDE	19.2	0	0	0	19.2
N-PENTANE	62	0	0	0	62
OXIDES OF NITROGEN	8260	0	0	0	8260
PARTICULATE MATTER ≤ 10 µm	628	0	0	0	628
PARTICULATE MATTER ≤ 2.5 µm	628	0	0	0	628
POLYCHLORINATED DIOXINS AND FURANS	9.81X10 ⁻⁰⁸	0	0	0	9.81x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0568	0	0	0	0.0568
PROPANE	41.3	0	0	0	41.3
SELENIUM & COMPOUNDS	0.00196	0	0	0	0.00196
SULFUR DIOXIDE	43.2	0	0	0	43.2
TOLUENE	20.7	0	0	0	20.7
TOTAL SUSPENDED PARTICULATE	628	0	0	0	628
TOTAL VOLATILE ORGANIC COMPOUNDS	454	0	0	0	454
ZINC & COMPOUNDS	2.37	0	0	0	2.37

A.10 BREAD MANUFACTURING

Table A-10: Annual emissions from bread manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0.0226	0	0	0.0226
1,2,3-TRIMETHYLBENZENE	0	0.231	0	0	0.231
1,2,4-TRIMETHYLBENZENE	0	0.141	0	0	0.141

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3,5-TRIMETHYLBENZENE	0	0.174	0	0	0.174
1,4-PENTADIENE	0	0.0556	0	0	0.0556
1-BUTENE	0	0.256	0	0	0.256
1-PENTENE	0	0.306	0	0	0.306
2,2,3,TRIMETHYLHEXANE	0	0.00556	0	0	0.00556
2,2,3-TRIMETHYLBUTANE	0	0.0111	0	0	0.0111
2,2,4-TRIMETHYLPENTANE	0	0.272	0	0	0.272
2,2-DIMETHYLBUTANE	0	0.0834	0	0	0.0834
2,2-DIMETHYLHEXANE	0	0.0111	0	0	0.0111
2,2-DIMETHYLPENTANE	0	0.0278	0	0	0.0278
2,3,3-TRIMETHYLPENTANE	0	0.0278	0	0	0.0278
2,3,4-TRIMETHYLPENTANE	0	0.0278	0	0	0.0278
2,3-DIMETHYLBUTANE	0	0.45	0	0	0.45
2,3-DIMETHYLHEXANE	0	0.0445	0	0	0.0445
2,3-DIMETHYLPENTANE	0	0.1	0	0	0.1
2,4-DIMETHYLHEXANE	0	0.0778	0	0	0.0778
2,4-DIMETHYLPENTANE	0	0.089	0	0	0.089
2,5-DIMETHYLHEXANE	0	0.0389	0	0	0.0389
2-METHYL-1-BUTENE	0	0.628	0	0	0.628
2-METHYL-2-BUTENE	0	2.46	0	0	2.46
2-METHYLHEPTANE	0	0.0834	0	0	0.0834
2-METHYLHEXANE	0	0.284	0	0	0.284
2-METHYLNONANE	0	0.00556	0	0	0.00556
2-METHYLOCTANE	0	0.00556	0	0	0.00556
2-METHYLPENTANE	0	2.66	0	0	2.66
2-METHYLPROPANE; ISOBUTANE	0	1.7	0	0	1.7
3,3-DIMETHYLPENTANE	0	0.0334	0	0	0.0334
3-ETHYLPENTANE	0	0.0556	0	0	0.0556
3-METHYL-1-BUTENE	0	0.0167	0	0	0.0167
3-METHYLHEPTANE	0	0.0778	0	0	0.0778
3-METHYLHEXANE	0	0.35	0	0	0.35
3-METHYLOCTANE	0	0.0111	0	0	0.0111
3-METHYLPENTANE	0	1.3	0	0	1.3
4-METHYLHEPTANE	0	0.0445	0	0	0.0445
4-METHYLOCTANE	0	0.00556	0	0	0.00556
AMMONIA (TOTAL)	67.8	9.86	0	0	77.7
ANTIMONY & COMPOUNDS	0	0.0612	0	0	0.0612
ARSENIC & COMPOUNDS	0.0276	0.0157	0	0	0.0433
BENZENE	69	10.4	0	0	79.4
BERYLLIUM & COMPOUNDS	0.00164	0.000238	0	0	0.00188
CADMIUM & COMPOUNDS	0.155	0.0252	0	0	0.18
CARBON DIOXIDE	1690000	2450000	0	0	1940000
CARBON MONOXIDE	11600	1680	0	0	13300
CHLOROFORM (TRICHLOROMETHANE)	0	0.0169	0	0	0.0169
CHROMIUM (III) COMPOUNDS	0.18	0.0369	0	0	0.217
CHROMIUM (VI) COMPOUNDS	0.00949	0.00597	0	0	0.0155
CIS-1,3-	0	0.122	0	0	0.122

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOPENTANE					
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0.0778	0	0	0.0778
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0.0778	0	0	0.0778
CIS-2-BUTENE	0	0.167	0	0	0.167
CIS-2-PENTENE	0	0.901	0	0	0.901
COBALT & COMPOUNDS	0.0112	0.0223	0	0	0.0335
COPPER & COMPOUNDS	0.121	0.151	0	0	0.272
CUMENE (1-METHYLETHYLBENZENE)	0	0.0832	0	0	0.0832
CYCLOHEXANE	17.3	2.53	0	0	19.8
CYCLOPENTENE	0	0.0167	0	0	0.0167
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0.0254	0	0	0.0254
ETHYL ACETATE	341	0	0	0	341
ETHYL ALCOHOL	131000	10100	0	0	141000
ETHYLBENZENE	0	0.0653	0	0	0.0653
ETHYLCYCLOPENTANE	0	0.0167	0	0	0.0167
FORMALDEHYDE	138	20	0	0	158
HEXADECANE	0	0.000495	0	0	0.000495
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	95.8	0	0	0	95.8
ISOBUTYL ALCOHOL	31.9	0	0	0	31.9
ISOMERS OF HEXANE	17.3	2.5	0	0	19.8
ISOMERS OF PENTANE	155	50.1	0	0	205
ISOMERS OF XYLENE	0	0.472	0	0	0.472
LEAD & COMPOUNDS	0.069	0.122	0	0	0.191
MANGANESE & COMPOUNDS	0.0526	0.728	0	0	0.78
MERCURY & COMPOUNDS	0.0362	0.0134	0	0	0.0496
METHANE	966	168	0	0	1130
METHYLCYCLOPENTANE	0	0.161	0	0	0.161
M-ETHYLTOLUENE	0	0.231	0	0	0.231
MOLYBDENUM	0	0.0045	0	0	0.0045
N-BUTANE	155	29.9	0	0	185
N-DECANE	0	0.00556	0	0	0.00556
N-DODECANE	0	0.0135	0	0	0.0135
N-HEPTADECANE	0	0.000165	0	0	0.000165
N-HEPTANE	0	0.217	0	0	0.217
N-HEXANE	0	0.122	0	0	0.122
NICKEL & COMPOUNDS	0.293	0.0534	0	0	0.347
NITRIC OXIDE	8560	1240	0	0	9800
NITROGEN DIOXIDE	690	100	0	0	790
NITROUS OXIDE	32	4.64	0	0	36.6
N-NONANE	0	0.00556	0	0	0.00556
N-PENTADECANE	0	0.00231	0	0	0.00231
N-PENTANE	104	15	0	0	119
N-PROPYLBENZENE	0	0.112	0	0	0.112
N-TETRADECANE	0	0.0066	0	0	0.0066

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	0	0.00908	0	0	0.00908
N-UNDECANE	0	0.00446	0	0	0.00446
O-ETHYLTOLUENE	0	0.17	0	0	0.17
OXIDES OF NITROGEN	13800	2000	0	0	15800
PARTICULATE MATTER ≤ 10 µm	1050	477	0	0	1530
PARTICULATE MATTER ≤ 2.5 µm	1050	346	0	0	1390
P-DICHLOROBENZENE	0	0.00282	0	0	0.00282
PERCHLOROETHYLENE	0	0.0197	0	0	0.0197
P-ETHYLTOLUENE	0	0.343	0	0	0.343
POLYCHLORINATED DIOXINS AND FURANS	0.000000164	2.38x10 ⁻⁰⁸	0	0	0.000000188
POLYCYCLIC AROMATIC HYDROCARBONS	0.0949	0.0138	0	0	0.109
PROPANE	69	10	0	0	79
SELENIUM & COMPOUNDS	0.00328	0.00228	0	0	0.00555
SULFUR DIOXIDE	72.1	10.5	0	0	82.6
TOLUENE	34.5	6.12	0	0	40.6
TOTAL SUSPENDED PARTICULATE	1050	1200	0	0	2250
TOTAL VOLATILE ORGANIC COMPOUNDS	132000	10300	0	0	143000
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0	0.00556	0	0	0.00556
TRANS-1,2-CIS-4- TRIMETHYLCYCLOPENTANE	0	0.0167	0	0	0.0167
TRANS-1,3- DIMETHYLCYCLOPENTANE	0	0.0389	0	0	0.0389
TRANS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0	0.0222	0	0	0.0222
TRANS-1-2- DIMETHYLCYCLOPENTANE	0	0.0278	0	0	0.0278
TRANS-2-BUTENE	0	1.57	0	0	1.57
TRANS-2- ETHYLMETHYLCYCLOPENTANE	0	0.0167	0	0	0.0167
TRANS-2-PENTENE	0	1.63	0	0	1.63
TRICHLOROETHYLENE (TCE)	0	0.00282	0	0	0.00282
VANADIUM & COMPOUNDS	0	0.0639	0	0	0.0639
ZINC & COMPOUNDS	3.97	1.47	0	0	5.44

A.11 CAKE AND PASTRY MANUFACTURING

Table A-11: Annual emissions from cake and pastry manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	13.7	0	0	0	13.7
AMMONIA (TOTAL)	24.4	0	0	0	24.4
ARSENIC & COMPOUNDS	0.00318	0	0	0	0.00318
BENZENE	7.96	0	0	0	7.96

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0.000189	0	0	0	0.000189
CADMIUM & COMPOUNDS	0.0179	0	0	0	0.0179
CARBON DIOXIDE	1950000	0	0	0	1950000
CARBON MONOXIDE	1340	0	0	0	1340
CHLOROFORM (TRICHLOROMETHANE)	10.3	0	0	0	10.3
CHROMIUM (III) COMPOUNDS	0.0208	0	0	0	0.0208
CHROMIUM (VI) COMPOUNDS	0.00109	0	0	0	0.00109
COBALT & COMPOUNDS	0.00129	0	0	0	0.00129
COPPER & COMPOUNDS	0.0139	0	0	0	0.0139
CYCLOHEXANE	1.99	0	0	0	1.99
DICHLOROMETHANE {METHYLENE CHLORIDE}	15.4	0	0	0	15.4
ETHYL ACETATE	38.6	0	0	0	38.6
ETHYL ALCOHOL	12000	0	0	0	12000
FORMALDEHYDE	17.6	0	0	0	17.6
ISOAMYL ALCOHOL (3-METHYL- 1-BUTANOL)	10.9	0	0	0	10.9
ISOBUTYL ALCOHOL	3.62	0	0	0	3.62
ISOMERS OF HEXANE	1.99	0	0	0	1.99
ISOMERS OF PENTANE	17.9	0	0	0	17.9
ISOMERS OF XYLENE	10.3	0	0	0	10.3
LEAD & COMPOUNDS	0.00796	0	0	0	0.00796
MANGANESE & COMPOUNDS	0.00607	0	0	0	0.00607
MERCURY & COMPOUNDS	0.00418	0	0	0	0.00418
METHANE	17200	0	0	0	17200
N-BUTANE	17.9	0	0	0	17.9
NICKEL & COMPOUNDS	0.0338	0	0	0	0.0338
NITRIC OXIDE	987	0	0	0	987
NITROGEN DIOXIDE	79.6	0	0	0	79.6
NITROUS OXIDE	3.69	0	0	0	3.69
N-PENTANE	11.9	0	0	0	11.9
OXIDES OF NITROGEN	1590	0	0	0	1590
PARTICULATE MATTER ≤ 10 µm	121	0	0	0	121
PARTICULATE MATTER ≤ 2.5 µm	121	0	0	0	121
P-DICHLOROBENZENE	1.71	0	0	0	1.71
PERCHLOROETHYLENE	12	0	0	0	12
POLYCHLORINATED DIOXINS AND FURANS	1.89x10 ⁻⁰⁸	0	0	0	1.89x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0109	0	0	0	0.0109
PROPANE	7.96	0	0	0	7.96
SELENIUM & COMPOUNDS	0.000378	0	0	0	0.000378
SULFUR DIOXIDE	8.32	0	0	0	8.32
TOLUENE	10.8	0	0	0	10.8
TOTAL SUSPENDED PARTICULATE	121	0	0	0	121
TOTAL VOLATILE ORGANIC COMPOUNDS	12200	0	0	0	12200

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRICHLOROETHYLENE (TCE)	1.71	0	0	0	1.71
ZINC & COMPOUNDS	0.458	0	0	0	0.458

A.12 CERAMIC PRODUCT MANUFACTURING

Table A-12: Annual emissions from ceramic product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	0.15	0	0.012	0	0.162
BENZENE	13.9	0	43	0	56.9
BERYLLIUM & COMPOUNDS	0.002	0	0.01	0	0.012
BORON & COMPOUNDS	0	0	236	0	236
CADMIUM & COMPOUNDS	0.073	0	0.068	0	0.141
CARBON DIOXIDE	1220000	0	282000	0	1500000
CARBON MONOXIDE	15700	0	12900	0	28600
CHROMIUM (III) COMPOUNDS	0.25	0	776	0	776
CHROMIUM (VI) COMPOUNDS	0	0	0.01	0	0.01
COPPER & COMPOUNDS	0	0	0.053	0	0.053
CYCLOHEXANE	3.48	0	10.8	0	14.2
FLUORIDE COMPOUNDS	2660	0	616	0	3280
FORMALDEHYDE	27.9	0	86	0	114
HYDROCHLORIC ACID	830	0	1450	0	2280
ISOMERS OF HEXANE	3.48	0	10.8	0	14.2
ISOMERS OF PENTANE	31.3	0	96.8	0	128
LEAD & COMPOUNDS	0.74	0	0.03	0	0.77
MANGANESE & COMPOUNDS	1.4	0	0	0	1.4
MERCURY & COMPOUNDS	0.047	0	0.016	0	0.063
METHANE	195	0	602	0	797
N-BUTANE	31.3	0	96.8	0	128
NICKEL & COMPOUNDS	0.35	0	0.129	0	0.479
NITRIC OXIDE	1590	0	2400	0	3990
NITROGEN DIOXIDE	128	0	194	0	322
NITROUS OXIDE	2.3	0	0.533	0	2.83
N-PENTANE	20.9	0	64.5	0	85.4
OXIDES OF NITROGEN	2570	0	3870	0	6440
PARTICULATE MATTER ≤ 10 µm	23300	0	7540	0	30800
PARTICULATE MATTER ≤ 2.5 µm	21300	0	1900	0	23200
PHENOL (CARBOLIC ACID)	0	0	3.8	0	3.8
PHOSPHORIC ACID	0	0	17.8	0	17.8
POLYCHLORINATED DIOXINS AND FURANS	0.00000095	0	0.00000022	0	0.00000117
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0.17	0	0.17
PROPANE	13.9	0	43	0	56.9
SULFUR DIOXIDE	47500	0	220	0	47700
TOLUENE	6.96	0	21.5	0	28.5
TOTAL SUSPENDED	41600	0	7960	0	49600

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE					
TOTAL VOLATILE ORGANIC COMPOUNDS	153	0	477	0	630

A.13 CERAMIC PRODUCT MANUFACTURING N.E.C.

Table A-13: Annual emissions from ceramic product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	0	0.104	0	0	0.104
ARSENIC & COMPOUNDS	0	0.0000426	0	0	0.0000426
BENZENE	0	0.21	0	0	0.21
BERYLLIUM & COMPOUNDS	0	0.00000256	0	0	0.00000256
CADMIUM & COMPOUNDS	0	0.000234	0	0	0.000234
CARBON DIOXIDE	0	30400	0	0	30400
CARBON MONOXIDE	0	4.8	0	0	4.8
CHROMIUM (III) COMPOUNDS	0	0.000248	0	0	0.000248
CHROMIUM (VI) COMPOUNDS	0	0.0000508	0	0	0.0000508
COBALT & COMPOUNDS	0	0.0000179	0	0	0.0000179
COPPER & COMPOUNDS	0	0.000181	0	0	0.000181
CYCLOHEXANE	0	0.0522	0	0	0.0522
FORMALDEHYDE	0	0.421	0	0	0.421
LEAD & COMPOUNDS	0	0.000107	0	0	0.000107
MANGANESE & COMPOUNDS	0	0.000081	0	0	0.000081
MERCURY & COMPOUNDS	0	0.0000554	0	0	0.0000554
METHANE	0	1.86	0	0	1.86
MOLYBDENUM	0	0.000234	0	0	0.000234
N-HEXANE	0	0.0522	0	0	0.0522
NICKEL & COMPOUNDS	0	0.000448	0	0	0.000448
NITRIC OXIDE	0	21.6	0	0	21.6
NITROGEN DIOXIDE	0	1.74	0	0	1.74
NITROUS OXIDE	0	0.33	0	0	0.33
OXIDES OF NITROGEN	0	34.8	0	0	34.8
PARTICULATE MATTER ≤ 10 µm	0	1.08	0	0	1.08
PARTICULATE MATTER ≤ 2.5 µm	0	1.07	0	0	1.07
POLYCHLORINATED DIOXINS AND FURANS	0	6.64x10 ⁻¹¹	0	0	6.64x10 ⁻¹¹
POLYCYCLIC AROMATIC HYDROCARBONS	0	0.000149	0	0	0.000149
SELENIUM & COMPOUNDS	0	0.00000512	0	0	0.00000512
SULFUR DIOXIDE	0	0.00018	0	0	0.00018
TOLUENE	0	0.105	0	0	0.105
TOTAL SUSPENDED PARTICULATE	0	1.11	0	0	1.11
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0.84	0	0	0.84
VANADIUM & COMPOUNDS	0	0.00049	0	0	0.00049

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ZINC & COMPOUNDS	0	0.00618	0	0	0.00618

A.14 CHEMICAL PRODUCT MANUFACTURING N.E.C.

Table A-14: Annual emissions from chemical product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	18.9	18.9
1,2,4-TRIMETHYLBENZENE	0.0104	0	0	0	0.0104
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0.198	0	0	0	0.198
1,2-DICHLOROETHANE	7.11	0	0	0	7.11
1,2-DICHLOROPROPANE	0.226	0	0	0	0.226
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.0282	0	0	0	0.0282
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0.0269	0	0	0	0.0269
1,4-DIETHYL-CYCLOHEXANE	44.6	0	0	183	227
1,4-PENTADIENE	0.0347	0	0	0	0.0347
1-BUTENE	1.2	0	0	0	1.2
1-HEXENE	0.226	0	0	0	0.226
1-PENTENE	0.248	0	0	0	0.248
2,2,3-TRIMETHYLHEXANE	0.00347	0	0	0	0.00347
2,2,3-TRIMETHYLBUTANE	0.00695	0	0	0	0.00695
2,2,4-TRIMETHYLPENTANE	0.17	0	0	0	0.17
2,2-DIMETHYLBUTANE	0.0521	0	0	0	0.0521
2,2-DIMETHYLHEXANE	0.00695	0	0	0	0.00695
2,2-DIMETHYLPENTANE	0.0174	0	0	0	0.0174
2,3,3-TRIMETHYLPENTANE	0.0174	0	0	0	0.0174
2,3,4-TRIMETHYLPENTANE	0.0174	0	0	0	0.0174
2,3-DIMETHYLBUTANE	0.281	0	0	0	0.281
2,3-DIMETHYLHEXANE	0.0278	0	0	0	0.0278
2,3-DIMETHYLPENTANE	0.0625	0	0	0	0.0625
2,4-DIMETHYLHEXANE	0.0486	0	0	0	0.0486
2,4-DIMETHYLPENTANE	0.0556	0	0	0	0.0556
2,5-DIMETHYLHEXANE	0.0243	0	0	0	0.0243
2-METHYL-1-BUTENE	0.393	0	0	0	0.393
2-METHYL-2-BUTENE	1.54	0	0	0	1.54
2-METHYL-BUTANE	0.141	0	0	0	0.141
2-METHYLHEPTANE	0.0521	0	0	0	0.0521
2-METHYLHEXANE	0.177	0	0	0	0.177
2-METHYLNONANE	0.00347	0	0	0	0.00347
2-METHYLOCTANE	0.00347	0	0	0	0.00347
2-METHYLPENTANE	1.66	0	0	0	1.66
2-METHYLPROPANE; ISOBUTANE	1.26	0	0	0	1.26
3,3-DIMETHYLPENTANE	0.0208	0	0	0	0.0208
3-ETHYLPENTANE	0.0347	0	0	0	0.0347
3-METHYL-1-BUTENE	0.0104	0	0	0	0.0104

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYLHEPTANE	0.0486	0	0	0	0.0486
3-METHYLHEXANE	0.219	0	0	0	0.219
3-METHYLOCTANE	0.00695	0	0	0	0.00695
3-METHYLPENTANE	0.813	0	0	0	0.813
4-METHYLHEPTANE	0.0278	0	0	0	0.0278
4-METHYLOCTANE	0.00347	0	0	0	0.00347
ACETALDEHYDE	5.25	0	0	0	5.25
ACETIC ACID	4.15	0	0	0	4.15
ACETIC ANHYDRIDE	0.254	0	0	0	0.254
ACETONE	30.3	0	0	23	53.2
ACETYLENE	6.04	0	0	0	6.04
ACROLEIN (2-PROPENAL)	5.05	0	0	0	5.05
ACRYLONITRILE	2.68	0	0	0	2.68
AMMONIA (TOTAL)	81	0	0	0	81
ANTIMONY & COMPOUNDS	2.41	0	0	0.00101	2.41
ARSENIC & COMPOUNDS	0.456	0	0	0.000194	0.457
BENZALDEHYDE	0.22	0	0	0	0.22
BENZENE	52	0	0	0	52
BENZOIC ACID	0.423	0	0	0	0.423
BERYLLIUM & COMPOUNDS	0.000659	0	0	0	0.000659
BUTYRALDEHYDE	0.0282	0	0	0	0.0282
C10 OLEFINS	0.212	0	0	0	0.212
C10H12	43.7	0	0	180	224
C7 CYCLOPARAFFINS	4.94	0	0	0	4.94
C8 CYCLOPARAFFINS	0.0847	0	0	0	0.0847
C9 CYCLOPARAFFINS	18.4	0	0	78.3	96.7
CADMIUM & COMPOUNDS	0.448	0	0	0.0000447	0.448
CARBON DIOXIDE	6800000	0	0	0	6800000
CARBON DISULFIDE	1.13	0	0	0	1.13
CARBON MONOXIDE	4540	0	0	0	4540
CARBON TETRACHLORIDE	0.847	0	0	0	0.847
CARBONYL SULFIDE	0.367	0	0	0	0.367
CHLOROBENZENE	8.53	0	0	0	8.53
CHLORODIFLUOROMETHANE (F-22)	2.03	0	0	0	2.03
CHLOROETHANE (ETHYL CHLORIDE)	3.61	0	0	0	3.61
CHLOROFORM (TRICHLOROMETHANE)	0.113	0	0	0	0.113
CHLOROPENTAFLUOROETHANE (F115)	0.198	0	0	0	0.198
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	4.29	0	0	0	4.29
CHLOROTRIFLUOROMETHANE (F-13)	0.678	0	0	0	0.678
CHROMIUM (III) COMPOUNDS	0.426	0	0	0.000177	0.426
CHROMIUM (VI) COMPOUNDS	0.155	0	0	0.000076	0.155
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0764	0	0	0	0.0764
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0.0486	0	0	0	0.0486
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0486	0	0	0	0.0486
CIS-2-BUTENE	0.104	0	0	0	0.104
CIS-2-PENTENE	0.563	0	0	0	0.563
COBALT & COMPOUNDS	0.153	0	0	0.000343	0.153

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
COPPER & COMPOUNDS	4.74	0	0	0.00221	4.74
CYCLOHEXANE	9.39	0	0	0	9.39
CYCLOHEXANOL	0.452	0	0	0	0.452
CYCLOHEXANONE	0.452	0	0	0	0.452
CYCLOPENTENE	0.0104	0	0	0	0.0104
DIBROMOETHANE	0.0269	0	0	0	0.0269
DICHLOROBENZENES	0.254	0	0	0	0.254
DICHLORODIFLUOROMETHANE (F-12)	4.49	0	0	0	4.49
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.0361	0	0	0	0.0361
DIETHYLBENZENES	0.141	0	0	0	0.141
DIETHYLCYCLOHEXANE	0.236	0	0	0	0.236
DIETHYLENE GLYCOL (2,2'-OXYBIS(ETHANOL))	50.8	0	0	0	50.8
DIMETHOXYMETHANE (METHYLAL)	1.07	0	0	0	1.07
DIMETHYL ETHER	11.9	0	0	0	11.9
DIMETHYLCYCLOHEXANES	0.0589	0	0	0	0.0589
ETHANE	3.9	0	0	0	3.9
ETHYL ACETATE	618	0	0	7.94	626
ETHYL ACRYLATE	1.52	0	0	0	1.52
ETHYL ALCOHOL	186000	6340	0	26.2	193000
ETHYL ETHER	1.61	0	0	0	1.61
ETHYLBENZENE	1.9	0	0	0	1.9
ETHYLCYCLOPENTANE	0.0104	0	0	0	0.0104
ETHYLENE	23.4	0	0	0	23.4
ETHYLENE OXIDE	0.198	0	0	0	0.198
ETHYLHEPTENE	0.0669	0	0	0	0.0669
FORMALDEHYDE	55.6	0	0	0	55.6
FORMIC ACID	0.282	0	0	0	0.282
HEXAFLUOROETHANE {F-116}	5.08	0	0	0	5.08
HEXAMETHYLENEDIAMINE	4.29	0	0	0	4.29
HYDROCHLORIC ACID	0	0	0	9.44	9.44
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	168	0	0	0	168
ISOBUTYL ALCOHOL	56.1	0	0	0	56.1
ISOMERS OF BUTENE	0.367	0	0	0	0.367
ISOMERS OF C10H18	0.132	0	0	0	0.132
ISOMERS OF DECANE (C10 PARAFFINS)	0.191	0	0	0	0.191
ISOMERS OF HEXANE	7.28	0	0	0	7.28
ISOMERS OF NONANE (C9 PARAFFIN)	14	0	0	57.1	71
ISOMERS OF PENTANE	79.8	0	0	0	79.8
ISOMERS OF TETRADECANE (C14 PARAFFINS)	15.3	0	0	71.9	87.2
ISOMERS OF UNDECANE (C11 PARAFFINS)	30.7	0	0	133	164
ISOMERS OF XYLENE	125	0	0	33.5	158
ISOPROPYL ALCOHOL	28.7	0	0	30.5	59.2
LEAD & COMPOUNDS	3.89	0	0	0.00185	3.89
MALEIC ANHYDRIDE	0.847	0	0	0	0.847

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	27.2	0	0	0.0119	27.2
MERCURY & COMPOUNDS	0.43	0	0	0.000134	0.43
METHANE	403	0	0	0	403
METHYL ACETATE	3.9	0	0	0	3.9
METHYL ALCOHOL	28	0	0	3030	3060
METHYL CHLORIDE	0.0282	0	0	0	0.0282
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	180000	0	0	44.6	180000
METHYL FORMATE	2.79	0	0	0	2.79
METHYL ISOBUTYL KETONE	45.9	0	0	15	61
METHYL METHACRYLATE	1.21	0	0	0	1.21
METHYLCYCLOHEXANE	0.284	0	0	0	0.284
METHYLCYCLOPENTANE	0.101	0	0	0	0.101
METHYLENE BROMIDE	0.423	0	0	0	0.423
M-ETHYLTOLUENE	0.0208	0	0	0	0.0208
MOLYBDENUM	0.297	0	0	0.0000746	0.297
N-BUTANE	70.9	0	0	0	70.9
N-BUTYL ACETATE	24.7	0	0	27.9	52.5
N-BUTYL ACRYLATE	0.621	0	0	0	0.621
N-BUTYL ALCOHOL	52.7	0	0	19.5	72.2
N-DECANE	0.00347	0	0	0	0.00347
N-HEPTANE	0.226	0	0	0	0.226
N-HEXANE	0.246	0	0	0	0.246
NICKEL & COMPOUNDS	1.22	0	0	0.000179	1.22
NITRIC OXIDE	3430	0	0	0	3430
NITROGEN DIOXIDE	277	0	0	0	277
NITROUS OXIDE	12.9	0	0	0	12.9
N-NONANE	0.00347	0	0	0	0.00347
N-PENTANE	42.3	0	0	0	42.3
N-PROPYLBENZENE	0.00695	0	0	0	0.00695
N-UNDECANE	0.0743	0	0	0	0.0743
O-DICHLOROBENZENE	0.452	0	0	0	0.452
OXIDES OF NITROGEN	5540	0	0	0	5540
PARTICULATE MATTER ≤ 10 µm	9510	0	0	7.86	9520
PARTICULATE MATTER ≤ 2.5 µm	1910	0	0	5.69	1920
P-DICHLOROBENZENE	9.09	0	0	0	9.09
P-ETHYLTOLUENE	0.0104	0	0	0	0.0104
PHENOL (CARBOLIC ACID)	4.38	0	0	0	4.38
PHTHALIC ANHYDRIDE	2.59	0	0	0	2.59
POLYCHLORINATED DIOXINS AND FURANS	6.59x10 ⁻⁰⁸	0	0	0	6.59x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0382	0	0	0	0.0382
PROPANE	37.5	0	0	0	37.5
PROPYL ACETATE	12.3	0	0	1.93	14.2
PROPYLENE	7.54	0	0	0	7.54
PROPYLENE OXIDE	0.0565	0	0	0	0.0565
P-TOLUALDEHYDE {4-	0.0311	0	0	0	0.0311

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLBENZALDEHYDE}					
SEC-BUTYL ALCOHOL	4.29	0	0	0	4.29
SELENIUM & COMPOUNDS	0.0904	0	0	0.0000298	0.0904
STYRENE (ETHENYLBENZENE)	11	0	0	0	11
SULFUR DIOXIDE	29600	0	0	0	29600
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	0.0565	0	0	0	0.0565
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0.423	0	0	0	0.423
TOLUENE	138000	0	0	71.9	138000
TOTAL SUSPENDED PARTICULATE	30800	0	0	19.9	30800
TOTAL VOLATILE ORGANIC COMPOUNDS	510000	6340	0	4060	520000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.00347	0	0	0	0.00347
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0104	0	0	0	0.0104
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0243	0	0	0	0.0243
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0139	0	0	0	0.0139
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.0174	0	0	0	0.0174
TRANS-2-BUTENE	0.983	0	0	0	0.983
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0104	0	0	0	0.0104
TRANS-2-PENTENE	1.02	0	0	0	1.02
TRICHLOROETHYLENE (TCE)	3500	0	0	0	3500
TRICHLOROFLUOROMETHANE	3.25	0	0	0	3.25
TRICHLOROTRIFLUOROETHANE-F113	0.254	0	0	0	0.254
TRIFLUOROMETHANE (F-23)	3.84	0	0	0	3.84
VANADIUM & COMPOUNDS	2.29	0	0	0.00106	2.29
VINYL ACETATE	6.94	0	0	0	6.94
VINYL CHLORIDE MONOMER	4.54	0	0	0	4.54
ZINC & COMPOUNDS	12.7	0	0	0.0148	12.7

A.15 CHEMICAL WHOLESALING

Table A-15: Annual emissions from chemical wholesaling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYLCYCLOHEXANE	4.92	0	0	0	4.92
1,4-DIETHYL-CYCLOHEXANE	15.6	0	0	0	15.6
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.16	0	0	0	0.16
2,4-DIMETHYLHEXANE	4930	0	0	0	4930
2,4-DIMETHYLPENTANE	1160	0	0	0	1160
2-METHYL-3-HEXANONE	2610	0	0	0	2610
ACETONE	884	0	0	0	884

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	0.459	0.0782	0	0	0.537
ARSENIC & COMPOUNDS	0.0877	0.015	0	0	0.103
BENZALDEHYDE	4.11	0	0	0	4.11
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.48	0	0	0	0.48
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	4440	0	0	0	4440
BUTYLBENZENE ISOMERS	5.32	0	0	0	5.32
BUTYLCYCLOHEXANE	2.12	0	0	0	2.12
C10 OLEFINS	43.4	0	0	0	43.4
C11 OLEFINS	1.16	0	0	0	1.16
C12 OLEFINS	0.28	0	0	0	0.28
C8 INTERNAL ALKENES	103	0	0	0	103
C8 OLEFINS	4	0	0	0	4
CADMIUM & COMPOUNDS	0.0202	0.00345	0	0	0.0237
CHROMIUM (III) COMPOUNDS	0.0803	0.0137	0	0	0.094
CHROMIUM (VI) COMPOUNDS	0.0344	0.00587	0	0	0.0403
COBALT & COMPOUNDS	0.155	0.0265	0	0	0.182
COPPER & COMPOUNDS	0.999	0.17	0	0	1.17
CUMENE (1- METHYLETHYLBENZENE)	0.44	0	0	0	0.44
CYCLOHEXANE	362	0	0	0	362
DECALINS (MIXED CIS,TRANS)	0.76	0	0	0	0.76
DIBROMOETHANE	4.92	0	0	0	4.92
DICHLOROMETHANE {METHYLENE CHLORIDE}	6.59	0	0	0	6.59
DIETHYLCYCLOHEXANE	44	0	0	0	44
DIMETHYL ETHER	12400	0	0	0	12400
DIMETHYLBENZYLALCOHOL	0.2	0	0	0	0.2
DIMETHYLCYCLOBUTANONE	0.76	0	0	0	0.76
DIMETHYLCYCLOHEXANES	2760	0	0	0	2760
DIMETHYLCYCLOPENTANE	9.24	0	0	0	9.24
DIMETHYLHEPTANES	459	0	0	0	459
DIMETHYLHEXANES	4.36	0	0	0	4.36
DIMETHYLNONANES	2.8	0	0	0	2.8
DIMETHYLOCTANES	3.92	0	0	0	3.92
ETHYL ACETATE	1420	0	0	0	1420
ETHYL PROPYLCYCLOHEXANES	0.8	0	0	0	0.8
ETHYLBENZENE	381	0	0	0	381
ETHYLCYCLOHEXANE	980	0	0	0	980
ETHYLCYCLOPENTANE	151	0	0	0	151
ETHYLDIMETHYLPHENOL	0.72	0	0	0	0.72
ETHYLHEPTENE	12.6	0	0	0	12.6
ETHYLHEXANE	0.64	0	0	0	0.64
ETHYLMETHYLCYCLOHEXANES	8.96	0	0	0	8.96
ETHYLMETHYLOCTANE	0.88	0	0	0	0.88
ETHYLOCTANE	0.32	0	0	0	0.32
ETHYLOCTENES	0.56	0	0	0	0.56

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLTOLUENES {METHYLETHYLBENZENES}	139	0	0	0	139
ISOMERS OF C10H18	24.1	0	0	0	24.1
ISOMERS OF C9H16	1.56	0	0	0	1.56
ISOMERS OF DECANE (C10 PARAFFINS)	52.4	0	0	0	52.4
ISOMERS OF DODECANE (C12 PARAFFINS)	3.64	0	0	0	3.64
ISOMERS OF NONANE (C9 PARAFFIN)	1940	0	0	0	1940
ISOMERS OF PROPYLBENZENE	3.64	0	0	0	3.64
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.4	0	0	0	0.4
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.12	0	0	0	0.12
ISOMERS OF UNDECANE (C11 PARAFFINS)	20.9	0	0	0	20.9
ISOMERS OF XYLENE	5680	0	0	0	5680
ISOPROPYL ALCOHOL	26.5	0	0	0	26.5
LEAD & COMPOUNDS	0.837	0.143	0	0	0.979
MANGANESE & COMPOUNDS	5.4	0.92	0	0	6.32
MERCURY & COMPOUNDS	0.0607	0.0104	0	0	0.0711
METHYL ALCOHOL	218	0	0	0	218
METHYL AMYL KETONE	578	0	0	0	578
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	398	0	0	0	398
METHYL HEXANE	16.6	0	0	0	16.6
METHYL ISOBUTYL KETONE	251	0	0	0	251
METHYL PROPYLCYCLOHEXANES	3.32	0	0	0	3.32
METHYLCYCLOHEXANE	2550	0	0	0	2550
METHYLDECALINS	0.32	0	0	0	0.32
METHYLDECANES	5.84	0	0	0	5.84
METHYLDECENES	1	0	0	0	1
METHYLDODECANES	0.24	0	0	0	0.24
METHYLHEXENES	1.6	0	0	0	1.6
METHYLINDANS	0.04	0	0	0	0.04
METHYLNONANE	9.84	0	0	0	9.84
METHYLNONENES	0.36	0	0	0	0.36
METHYLOCTANES	9.6	0	0	0	9.6
METHYLPROPYLNONANE	0.44	0	0	0	0.44
METHYLUDECANE	0.4	0	0	0	0.4
MOLYBDENUM	0.0337	0.00575	0	0	0.0395
NAPHTHALENE	0.4	0	0	0	0.4
N-BUTYL ACETATE	6580	0	0	0	6580
N-HEPTANE	2140	0	0	0	2140
N-HEXANE	0.52	0	0	0	0.52
NICKEL & COMPOUNDS	0.081	0.0138	0	0	0.0948
N-NONANE	11.4	0	0	0	11.4

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NONADIENE	0.28	0	0	0	0.28
N-PENTYLCYCLOHEXANE	0.64	0	0	0	0.64
N-PROPYLBENZENE	0.6	0	0	0	0.6
N-UNDECANE	13.6	0	0	0	13.6
PARTICULATE MATTER ≤ 10 µm	1290	221	0	0	1520
PARTICULATE MATTER ≤ 2.5 µm	313	53.4	0	0	367
PENTYLCYCLOPENTANE	0.08	0	0	0	0.08
PHTHALIC ANHYDRIDE	4.11	0	0	0	4.11
PROPENYLCYCLOHEXANE	0.28	0	0	0	0.28
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	5.68	0	0	0	5.68
SELENIUM & COMPOUNDS	0.0135	0.0023	0	0	0.0158
TETRAMETHYLBENZENES	0.4	0	0	0	0.4
TETRAMETHYLCYCLOBUTENE	0.04	0	0	0	0.04
TETRAMETHYLCYCLOPENTANE	0.88	0	0	0	0.88
TETRAMETHYLTHIOUREA	0.08	0	0	0	0.08
TOLUENE	26100	0	0	0	26100
TOTAL SUSPENDED PARTICULATE	6750	1150	0	0	7900
TOTAL VOLATILE ORGANIC COMPOUNDS	81400	0	0	0	81400
TRIMETHYLBENZENES	80.6	0	0	0	80.6
TRIMETHYLCYCLOHEXANES	1140	0	0	0	1140
TRIMETHYLCYCLOPENTANE	121	0	0	0	121
TRIMETHYLHEPTANES	2.84	0	0	0	2.84
TRIMETHYLOCTANES	0.6	0	0	0	0.6
VANADIUM & COMPOUNDS	0.479	0.0817	0	0	0.561
ZINC & COMPOUNDS	6.69	1.14	0	0	7.83

A.16 CONCRETE SLURRY MANUFACTURING

Table A-16: Annual emissions from concrete slurry manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.00821	0	0	0	0.00821
1,2,4-TRIMETHYLBENZENE	0.0044	0	0	0	0.0044
1,3,5-TRIMETHYLBENZENE	0.00618	0	0	0	0.00618
ANTIMONY & COMPOUNDS	0.33	0.0607	0.00508	0.0863	0.482
ARSENIC & COMPOUNDS	0.068	0.0128	0.00105	0.0178	0.0996
BERYLLIUM & COMPOUNDS	0.00000785	0.00000435	0.000000101	0.00000171	0.000014
CADMIUM & COMPOUNDS	0.0149	0.00278	0.000229	0.00389	0.0218
CHROMIUM (III) COMPOUNDS	0.0838	0.0155	0.00129	0.0219	0.122
CHROMIUM (VI) COMPOUNDS	0.0247	0.00456	0.000381	0.00647	0.0361
COBALT & COMPOUNDS	0.112	0.0205	0.00172	0.0292	0.163
COPPER & COMPOUNDS	0.718	0.132	0.011	0.188	1.05
CUMENE (1-METHYLETHYLBENZENE)	0.00295	0	0	0	0.00295

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLBENZENE	0.000345	0	0	0	0.000345
HEXADECANE	0.000017	0	0	0	0.000017
ISOMERS OF XYLENE	0.00528	0	0	0	0.00528
LEAD & COMPOUNDS	0.609	0.112	0.00937	0.159	0.89
MANGANESE & COMPOUNDS	5.08	0.969	0.078	1.33	7.46
MERCURY & COMPOUNDS	0.0437	0.00804	0.000672	0.0114	0.0638
M-ETHYLTOLUENE	0.00703	0	0	0	0.00703
MOLYBDENUM	0.0243	0.00447	0.000373	0.00635	0.0354
N-DODECANE	0.00048	0	0	0	0.00048
N-HEPTADECANE	0.000005	0	0	0	0.000005
NICKEL & COMPOUNDS	0.126	0.026	0.00192	0.0326	0.186
N-PENTADECANE	0.000081	0	0	0	0.000081
N-PROPYLBENZENE	0.00359	0	0	0	0.00359
N-TETRADECANE	0.000234	0	0	0	0.000234
N-TRIDECANE	0.000322	0	0	0	0.000322
N-UNDECANE	0.000158	0	0	0	0.000158
O-ETHYLTOLUENE	0.00604	0	0	0	0.00604
PARTICULATE MATTER ≤ 10 µm	4520	1030	84	1430	7060
PARTICULATE MATTER ≤ 2.5 µm	716	161	13.4	228	1120
P-ETHYLTOLUENE	0.0116	0	0	0	0.0116
SELENIUM & COMPOUNDS	0.378	0.0696	0.00582	0.0989	0.552
TOLUENE	0.00162	0	0	0	0.00162
TOTAL SUSPENDED PARTICULATE	13200	2810	236	4010	20200
TOTAL VOLATILE ORGANIC COMPOUNDS	0.0585	0	0	0	0.0585
VANADIUM & COMPOUNDS	0.344	0.0634	0.0053	0.0901	0.503
ZINC & COMPOUNDS	4.81	0.885	0.074	1.26	7.02

A.17 CONFECTIONARY MANUFACTURING

Table A-17: Annual emissions from confectionary manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	3.95	0	0	0	3.95
1,1,2-TRICHLOROETHANE	2.1	0	0	0	2.1
1,1,3-TRIMETHYLCYCLOHEXANE	0.12	0	0	0	0.12
1,2,4-TRIMETHYLBENZENE	0.0601	0	0	0	0.0601
1,2-BUTADIENE {METHYLLALLENE}	2.4	0	0	0	2.4
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0.0601	0	0	0	0.0601
1,2-DICHLOROETHANE	3.48	0	0	0	3.48
1,3,5-TRIMETHYLBENZENE	0.18	0	0	0	0.18
1,3-BUTADIENE	4.02	0	0	0	4.02
1,4-DIETHYL-CYCLOHEXANE	6.42	0	0	0	6.42
1-BUTENE	2.4	0	0	0	2.4
1-BUTYNE (ETHYLACETYLENE)	0.12	0	0	0	0.12

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-DECENE	0.0601	0	0	0	0.0601
1-HEXENE	0.18	0	0	0	0.18
1-PENTENE	3.24	0	0	0	3.24
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	2.34	0	0	0	2.34
2,2,4-TRIMETHYLPENTANE	0.0601	0	0	0	0.0601
2,2-DICHLORONITROANILINE	0.0601	0	0	0	0.0601
2,3-DIMETHYLBUTANE	0.0601	0	0	0	0.0601
2,4,4-TRIMETHYL-1-PENTENE	0.0601	0	0	0	0.0601
2,4-DIMETHYLHEXANE	24.9	0	0	0	24.9
2,4-DIMETHYLPENTANE	6.03	0	0	0	6.03
2,4-TOLUENE DIISOCYANATE {TDI}	3.96	0	0	0	3.96
2,6-DIMETHYLOCTANE	14.9	0	0	0	14.9
2-BUTYNE	0.0601	0	0	0	0.0601
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	2.16	0	0	0	2.16
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	2.16	0	0	0	2.16
2-FURFURAL	2.22	0	0	0	2.22
2-HEXENES	0.0601	0	0	0	0.0601
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	2.34	0	0	0	2.34
2-METHYL-1-BUTENE	0.0601	0	0	0	0.0601
2-METHYL-2-PENTENE	0.0601	0	0	0	0.0601
2-METHYL-3-HEXANONE	13.2	0	0	0	13.2
2-METHYL-BUTANE	0.48	0	0	0	0.48
2-METHYLPENTANE	0.12	0	0	0	0.12
2-METHYLPROPANE; ISOBUTANE	2.58	0	0	0	2.58
3-ETHYL-2,2-DIMETHYL PENTANE	0.0601	0	0	0	0.0601
3-ETHYLHEXANE	0.12	0	0	0	0.12
3-METHYLHEXANE	0.0601	0	0	0	0.0601
3-METHYLPENTANE	0.18	0	0	0	0.18
4-METHYLANILINE	0.18	0	0	0	0.18
9,10-ANTHRAQUINONE	0.0601	0	0	0	0.0601
ACENAPHTHYLENE	0.12	0	0	0	0.12
ACETALDEHYDE	5.04	0	0	0	5.04
ACETIC ACID	4.38	0	0	0	4.38
ACETIC ANHYDRIDE	2.1	0	0	0	2.1
ACETONE	14	0	0	0	14
ACETYLENE	5.16	0	0	0	5.16
ACROLEIN (2-PROPENAL)	4.62	0	0	0	4.62
ACRYLIC ACID	2.7	0	0	0	2.7
ACRYLONITRILE	3.48	0	0	0	3.48
ADIPIC ACID	2.4	0	0	0	2.4
ALIPHATICS	0.601	0	0	0	0.601
ALKENE KETONE	0.0601	0	0	0	0.0601
AMMONIA (TOTAL)	24.4	0	0	0	24.4
ANILINE {AMINO BENZENE}	4.74	0	0	0	4.74
ANTIMONY & COMPOUNDS	0.000315	0	0	0	0.000315

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
A-PINENE	2.1	0	0	0	2.1
ARSENIC & COMPOUNDS	0.0019	0	0	0	0.0019
BENZALDEHYDE	0.12	0	0	0	0.12
BENZENE	21.5	0	0	0	21.5
BENZOIC ACID	0.24	0	0	0	0.24
BENZYL CHLORIDE	2.52	0	0	0	2.52
BERYLLIUM & COMPOUNDS	0.000109	0	0	0	0.000109
BIPHENYL {PHENYL BENZENE}	0.0601	0	0	0	0.0601
B-PHELLANDRENE {1(7)-2-P-MENTHADIENE}	0.0601	0	0	0	0.0601
B-PINENE	1.38	0	0	0	1.38
BROMODINITROBENZENE	0.0601	0	0	0	0.0601
BUTOXYBUTENE	0.0601	0	0	0	0.0601
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	24.7	0	0	0	24.7
BUTYL ISOPROPYL PHTHALATE	0.3	0	0	0	0.3
BUTYLCYCLOHEXANE	25.4	0	0	0	25.4
BUTYRALDEHYDE	2.64	0	0	0	2.64
C10 AROMATIC	0.0601	0	0	0	0.0601
C10 OLEFINS	0.18	0	0	0	0.18
C10H12	6.32	0	0	0	6.32
C2 ALKYL INDAN	0.24	0	0	0	0.24
C2 CYCLOHEXANE	0.0601	0	0	0	0.0601
C3 CYCLOHEXANE	0.0601	0	0	0	0.0601
C3/C4/C5 ALKYL BENZENES	0.18	0	0	0	0.18
C4 SUBSTITUTED CYCLOHEXANE	0.0601	0	0	0	0.0601
C4 SUBSTITUTED CYCLOHEXANONE	0.0601	0	0	0	0.0601
C5 ESTER	0.12	0	0	0	0.12
C5 OLEFIN	0.0601	0	0	0	0.0601
C5 PARAFFIN	0.0601	0	0	0	0.0601
C5 SUBSTITUTED CYCLOHEXANE	0.0601	0	0	0	0.0601
C6 SUBSTITUTED CYCLOHEXANE	0.0601	0	0	0	0.0601
C6H18O3SI3	0.541	0	0	0	0.541
C7 CYCLOPARAFFINS	4.26	0	0	0	4.26
C7-C16 PARAFFINS	0.901	0	0	0	0.901
C8 CYCLOPARAFFINS	0.3	0	0	0	0.3
C8 INTERNAL ALKENES	0.51	0	0	0	0.51
C8H24O4SI4	0.18	0	0	0	0.18
C9 CYCLOPARAFFINS	2.75	0	0	0	2.75
CADMIUM & COMPOUNDS	0.0104	0	0	0	0.0104
CAMPHENE	0.0601	0	0	0	0.0601
CARBARYL	0.18	0	0	0	0.18
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	2.76	0	0	0	2.76
CARBON DIOXIDE	1130000	0	0	0	1130000
CARBON DISULFIDE	0.541	0	0	0	0.541
CARBON MONOXIDE	353	0	0	0	353
CARBON TETRACHLORIDE	3.9	0	0	0	3.9
CARBONYL SULFIDE	0.18	0	0	0	0.18
CHLORO BENZENE	4.26	0	0	0	4.26

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHLORODIFLUOROMETHANE (F-22)	0.961	0	0	0	0.961
CHLOROETHANE (ETHYL CHLORIDE)	1.74	0	0	0	1.74
CHLOROFORM (TRICHLOROMETHANE)	3.59	0	0	0	3.59
CHLOROPENTAFLUOROETHANE (F115)	0.12	0	0	0	0.12
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	2.04	0	0	0	2.04
CHLOROTRIFLUOROMETHANE (F-13)	0.3	0	0	0	0.3
CHROMIUM (III) COMPOUNDS	0.0121	0	0	0	0.0121
CHROMIUM (VI) COMPOUNDS	0.000656	0	0	0	0.000656
CHRYSENE	0.0601	0	0	0	0.0601
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.0601	0	0	0	0.0601
CIS-3-HEXENE	0.0601	0	0	0	0.0601
COAL TAR	2.22	0	0	0	2.22
COBALT & COMPOUNDS	0.000854	0	0	0	0.000854
COPPER & COMPOUNDS	0.00874	0	0	0	0.00874
CRESOLS	2.28	0	0	0	2.28
CUMENE (1-METHYLETHYLBENZENE)	2.28	0	0	0	2.28
CYCLOHEXANE	8.33	0	0	0	8.33
CYCLOHEXANOL	2.7	0	0	0	2.7
CYCLOHEXANONE	3.18	0	0	0	3.18
CYCLOHEXENE	0.0601	0	0	0	0.0601
CYCLOPENTANE	0.0601	0	0	0	0.0601
CYCLOPENTENE	2.4	0	0	0	2.4
DENATURANT	0.601	0	0	0	0.601
DIBROMOETHANE	2.52	0	0	0	2.52
DIBUTYL PHTHALATE	0.24	0	0	0	0.24
DICHLOROBENZENES	0.12	0	0	0	0.12
DICHLORODIFLUOROMETHANE (F-12)	2.1	0	0	0	2.1
DICHLOROMETHANE {METHYLENE CHLORIDE}	5.3	0	0	0	5.3
DIETHYL CYCLOHEXANE	0.18	0	0	0	0.18
DIETHYLBENZENES	0.18	0	0	0	0.18
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	2.64	0	0	0	2.64
DIETHYLENE GLYCOL BUTYL ETHER ACETATE	0.0601	0	0	0	0.0601
DIISOPROPYL BENZENE (MIXED ISOMERS)	2.28	0	0	0	2.28
DIMETHOXYMETHANE (METHYLAL)	1.02	0	0	0	1.02
DIMETHYL ETHER	6.73	0	0	0	6.73
DIMETHYL FORMAMIDE	2.16	0	0	0	2.16
DIMETHYL PHTHALATE	0.36	0	0	0	0.36
DIMETHYLCYCLOHEXANES	13.9	0	0	0	13.9
DIMETHYLCYCLOPENTANE	0.0601	0	0	0	0.0601
DIMETHYLHEPTANES	2.28	0	0	0	2.28
DIMETHYLOCTANES	0.18	0	0	0	0.18
DIPROPYLENE GLYCOL	3.96	0	0	0	3.96
D-LIMONENE	0.3	0	0	0	0.3
EPICHLOROHYDRIN	2.52	0	0	0	2.52
ETHANE	8.35	0	0	0	8.35
ETHANOLAMINE	2.64	0	0	0	2.64
ETHYL ACETATE	9.86	0	0	0	9.86
ETHYL ACRYLATE	3	0	0	0	3

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ALCOHOL	9.09	0	0	0	9.09
ETHYL ETHER	3.72	0	0	0	3.72
ETHYL ISOPROPYL ETHER	0.12	0	0	0	0.12
ETHYL MERCAPTAN	1.98	0	0	0	1.98
ETHYL STYRENE {ETHYL VINYL BENZENE}	0.18	0	0	0	0.18
ETHYLBENZENE	5.74	0	0	0	5.74
ETHYLCYCLOHEXANE	4.99	0	0	0	4.99
ETHYLCYCLOPENTANE	0.809	0	0	0	0.809
ETHYLENE	17.2	0	0	0	17.2
ETHYLENE GLYCOL	2.22	0	0	0	2.22
ETHYLENE OXIDE	2.28	0	0	0	2.28
ETHYLENEAMINES	2.64	0	0	0	2.64
ETHYLHEPTENE	0.0601	0	0	0	0.0601
ETHYLMETHYLCYCLOHEXANES	0.12	0	0	0	0.12
ETHYL-PHENYL-PHENYL-ETHANE	0.0601	0	0	0	0.0601
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.04	0	0	0	1.04
FLUORANTHENE	0.0601	0	0	0	0.0601
FLUORENE	0.0601	0	0	0	0.0601
FORMALDEHYDE	18.6	0	0	0	18.6
FORMIC ACID	2.52	0	0	0	2.52
FURFURYL ALCOHOL	0.12	0	0	0	0.12
GLYOXAL	0.12	0	0	0	0.12
HEPTENES	3.06	0	0	0	3.06
HEXADECANE	0.0601	0	0	0	0.0601
HEXAFLUOROETHANE {F-116}	2.4	0	0	0	2.4
HEXAMETHYLENEDIAMINE	4.02	0	0	0	4.02
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	2.16	0	0	0	2.16
ISOBUTYL ACRYLATE {2-PROPENOIC ACID}	2.28	0	0	0	2.28
ISOBUTYL ALCOHOL	2.52	0	0	0	2.52
ISOBUTYL ISOBUTYRATE	2.34	0	0	0	2.34
ISOBUTYRALDEHYDE	2.52	0	0	0	2.52
ISOMERS OF BUTENE	0.3	0	0	0	0.3
ISOMERS OF C10H18	0.0601	0	0	0	0.0601
ISOMERS OF DECANE (C10 PARAFFINS)	2.4	0	0	0	2.4
ISOMERS OF DODECANE (C12 PARAFFINS)	2.76	0	0	0	2.76
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	0.0601	0	0	0	0.0601
ISOMERS OF HEPTANE	1.5	0	0	0	1.5
ISOMERS OF HEXANE	4.39	0	0	0	4.39
ISOMERS OF NONANE (C9 PARAFFIN)	12.6	0	0	0	12.6
ISOMERS OF OCTADECANE (C18 PARAFFINS)	0.0601	0	0	0	0.0601
ISOMERS OF OCTANE (C8 PARAFFIN)	1.02	0	0	0	1.02
ISOMERS OF PENTADECANE (C15 PARAFFINS)	2.52	0	0	0	2.52
ISOMERS OF PENTANE	17	0	0	0	17
ISOMERS OF PENTENE	0.3	0	0	0	0.3
ISOMERS OF PROPYLBENZENE	0.12	0	0	0	0.12
ISOMERS OF TETRADECANE (C14 PARAFFINS)	2.58	0	0	0	2.58
ISOMERS OF UNDECANE (C11 PARAFFINS)	4.99	0	0	0	4.99

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF XYLENE	163	0	0	0	163
ISOPRENE	2.4	0	0	0	2.4
ISOPROPYL ACETATE	2.82	0	0	0	2.82
ISOPROPYL ALCOHOL	5.45	0	0	0	5.45
LACTOL SPIRITS	2.16	0	0	0	2.16
LEAD & COMPOUNDS	0.00518	0	0	0	0.00518
MALEIC ANHYDRIDE	0.42	0	0	0	0.42
MANGANESE & COMPOUNDS	0.00721	0	0	0	0.00721
MERCURY & COMPOUNDS	0.00246	0	0	0	0.00246
METHANE	984	0	0	0	984
METHYL ACETATE	4.26	0	0	0	4.26
METHYL ACRYLATE	2.28	0	0	0	2.28
METHYL ALCOHOL	8.44	0	0	0	8.44
METHYL AMYL KETONE	5.89	0	0	0	5.89
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	2.34	0	0	0	2.34
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	10.7	0	0	0	10.7
METHYL FORMATE	1.26	0	0	0	1.26
METHYL HEXANE	0.18	0	0	0	0.18
METHYL ISOBUTYL KETONE	5.12	0	0	0	5.12
METHYL METHACRYLATE	2.76	0	0	0	2.76
METHYL PALMITATE {METHYL HEXADECANOATE}	0.48	0	0	0	0.48
METHYL PROPYLCYCLOHEXANES	0.0601	0	0	0	0.0601
METHYL STEARATE {METHYL OCTADECANOATE}	0.661	0	0	0	0.661
METHYL STYRENE (MIXED) {VINYL TOLUENE}	2.46	0	0	0	2.46
METHYL T-BUTYL ETHER (MTBE)	1.98	0	0	0	1.98
METHYLCYCLOHEXANE	13.1	0	0	0	13.1
METHYLCYCLOPENTANE	1.62	0	0	0	1.62
METHYLDECANES	0.12	0	0	0	0.12
METHYLENE BROMIDE	0.18	0	0	0	0.18
METHYLNAPHTHALENES	0.24	0	0	0	0.24
METHYLNONANE	27.4	0	0	0	27.4
METHYLOCTANES	0.0601	0	0	0	0.0601
METHYLPENTANE	0.0601	0	0	0	0.0601
M-ETHYLTOLUENE	0.18	0	0	0	0.18
METHYLUNDECANE	0.0601	0	0	0	0.0601
MINERAL SPIRITS	3.84	0	0	0	3.84
MOLYBDENUM	0.0000231	0	0	0	0.0000231
MYRCENE	0.0601	0	0	0	0.0601
NAPHTHA	2.82	0	0	0	2.82
NAPHTHALENE	1.08	0	0	0	1.08
N-BUTANE	21.2	0	0	0	21.2
N-BUTYL ACETATE	36.8	0	0	0	36.8
N-BUTYL ACRYLATE	2.58	0	0	0	2.58
N-BUTYL ALCOHOL	4.83	0	0	0	4.83
N-BUTYL BENZOATE	1.26	0	0	0	1.26
N-BUTYLBENZENE	0.36	0	0	0	0.36

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-BUTYLCYCHOHEPTANE	27.9	0	0	0	27.9
N-DECANE	45.4	0	0	0	45.4
N-DODECANE	4.14	0	0	0	4.14
N-HEPTANE	18.4	0	0	0	18.4
N-HEXANE	8.23	0	0	0	8.23
NICKEL & COMPOUNDS	0.0196	0	0	0	0.0196
NITRIC OXIDE	875	0	0	0	875
NITROBENZENE	1.98	0	0	0	1.98
NITROGEN DIOXIDE	70.5	0	0	0	70.5
NITROUS OXIDE	2.13	0	0	0	2.13
N-NONANE	63.5	0	0	0	63.5
N-OCTANE	1.26	0	0	0	1.26
NONENONE	0.12	0	0	0	0.12
N-PENTADECANE	1.02	0	0	0	1.02
N-PENTANE	11.2	0	0	0	11.2
N-PENTYLCYCLOHEXANE	0.0601	0	0	0	0.0601
N-PROPYL ALCOHOL	2.52	0	0	0	2.52
N-TETRADECANE	0.42	0	0	0	0.42
N-TRIDECANE	0.601	0	0	0	0.601
N-UNDECANE	15.8	0	0	0	15.8
OCTAMETHYLCYCLOTETRASILOXANE	0.0601	0	0	0	0.0601
O-DICHLOROBENZENE	2.4	0	0	0	2.4
O-TOLUALDEHYDE	0.24	0	0	0	0.24
OXIDES OF NITROGEN	1410	0	0	0	1410
PALMITIC ACID {N-HEXADECANOIC ACID}	1.2	0	0	0	1.2
PARAFFINS (C16-C34)	0.12	0	0	0	0.12
PARTICULATE MATTER ≤ 10 µm	70.8	0	0	0	70.8
PARTICULATE MATTER ≤ 2.5 µm	70.2	0	0	0	70.2
P-DICHLOROBENZENE	4.41	0	0	0	4.41
PERCHLOROETHYLENE	4.82	0	0	0	4.82
PHENANTHRENE	0.36	0	0	0	0.36
PHENOL (CARBOLIC ACID)	2.64	0	0	0	2.64
PHENYL ISOCYANATE	0.721	0	0	0	0.721
PHTHALIC ANHYDRIDE	1.2	0	0	0	1.2
PIPERYLENE {1,3-PENTADIENE} (MIXED ISOMERS)	2.4	0	0	0	2.4
POLYCHLORINATED DIOXINS AND FURANS	1.09x10 ⁻⁰⁸	0	0	0	1.09x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00633	0	0	0	0.00633
PROPANE	19	0	0	0	19
PROPIONALDEHYDE	2.52	0	0	0	2.52
PROPIONIC ACID	2.4	0	0	0	2.4
PROPYL ACETATE	3.01	0	0	0	3.01
PROPYLCYCLOHEXANE	0.0601	0	0	0	0.0601
PROPYLENE	8.41	0	0	0	8.41
PROPYLENE DICHLORIDE	0.12	0	0	0	0.12
PROPYLENE GLYCOL	2.28	0	0	0	2.28
PROPYLENE OXIDE	3	0	0	0	3
PYRENE	0.0601	0	0	0	0.0601
SEC-BUTYL ALCOHOL	2.04	0	0	0	2.04

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SEC-BUTYLCYCLOHEXANE	11.7	0	0	0	11.7
SELENIUM & COMPOUNDS	0.000228	0	0	0	0.000228
STYRENE (ETHENYLBENZENE)	7.21	0	0	0	7.21
SUBSTITUTED C9 ESTER (C12)	0.541	0	0	0	0.541
SULFUR DIOXIDE	4.81	0	0	0	4.81
TERT-BUTYL ALCOHOL	2.52	0	0	0	2.52
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0.18	0	0	0	0.18
TOLUENE	150	0	0	0	150
TOTAL AROMATIC AMINES	0.24	0	0	0	0.24
TOTAL C2-C5 ALDEHYDES	0.721	0	0	0	0.721
TOTAL SUSPENDED PARTICULATE	74.6	0	0	0	74.6
TOTAL VOLATILE ORGANIC COMPOUNDS	1350	0	0	0	1350
TRANS-2-BUTENE	0.0601	0	0	0	0.0601
TRANS-2-PENTENE	0.0601	0	0	0	0.0601
TRICHLOROBENZENES (MIXED)	0.0601	0	0	0	0.0601
TRICHLOROETHYLENE (TCE)	2.67	0	0	0	2.67
TRICHLOROFLUOROMETHANE	3.66	0	0	0	3.66
TRICHLOROTRIFLUOROETHANE-F113	2.4	0	0	0	2.4
TRIFLUOROMETHANE (F-23)	1.8	0	0	0	1.8
TRIMETHYLBENZENES	1.03	0	0	0	1.03
TRIMETHYLCYCLOHEXANES	31.6	0	0	0	31.6
TRIMETHYLCYCLOPENTANE	0.578	0	0	0	0.578
TRIMETHYLDECENES	0.12	0	0	0	0.12
TRIMETHYLFLUOROSILANE	4.14	0	0	0	4.14
TRIMETHYLHEPTANES	0.12	0	0	0	0.12
VANADIUM & COMPOUNDS	0.000329	0	0	0	0.000329
VINYL ACETATE	3.3	0	0	0	3.3
VINYL CHLORIDE MONOMER	2.52	0	0	0	2.52
ZINC & COMPOUNDS	0.269	0	0	0	0.269

A.18 CONSTRUCTION MATERIAL MINING N.E.C.

Table A-18: Annual emissions from construction material mining n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0.594	0	0.253	0.846
1,2,4-TRIMETHYLBENZENE	0	0.319	0	0.135	0.454
1,3,5-TRIMETHYLBENZENE	0	0.447	0	0.19	0.638
ANTIMONY & COMPOUNDS	0	0.0027	0	0.00105	0.00375
ARSENIC & COMPOUNDS	0	0.0162	0	0.0063	0.0225
BERYLLIUM & COMPOUNDS	0	0.00081	0	0.000315	0.00113
BORON & COMPOUNDS	0	0.054	0	0.021	0.075
CADMIUM & COMPOUNDS	0	0.000946	0	0.000367	0.00131
CHROMIUM (III) COMPOUNDS	0	0.189	0	0.0735	0.263
COBALT & COMPOUNDS	0	0.0216	0	0.0084	0.03
COPPER & COMPOUNDS	0	0.081	0	0.0315	0.113

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CUMENE (1-METHYLETHYLBENZENE)	0	0.214	0	0.0908	0.304
ETHYLBENZENE	0	0.025	0	0.0106	0.0356
FLUORIDE COMPOUNDS	0	0.54	0	0.21	0.75
HEXADECANE	0	0.00127	0	0.00054	0.00181
ISOMERS OF XYLENE	0	0.382	0	0.162	0.545
LEAD & COMPOUNDS	0	0.0946	0	0.0367	0.131
MANGANESE & COMPOUNDS	0	2.7	0	1.05	3.75
MERCURY & COMPOUNDS	0	0.000162	0	0.000063	0.000225
M-ETHYLTOLUENE	0	0.508	0	0.216	0.725
N-DODECANE	0	0.0347	0	0.0148	0.0495
N-HEPTADECANE	0	0.000423	0	0.00018	0.000603
NICKEL & COMPOUNDS	0	0.135	0	0.0525	0.188
N-PENTADECANE	0	0.00593	0	0.00252	0.00845
N-PROPYLBENZENE	0	0.26	0	0.11	0.37
N-TETRADECANE	0	0.0169	0	0.0072	0.0242
N-TRIDECANE	0	0.0233	0	0.00991	0.0332
N-UNDECANE	0	0.0114	0	0.00486	0.0163
O-ETHYLTOLUENE	0	0.437	0	0.186	0.622
PARTICULATE MATTER ≤ 10 µm	0	33900	0	16400	50300
PARTICULATE MATTER ≤ 2.5 µm	0	6580	0	3690	10300
P-ETHYLTOLUENE	0	0.837	0	0.356	1.19
SELENIUM & COMPOUNDS	0	0.0189	0	0.00735	0.0263
TOLUENE	0	0.117	0	0.0499	0.167
TOTAL SUSPENDED PARTICULATE	0	57000	0	48900	106000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	4.23	0	1.8	6.03
ZINC & COMPOUNDS	0	0.243	0	0.0944	0.338

A.19 CORRUGATED PAPERBOARD CONTAINER MANUFACTURING

Table A-19: Annual emissions from corrugated paperboard container manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	28.2	0	0	0	28.2
ARSENIC & COMPOUNDS	0.0115	0	0	0	0.0115
BENZENE	28.7	0	0	0	28.7
BERYLLIUM & COMPOUNDS	0.000682	0	0	0	0.000682
CADMIUM & COMPOUNDS	0.0646	0	0	0	0.0646
CARBON DIOXIDE	7030000	0	0	0	7030000
CARBON MONOXIDE	4820	0	0	0	4820
CHROMIUM (III) COMPOUNDS	0.075	0	0	0	0.075
CHROMIUM (VI) COMPOUNDS	0.00395	0	0	0	0.00395
COBALT & COMPOUNDS	0.00466	0	0	0	0.00466
COPPER & COMPOUNDS	0.0502	0	0	0	0.0502
CYCLOHEXANE	7.18	0	0	0	7.18

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
FORMALDEHYDE	57.4	0	0	0	57.4
ISOMERS OF HEXANE	7.18	0	0	0	7.18
ISOMERS OF PENTANE	64.6	0	0	0	64.6
LEAD & COMPOUNDS	0.0287	0	0	0	0.0287
MANGANESE & COMPOUNDS	0.0219	0	0	0	0.0219
MERCURY & COMPOUNDS	0.0151	0	0	0	0.0151
METHANE	402	0	0	0	402
N-BUTANE	64.6	0	0	0	64.6
NICKEL & COMPOUNDS	0.122	0	0	0	0.122
NITRIC OXIDE	3560	0	0	0	3560
NITROGEN DIOXIDE	287	0	0	0	287
NITROUS OXIDE	13.3	0	0	0	13.3
N-PENTANE	43.1	0	0	0	43.1
OXIDES OF NITROGEN	5740	0	0	0	5740
PARTICULATE MATTER ≤ 10 µm	436	0	0	0	436
PARTICULATE MATTER ≤ 2.5 µm	436	0	0	0	436
POLYCHLORINATED DIOXINS AND FURANS	6.82x10 ⁻⁰⁸	0	0	0	6.82x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0395	0	0	0	0.0395
PROPANE	28.7	0	0	0	28.7
SELENIUM & COMPOUNDS	0.00136	0	0	0	0.00136
SULFUR DIOXIDE	30	0	0	0	30
TOLUENE	14.4	0	0	0	14.4
TOTAL SUSPENDED PARTICULATE	436	0	0	0	436
TOTAL VOLATILE ORGANIC COMPOUNDS	316	0	0	0	316
ZINC & COMPOUNDS	1.65	0	0	0	1.65

A.20 ELECTRIC CABLE AND WIRE MANUFACTURING

Table A-20: Annual emissions from electric cable and wire manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-3-HEXANONE	0	0	0	14600	14600
ACETONE	0	0	0	4950	4950
ANTIMONY & COMPOUNDS	0	0	0	0.136	0.136
ARSENIC & COMPOUNDS	0	0	0	0.0261	0.0261
CADMIUM & COMPOUNDS	0	0	0	0.00601	0.00601
CHROMIUM (III) COMPOUNDS	0	0	0	0.0239	0.0239
CHROMIUM (VI) COMPOUNDS	0	0	0	0.0102	0.0102
COBALT & COMPOUNDS	0	0	0	0.0461	0.0461
COPPER & COMPOUNDS	0	0	0	0.297	0.297
CYCLOHEXANE	0	0	0	2020	2020
ETHYL ACETATE	0	0	0	7970	7970
ETHYLBENZENE	0	0	0	2100	2100

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	0	782	782
ISOMERS OF XYLENE	0	0	0	20500	20500
LEAD & COMPOUNDS	0	0	0	0.249	0.249
MANGANESE & COMPOUNDS	0	0	0	1.6	1.6
MERCURY & COMPOUNDS	0	0	0	0.018	0.018
METHYL AMYL KETONE	0	0	0	3220	3220
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	2100	2100
METHYL ISOBUTYL KETONE	0	0	0	1400	1400
MOLYBDENUM	0	0	0	0.01	0.01
N-BUTYL ACETATE	0	0	0	8370	8370
N-HEPTANE	0	0	0	1390	1390
NICKEL & COMPOUNDS	0	0	0	0.0241	0.0241
PARTICULATE MATTER ≤ 10 µm	0	0	0	1220	1220
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	722	722
SELENIUM & COMPOUNDS	0	0	0	0.00401	0.00401
TOLUENE	0	0	0	14100	14100
TOTAL SUSPENDED PARTICULATE	0	0	0	3330	3330
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	84000	84000
TRIMETHYLBENZENES	0	0	0	444	444
VANADIUM & COMPOUNDS	0	0	0	0.142	0.142
ZINC & COMPOUNDS	0	0	0	1.99	1.99

A.21 ELECTRICAL AND EQUIPMENT MANUFACTURING N.E.C.

Table A-21: Annual emissions from electrical and equipment manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYL CYCLOHEXANE	23.1	0	0	0	23.1
1,4-DIETHYL-CYCLOHEXANE	119	0	0	0	119
2,4-DIMETHYLHEXANE	9.8	0	0	0	9.8
2,4-DIMETHYLPENTANE	2.31	0	0	0	2.31
2-METHYL-3-HEXANONE	5.1	0	0	0	5.1
ACETONE	26.3	0	0	0	26.3
AMMONIA (TOTAL)	0.215	0	0	0	0.215
ARSENIC & COMPOUNDS	0.0000877	0	0	0	0.0000877
BENZALDEHYDE	19.3	0	0	0	19.3
BENZENE	0.219	0	0	0	0.219
BERYLLIUM & COMPOUNDS	0.00000521	0	0	0	0.00000521
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	8.82	0	0	0	8.82
C10 OLEFINS	182	0	0	0	182
C10H12	45.3	0	0	0	45.3

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C8 INTERNAL ALKENES	0.204	0	0	0	0.204
C9 CYCLOPARAFFINS	19.1	0	0	0	19.1
CADMIUM & COMPOUNDS	0.000493	0	0	0	0.000493
CARBON DIOXIDE	53700	0	0	0	53700
CARBON MONOXIDE	36.8	0	0	0	36.8
CHROMIUM (III) COMPOUNDS	7.26	0	0	0	7.26
CHROMIUM (VI) COMPOUNDS	0.0000301	0	0	0	0.0000301
COBALT & COMPOUNDS	0.0000356	0	0	0	0.0000356
COPPER & COMPOUNDS	0.000384	0	0	0	0.000384
CYCLOHEXANE	0.763	0	0	0	0.763
DIBROMOETHANE	23.1	0	0	0	23.1
DICHLOROMETHANE {METHYLENE CHLORIDE}	31	0	0	0	31
DIETHYLCYCLOHEXANE	202	0	0	0	202
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	52.4	0	0	0	52.4
DIMETHYLCYCLOHEXANES	56	0	0	0	56
DIMETHYLHEPTANES	0.912	0	0	0	0.912
ETHYL ACETATE	18.7	0	0	0	18.7
ETHYL ALCOHOL	21.4	0	0	0	21.4
ETHYLBENZENE	24.4	0	0	0	24.4
ETHYLCYCLOHEXANE	1.95	0	0	0	1.95
ETHYLCYCLOPENTANE	0.299	0	0	0	0.299
ETHYLHEPTENE	57.4	0	0	0	57.4
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.272	0	0	0	0.272
FORMALDEHYDE	0.438	0	0	0	0.438
ISOMERS OF C10H18	113	0	0	0	113
ISOMERS OF DECANE (C10 PARAFFINS)	164	0	0	0	164
ISOMERS OF HEXANE	0.0548	0	0	0	0.0548
ISOMERS OF NONANE (C9 PARAFFIN)	151	0	0	0	151
ISOMERS OF PENTANE	0.493	0	0	0	0.493
ISOMERS OF TETRADECANE (C14 PARAFFINS)	15.9	0	0	0	15.9
ISOMERS OF UNDECANE (C11 PARAFFINS)	73.2	0	0	0	73.2
ISOMERS OF XYLENE	206	0	0	0	206
ISOPROPYL ALCOHOL	953	0	0	0	953
LEAD & COMPOUNDS	0.000219	0	0	0	0.000219
MAGNESIUM OXIDE FUME	79.2	0	0	0	79.2
MANGANESE & COMPOUNDS	121	0	0	0	121
MERCURY & COMPOUNDS	0.000115	0	0	0	0.000115
METHANE	3.07	0	0	0	3.07
METHYL AMYL KETONE	1.13	0	0	0	1.13
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	168	0	0	0	168
METHYL ISOBUTYL KETONE	47.3	0	0	0	47.3

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLCYCLOHEXANE	249	0	0	0	249
N-BUTANE	0.493	0	0	0	0.493
N-BUTYL ACETATE	273	0	0	0	273
N-BUTYL ALCOHOL	50.8	0	0	0	50.8
N-HEPTANE	82	0	0	0	82
NICKEL & COMPOUNDS	8.93	0	0	0	8.93
NITRIC OXIDE	262	0	0	0	262
NITROGEN DIOXIDE	21.1	0	0	0	21.1
NITROUS OXIDE	0.102	0	0	0	0.102
N-PENTANE	0.329	0	0	0	0.329
N-UNDECANE	63.8	0	0	0	63.8
OXIDES OF NITROGEN	422	0	0	0	422
PARTICULATE MATTER ≤ 10 µm	429	0	0	0	429
PARTICULATE MATTER ≤ 2.5 µm	429	0	0	0	429
PHTHALIC ANHYDRIDE	19.3	0	0	0	19.3
POLYCHLORINATED DIOXINS AND FURANS	5.21x10 ⁻¹⁰	0	0	0	5.21x10 ⁻¹⁰
POLYCYCLIC AROMATIC HYDROCARBONS	0.000301	0	0	0	0.000301
PROPANE	0.219	0	0	0	0.219
PROPYL ACETATE	12.7	0	0	0	12.7
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	26.7	0	0	0	26.7
SELENIUM & COMPOUNDS	0.0000104	0	0	0	0.0000104
SULFUR DIOXIDE	0.229	0	0	0	0.229
TOLUENE	556	0	0	0	556
TOTAL SUSPENDED PARTICULATE	429	0	0	0	429
TOTAL VOLATILE ORGANIC COMPOUNDS	4180	0	0	0	4180
TRIMETHYLBENZENES	0.15	0	0	0	0.15
TRIMETHYLCYCLOHEXANES	2.26	0	0	0	2.26
TRIMETHYLCYCLOPENTANE	0.231	0	0	0	0.231
ZINC & COMPOUNDS	0.0126	0	0	0	0.0126

A.22 EXPLOSIVE MANUFACTURING

Table A-22: Annual emissions from explosive manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0	0	0	0.016	0.016
1,2-DICHLOROETHANE	0	0	0	0.575	0.575
1,2-DICHLOROPROPANE	0	0	0	0.0182	0.0182
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0	0	0	0.00228	0.00228
1-BUTENE	0	0	0	0.0844	0.0844
1-HEXENE	0	0	0	0.0182	0.0182

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-PENTENE	0	0	0	0.00456	0.00456
2-METHYL-BUTANE	0	0	0	0.0114	0.0114
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.016	0.016
ACETALDEHYDE	0	0	0	0.424	0.424
ACETIC ACID	0	0	0	0.335	0.335
ACETIC ANHYDRIDE	0	0	0	0.0205	0.0205
ACETONE	0	0	0	0.527	0.527
ACETYLENE	0	0	0	0.488	0.488
ACROLEIN (2-PROPENAL)	0	0	0	0.408	0.408
ACRYLONITRILE	0	0	0	0.217	0.217
BENZALDEHYDE	0	0	0	0.016	0.016
BENZENE	0	0	0	1.94	1.94
BENZOIC ACID	0	0	0	0.0342	0.0342
BUTYRALDEHYDE	0	0	0	0.00228	0.00228
C7 CYCLOPARAFFINS	0	0	0	0.399	0.399
C8 CYCLOPARAFFINS	0	0	0	0.00684	0.00684
CARBON DISULFIDE	0	0	0	0.0912	0.0912
CARBON TETRACHLORIDE	0	0	0	0.0684	0.0684
CARBONYL SULFIDE	0	0	0	0.0296	0.0296
CHLOROBENZENE	0	0	0	0.689	0.689
CHLORODIFLUOROMETHANE (F-22)	0	0	0	0.164	0.164
CHLOROETHANE (ETHYL CHLORIDE)	0	0	0	0.292	0.292
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	0.00912	0.00912
CHLOROPENTAFLUOROETHANE (F115)	0	0	0	0.016	0.016
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	0	0	0	0.347	0.347
CHLOROTRIFLUOROMETHANE (F-13)	0	0	0	0.0547	0.0547
CYCLOHEXANE	0	0	0	0.196	0.196
CYCLOHEXANOL	0	0	0	0.0365	0.0365
CYCLOHEXANONE	0	0	0	0.0365	0.0365
DICHLOROBENZENES	0	0	0	0.0205	0.0205
DICHLORODIFLUOROMETHANE (F-12)	0	0	0	0.363	0.363
DIETHYLBENZENES	0	0	0	0.0114	0.0114
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0	0	0	0.0114	0.0114
DIMETHOXYMETHANE (METHYLAL)	0	0	0	0.0867	0.0867
DIMETHYL ETHER	0	0	0	0.962	0.962
ETHANE	0	0	0	0.315	0.315
ETHYL ACRYLATE	0	0	0	0.123	0.123
ETHYL ALCOHOL	0	0	0	0.0411	0.0411
ETHYL ETHER	0	0	0	0.13	0.13
ETHYLBENZENE	0	0	0	0.148	0.148
ETHYLENE	0	0	0	1.89	1.89
ETHYLENE OXIDE	0	0	0	0.016	0.016
FORMALDEHYDE	0	0	0	0.00684	0.00684
FORMIC ACID	0	0	0	0.0228	0.0228
HEXAFLUOROETHANE {F-116}	0	0	0	0.411	0.411
HEXAMETHYLENEDIAMINE	0	0	0	0.347	0.347
ISOMERS OF BUTENE	0	0	0	0.0296	0.0296
ISOMERS OF HEXANE	0	0	0	0.0274	0.0274

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF PENTANE	0	0	0	0.0114	0.0114
ISOMERS OF XYLENE	0	0	0	0.105	0.105
ISOPROPYL ALCOHOL	0	0	0	0.139	0.139
MALEIC ANHYDRIDE	0	0	0	0.0684	0.0684
METHANE	0	0	0	1.16	1.16
METHYL ACETATE	0	0	0	0.315	0.315
METHYL ALCOHOL	0	0	0	0.666	0.666
METHYL CHLORIDE	0	0	0	0.00228	0.00228
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	0.436	0.436
METHYL FORMATE	0	0	0	0.226	0.226
METHYL ISOBUTYL KETONE	0	0	0	0.057	0.057
METHYL METHACRYLATE	0	0	0	0.0981	0.0981
METHYLENE BROMIDE	0	0	0	0.0342	0.0342
N-BUTANE	0	0	0	0.306	0.306
N-BUTYL ACETATE	0	0	0	0.0137	0.0137
N-BUTYL ACRYLATE	0	0	0	0.0502	0.0502
N-BUTYL ALCOHOL	0	0	0	0.255	0.255
N-HEXANE	0	0	0	0.0137	0.0137
N-PENTANE	0	0	0	0.0547	0.0547
O-DICHLOROBENZENE	0	0	0	0.0365	0.0365
P-DICHLOROBENZENE	0	0	0	0.734	0.734
PHENOL (CARBOLIC ACID)	0	0	0	0.354	0.354
PHTHALIC ANHYDRIDE	0	0	0	0.208	0.208
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0	0
PROPANE	0	0	0	0.787	0.787
PROPYLENE	0	0	0	0.609	0.609
PROPYLENE OXIDE	0	0	0	0.00456	0.00456
SEC-BUTYL ALCOHOL	0	0	0	0.347	0.347
STYRENE (ETHENYLBENZENE)	0	0	0	0.892	0.892
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	0	0	0	0.00456	0.00456
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0	0	0	0.0342	0.0342
TOLUENE	0	0	0	0.411	0.411
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	21.3	21.3
TRICHLOROFLUOROMETHANE	0	0	0	0.262	0.262
TRICHLOROTRIFLUOROETHANE-F113	0	0	0	0.0205	0.0205
TRIFLUOROMETHANE (F-23)	0	0	0	0.31	0.31
VINYL ACETATE	0	0	0	0.561	0.561
VINYL CHLORIDE MONOMER	0	0	0	0.367	0.367

A.23 FABRICATED METAL PRODUCT MANUFACTURING N.E.C.

Table A-23: Annual emissions from fabricated metal product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	189	0	0.581	0	190

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	9.57	0	0.311	0	9.88
1,2,4-TRIMETHYLBENZENE	5.13	0	0.167	0	5.3
1,3,5-TRIMETHYLBENZENE	7.21	0	0.235	0	7.45
1,3-DIETHYL-5-METHYL CYCLOHEXANE	32.5	0.082	0	0	32.5
1,4-DIETHYL-CYCLOHEXANE	1790	0.26	0	0	1790
1-CHLOROBUTANE	6.8	0	0	0	6.8
1-ETHOXY-2-PROPANOL	4.49	0	0	0	4.49
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0.5	0	0.5
1-NONENE	0.00332	0	0	0	0.00332
1-OCTENE	0.00332	0	0	0	0.00332
1-PENTENE	0.00332	0	0	0	0.00332
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	2.4	0	0	0	2.4
2,2-DIMETHYLBUTANE	0.00332	0	0	0	0.00332
2,4-DIMETHYLHEXANE	2430	1.76	9.8	0	2440
2,4-DIMETHYLPENTANE	572	0.421	2.31	0	574
2-BUTYLTETRAHYDROFURAN	0.461	0	0	0	0.461
2-ETHYL-1-HEXANOL	3.11	0	0	0	3.11
2-METHYL-1-PENTENE	0.00663	0	0	0	0.00663
2-METHYL-2-BUTENE	0.00332	0	0	0	0.00332
2-METHYL-3-HEXANONE	1260	0	5.1	0	1270
2-METHYLPROPANE; ISOBUTANE	0.143	0	0	0	0.143
2-METHYLPROPENE (ISOBUTENE)	0.00663	0	0	0	0.00663
3-(CHLOROMETHYL)-HEPTANE	1.91	0	0	0	1.91
3-METHYLHEPTANE	0.00663	0	0	0	0.00663
3-METHYLHEXANE	0.00332	0	0	0	0.00332
3-METHYLPENTANE	0.00663	0	0	0	0.00663
ACETALDEHYDE	0.00995	0	0	0	0.00995
ACETONE	769	0	1.73	0	771
ACETYLENE	0.106	0	0	0	0.106
ACRYLONITRILE	0.72	0	0	0	0.72
AMMONIA (TOTAL)	23.6	0	0.0844	4.48	28.2
ANTIMONY & COMPOUNDS	0.623	0.016	0	0	0.639
ARSENIC & COMPOUNDS	0.121	0.00305	0	0.00182	0.126
BENZALDEHYDE	27.1	0.0685	0	0	27.2
BENZENE	6.21	0	0	4.56	10.8
BERYLLIUM & COMPOUNDS	0.00012	0	0	0.000108	0.000228
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	1.5	0	1.5
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	2180	1.6	8.82	0	2190
BUTYLBENZENE ISOMERS	0	0	16.6	0	16.6
BUTYLCYCLOHEXANE	0	0	6.63	0	6.63
C10 OLEFINS	256	0.647	14.4	0	271
C10H12	1660	0	0	0	1660
C11 OLEFINS	0	0	3.63	0	3.63
C12 OLEFINS	0	0	0.875	0	0.875
C7 INTERNAL ALKENES	0.00332	0	0	0	0.00332
C8 INTERNAL ALKENES	68.5	0	0.204	0	68.7

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C8 OLEFINS	0	0	12.5	0	12.5
C9 CYCLOPARAFFINS	722	0	0	0	722
C9 OLEFINS	0.0133	0	0	0	0.0133
CADMIUM & COMPOUNDS	0.0389	0.000704	0	0.0103	0.0498
CARBON DIOXIDE	1250000	0	0	1120000	2370000
CARBON MONOXIDE	870	0	0	766	1640
CHLORINE	0.000352	0	0	0	0.000352
CHLOROETHANE (ETHYL CHLORIDE)	1.91	0	0	0	1.91
CHLOROFORM (TRICHLOROMETHANE)	11.5	0	0.436	0	12
CHROMIUM (III) COMPOUNDS	39.2	3.27	0	0.0119	42.5
CHROMIUM (VI) COMPOUNDS	0.0474	0.0012	0	0.000627	0.0492
CIS-2-BUTENE	0.00663	0	0	0	0.00663
COBALT & COMPOUNDS	0.211	0.0054	0	0.000741	0.218
COPPER & COMPOUNDS	1.36	0.0347	0	0.00798	1.41
CUMENE (1-METHYLETHYLBENZENE)	3.44	0	1.49	0	4.93
CYCLOHEXANE	176	0	0.708	1.14	178
CYCLOPENTANE	0.00663	0	0	0	0.00663
DECALINS (MIXED CIS,TRANS)	0	0	2.38	0	2.38
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	2.4	0	0	0	2.4
DIBROMOETHANE	32.5	0.082	0	0	32.5
DIBUTYL ETHER	0.738	0	0	0	0.738
DICHLOROMETHANE {METHYLENE CHLORIDE}	77.8	0.11	0.654	0	78.6
DIETHYLCYCLOHEXANE	284	0.717	3.13	0	288
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	10.1	0	0	0	10.1
DIMETHOXYMETHANE (METHYLAL)	83	0	0	0	83
DIMETHYLBENZYLALCOHOL	0	0	0.625	0	0.625
DIMETHYLCYCLOBUTANONE	0	0	2.38	0	2.38
DIMETHYLCYCLOHEXANES	1420	1.17	9.83	0	1430
DIMETHYLCYCLOPENTANE	0	0	28.9	0	28.9
DIMETHYLHEPTANES	225	0.165	1.54	0	227
DIMETHYLHEXANES	0	0	13.6	0	13.6
DIMETHYLNONANES	0	0	8.75	0	8.75
DIMETHYLOCTANES	0	0	12.3	0	12.3
ETHANE	4.64	0	0	0	4.64
ETHYL ACETATE	759	0	2.78	0	762
ETHYL ALCOHOL	241	0	0	0	241
ETHYL ISOPROPYL ETHER	16	0	0	0	16
ETHYL PROPYLCYCLOHEXANES	0	0	2.5	0	2.5
ETHYLBENZENE	215	0.0838	0.748	0	216
ETHYLCYCLOHEXANE	493	0.329	5.2	0	499
ETHYLCYCLOPENTANE	101	0	0.299	0	101
ETHYLDIMETHYLPHENOL	0	0	2.25	0	2.25
ETHYLENE	0.209	0	0	0	0.209
ETHYLENE GLYCOL	1.78	0	0	0	1.78
ETHYLHEPTENE	80.6	0.204	1.25	0	82.1
ETHYLHEXANE	0	0	2	0	2
ETHYLMETHYLCYCLOHEXANES	0	0	28	0	28

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLMETHYLOCTANE	0	0	2.75	0	2.75
ETHYLOCTANE	0	0	1	0	1
ETHYLOCTENES	0	0	1.75	0	1.75
ETHYLTOLUENES {METHYLETHYLBENZENES}	67.2	0	0.272	0	67.5
FORMALDEHYDE	12.3	0	0.0727	9.12	21.5
HEXADECANE	0.0205	0	0.000666	0	0.0211
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	4.4	0	0	0	4.4
ISOBUTYRALDEHYDE	0.00663	0	0	0	0.00663
ISOMERS OF BUTENE	0.0862	0	0	0	0.0862
ISOMERS OF C10H18	159	0.401	0	0	159
ISOMERS OF C9H16	0	0	4.88	0	4.88
ISOMERS OF DECANE (C10 PARAFFINS)	231	0.583	54.5	0	286
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	11.4	0	11.4
ISOMERS OF HEPTANE	0.0133	0	0	0	0.0133
ISOMERS OF HEXANE	1.27	0	0	1.14	2.41
ISOMERS OF NONANE (C9 PARAFFIN)	1720	1.02	3.8	0	1730
ISOMERS OF OCTANE (C8 PARAFFIN)	0.00663	0	0	0	0.00663
ISOMERS OF PENTANE	11.4	0	0	10.3	21.7
ISOMERS OF PROPYLBENZENE	0	0	11.4	0	11.4
ISOMERS OF TETRADECANE (C14 PARAFFINS)	663	0	1.25	0	664
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0.375	0	0.375
ISOMERS OF UNDECANE (C11 PARAFFINS)	1290	0.147	37.9	0	1330
ISOMERS OF XYLENE	3240	0.828	28.4	0	3270
ISOPROPYL ALCOHOL	456	0.442	0	0	456
LEAD & COMPOUNDS	1.14	0.0291	0	0.00456	1.17
MAGNESIUM OXIDE FUME	168	86.4	0	0	255
MANGANESE & COMPOUNDS	660	54.8	0	0.00348	715
MERCURY & COMPOUNDS	0.0851	0.00211	0	0.00239	0.0896
METHANE	19200	0	724	63.8	20000
METHYL ALCOHOL	7.91	0	0	0	7.91
METHYL AMYL KETONE	282	0	1.13	0	283
METHYL CHLORIDE	1.69	0	0	0	1.69
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	878	0.366	0.735	0	879
METHYL HEXANE	0	0	52	0	52
METHYL ISOBUTYL KETONE	316	0	0.49	0	316
METHYL PALMITATE {METHYL HEXADECANOATE}	1.11	0	0	0	1.11
METHYL PROPYLCYCLOHEXANES	0	0	10.4	0	10.4
METHYLCYCLOHEXANE	1800	1.26	79.5	0	1880
METHYLCYCLOPENTANE	0.0133	0	0	0	0.0133
METHYLDECALINS	0	0	1	0	1
METHYLDECANES	0	0	18.3	0	18.3
METHYLDECENES	0	0	3.13	0	3.13
METHYLDODECANES	0	0	0.75	0	0.75
METHYLHEXENES	0	0	5	0	5
METHYLINDANS	0	0	0.125	0	0.125
METHYLNONANE	0	0	30.8	0	30.8

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLNONENES	0	0	1.13	0	1.13
METHYLOCTANES	0	0	30	0	30
METHYLPROPYLNONANE	0	0	1.38	0	1.38
M-ETHYLTOLUENE	8.19	0	0.267	0	8.46
METHYLUNDECANE	0	0	1.25	0	1.25
MOLYBDENUM	0.0458	0.00117	0	0	0.047
NAPHTHALENE	0	0	1.25	0	1.25
N-BUTANE	11.7	0	0	10.3	22
N-BUTYL ACETATE	4020	2.17	12.9	0	4030
N-BUTYL ALCOHOL	242	0	0	0	242
N-DECANE	0.734	0	0	0	0.734
N-DODECANE	0.638	0	0.0182	0	0.656
N-HEPTADECANE	0.00682	0	0.000222	0	0.00705
N-HEPTANE	1260	0.584	349	0	1610
N-HEXANE	0.00939	0	1.63	0	1.63
NICKEL & COMPOUNDS	48.3	4.02	0	0.0194	52.3
NITRIC OXIDE	1290	256	0	565	2110
NITROGEN DIOXIDE	104	20.7	0	45.6	170
NITROUS OXIDE	2.38	0	0	2.11	4.49
N-NONANE	0.0235	0	35.5	0	35.5
N-OCTANE	0.00878	0	0	0	0.00878
NONADIENE	0	0	0.875	0	0.875
N-PENTADECANE	0.126	0	0.00311	0	0.13
N-PENTANE	7.62	0	0	6.84	14.5
N-PENTYLCYCLOHEXANE	0	0	2	0	2
N-PROPYLBENZENE	4.18	0	2.01	0	6.19
N-TETRADECANE	0.323	0	0.00889	0	0.332
N-TRIDECANE	0.451	0	0.0122	0	0.464
N-UNDECANE	90.2	0.226	0.006	0	90.4
O-ETHYLTOLUENE	7.04	0	0.229	0	7.27
OXIDES OF NITROGEN	2080	413	0	912	3410
PARTICULATE MATTER ≤ 10 µm	4540	237	0	69.3	4850
PARTICULATE MATTER ≤ 2.5 µm	3210	203	0	69.3	3480
P-DICHLOROBENZENE	1.92	0	0.0727	0	2
PENTYLCYCLOPENTANE	0	0	0.25	0	0.25
PERCHLOROETHYLENE	13.5	0	0.509	0	14
P-ETHYLTOLUENE	13.5	0	0.439	0	13.9
PHTHALIC ANHYDRIDE	27.1	0.0685	0	0	27.2
POLYCHLORINATED DIOXINS AND FURANS	0.000000012	0	0	1.08x10 ⁻⁰⁸	2.28x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00871	0	0	0.00627	0.015
PROPANE	6.02	0	0	4.56	10.6
PROPENYLCYCLOHEXANE	0	0	0.875	0	0.875
PROPYL ACETATE	17.8	0	0	0	17.8
PROPYLENE	1.76	0	0	0	1.76
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	37.5	0.0946	0	0	37.6
SELENIUM & COMPOUNDS	0.0186	0.000469	0	0.000217	0.0192
STYRENE (ETHENYLBENZENE)	2.76	0	0	0	2.76

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SUBSTITUTED C9 ESTER (C12)	87.9	0	0	0	87.9
SULFUR DIOXIDE	5.32	0	0	4.77	10.1
TETRAMETHYLBENZENES	0	0	1.25	0	1.25
TETRAMETHYLCYCLOBUTENE	0	0	0.125	0	0.125
TETRAMETHYLCYCLOPENTANE	0	0	2.75	0	2.75
TETRAMETHYLTHIOUREA	0	0	0.25	0	0.25
TOLUENE	14700	8.39	313	2.28	15000
TOTAL SUSPENDED PARTICULATE	11900	427	0	69.3	12400
TOTAL VOLATILE ORGANIC COMPOUNDS	103000	24.7	1390	58.6	105000
TRANS-2-BUTENE	0.0431	0	0	0	0.0431
TRANS-2-PENTENE	0.00332	0	0	0	0.00332
TRICHLOROETHYLENE (TCE)	54800	0	0.0727	8.4	54800
TRIMETHYLBENZENES	37	0	12.6	0	49.6
TRIMETHYLCYCLOHEXANES	571	0.385	12.3	0	584
TRIMETHYLCYCLOPENTANE	77.6	0	14.9	0	92.4
TRIMETHYLHEPTANES	0	0	8.88	0	8.88
TRIMETHYLOCTANES	0	0	1.88	0	1.88
VANADIUM & COMPOUNDS	0.65	0.0167	0	0	0.667
VINYL ACETATE	0.369	0	0	0	0.369
VINYL CHLORIDE MONOMER	1.2	0	0	0	1.2
ZINC & COMPOUNDS	9.37	0.233	0	0.262	9.86

A.24 FOOD MANUFACTURING N.E.C.

Table A-24: Annual emissions from food manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	82.9	0	0	2.24	85.1
1,2,3-TRIMETHYLBENZENE	0	0	0	0.0937	0.0937
1,2,4-TRIMETHYLBENZENE	0	0	0	0.0503	0.0503
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0706	0.0706
1-BUTENE	0	0	0	0.441	0.441
1-DECENE	0	0	0	1.49	1.49
1-HEXENE	0	0	0	2.03	2.03
2,4-DIMETHYLPENTANE	0	0	0	3.57	3.57
2-METHYL-BUTANE	0	0	0	0.681	0.681
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.139	0.139
ACETIC ACID	1880	0	0	0	1880
AMMONIA (TOTAL)	141	0	0	51.7	192
ANTIMONY & COMPOUNDS	0.00608	0	0	0.0167	0.0228
ARSENIC & COMPOUNDS	0.0176	0	0	0.403	0.421
BENZENE	52	0	0	51.8	104
BERYLLIUM & COMPOUNDS	0.000976	0	0	0.0248	0.0257
C7 INTERNAL ALKENES	0	0	0	2.06	2.06
CADMIUM & COMPOUNDS	0.0927	0	0	0.143	0.236
CARBON DIOXIDE	10100000	0	0	15200000	25200000
CARBON MONOXIDE	6900	0	0	6050	13000

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHLOROFORM (TRICHLOROMETHANE)	62.1	0	0	1.68	63.8
CHROMIUM (III) COMPOUNDS	0.108	0	0	0.349	0.457
CHROMIUM (VI) COMPOUNDS	0.00611	0	0	0.0841	0.0903
CIS-2-PENTENE	0	0	0	0.586	0.586
COBALT & COMPOUNDS	0.00873	0	0	0.0997	0.108
COPPER & COMPOUNDS	0.0851	0	0	0.0798	0.165
CUMENE (1- METHYLETHYL BENZENE)	0	0	0	0.0337	0.0337
CYCLOHEXANE	13	0	0	12.9	25.9
DICHLOROMETHANE {METHYLENE CHLORIDE}	93.2	0	0	2.52	95.7
ETHANE	0	0	0	1.17	1.17
ETHYL ALCOHOL	2820	0	0	0	2820
ETHYLBENZENE	0	0	0	6.28	6.28
FLUORIDE COMPOUNDS	0	0	0	140	140
FORMALDEHYDE	114	0	0	106	220
HEXADECANE	0	0	0	0.0002	0.0002
HYDROCHLORIC ACID	0	0	0	1120	1120
ISOMERS OF HEPTANE	0	0	0	0.0881	0.0881
ISOMERS OF HEXANE	13	0	0	7.67	20.7
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0.159	0.159
ISOMERS OF PENTANE	117	0	0	67.7	185
ISOMERS OF XYLENE	62.1	0	0	28.5	90.6
LEAD & COMPOUNDS	0.0522	0	0	0.444	0.497
MANGANESE & COMPOUNDS	0.103	0	0	0.495	0.598
MERCURY & COMPOUNDS	0.0224	0	0	0.103	0.125
METHANE	104000	0	0	3400	107000
M-ETHYLTOLUENE	0	0	0	0.0802	0.0802
MOLYBDENUM	0.000447	0	0	0.0243	0.0248
N-BUTANE	117	0	0	68.4	185
N-DODECANE	0	0	0	0.00548	0.00548
N-HEPTADECANE	0	0	0	0.000066	0.000066
N-HEPTANE	0	0	0	0.847	0.847
N-HEXANE	107	0	0	11.1	118
NICKEL & COMPOUNDS	0.176	0	0	0.439	0.614
NITRIC OXIDE	5090	0	0	13000	18100
NITROGEN DIOXIDE	411	0	0	1050	1460
NITROUS OXIDE	19.1	0	0	81.9	101
N-PENTADECANE	0	0	0	0.000935	0.000935
N-PENTANE	78	0	0	45.1	123
N-PROPYLBENZENE	0	0	0	0.041	0.041
N-TETRADECANE	0	0	0	0.00267	0.00267
N-TRIDECANE	0	0	0	0.00368	0.00368
N-UNDECANE	0	0	0	0.0018	0.0018
O-ETHYLTOLUENE	0	0	0	0.0689	0.0689
OXIDES OF NITROGEN	8220	0	0	21000	29200

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE MATTER ≤ 10 µm	642	0	0	1010	1650
PARTICULATE MATTER ≤ 2.5 µm	629	0	0	738	1370
P-DICHLOROBENZENE	10.4	0	0	0.28	10.6
PERCHLOROETHYLENE	72.5	0	0	1.96	74.5
P-ETHYLTOLUENE	0	0	0	0.132	0.132
POLYCHLORINATED DIOXINS AND FURANS	9.76x10 ⁻⁰⁸	0	0	0.000000606	0.000000704
POLYCYCLIC AROMATIC HYDROCARBONS	0.0565	0	0	0.0772	0.134
PROPANE	52	0	0	31	83
SELENIUM & COMPOUNDS	0.00213	0	0	1.23	1.23
SULFUR DIOXIDE	42.9	0	0	17800	17800
SULFUR TRIOXIDE	0	0	0	1.02	1.02
SULFURIC ACID	0	0	0	186	186
TOLUENE	67.4	0	0	30.2	97.6
TOTAL SUSPENDED PARTICULATE	714	0	0	1650	2370
TOTAL VOLATILE ORGANIC COMPOUNDS	5720	0	0	489	6210
TRICHLOROETHYLENE (TCE)	10.4	0	0	0.28	10.6
VANADIUM & COMPOUNDS	0.00635	0	0	0.0509	0.0573
ZINC & COMPOUNDS	2.45	0	0	2.37	4.82

A.25 FRUIT AND VEGETABLE PROCESSING

Table A-25: Annual emissions from fruit and vegetable processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	14.5	0	0	0	14.5
ARSENIC & COMPOUNDS	0.00592	0	0	0	0.00592
BENZENE	14.8	0	0	0	14.8
BERYLLIUM & COMPOUNDS	0.000352	0	0	0	0.000352
CADMIUM & COMPOUNDS	0.0333	0	0	0	0.0333
CARBON DIOXIDE	3630000	0	0	0	3630000
CARBON MONOXIDE	2490	0	0	0	2490
CHROMIUM (III) COMPOUNDS	0.0387	0	0	0	0.0387
CHROMIUM (VI) COMPOUNDS	0.00204	0	0	0	0.00204
COBALT & COMPOUNDS	0.00241	0	0	0	0.00241
COPPER & COMPOUNDS	0.0259	0	0	0	0.0259
CYCLOHEXANE	3.7	0	0	0	3.7
FORMALDEHYDE	29.6	0	0	0	29.6
ISOMERS OF HEXANE	3.7	0	0	0	3.7
ISOMERS OF PENTANE	33.3	0	0	0	33.3
LEAD & COMPOUNDS	0.0148	0	0	0	0.0148
MANGANESE & COMPOUNDS	0.0113	0	0	0	0.0113
MERCURY & COMPOUNDS	0.00777	0	0	0	0.00777
METHANE	207	0	0	0	207

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-BUTANE	33.3	0	0	0	33.3
NICKEL & COMPOUNDS	0.0629	0	0	0	0.0629
NITRIC OXIDE	918	0	0	0	918
NITROGEN DIOXIDE	74	0	0	0	74
NITROUS OXIDE	6.86	0	0	0	6.86
N-PENTANE	22.2	0	0	0	22.2
OXIDES OF NITROGEN	1480	0	0	0	1480
PARTICULATE MATTER ≤ 10 µm	225	0	0	0	225
PARTICULATE MATTER ≤ 2.5 µm	225	0	0	0	225
POLYCHLORINATED DIOXINS AND FURANS	3.52x10 ⁻⁰⁸	0	0	0	3.52x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0204	0	0	0	0.0204
PROPANE	14.8	0	0	0	14.8
SELENIUM & COMPOUNDS	0.000703	0	0	0	0.000703
SULFUR DIOXIDE	15.5	0	0	0	15.5
TOLUENE	7.4	0	0	0	7.4
TOTAL SUSPENDED PARTICULATE	225	0	0	0	225
TOTAL VOLATILE ORGANIC COMPOUNDS	163	0	0	0	163
ZINC & COMPOUNDS	0.851	0	0	0	0.851

A.26 FUNERAL DIRECTORS, CREMATORIA AND CEMETERIES

Table A-26: Annual emissions from funeral directors, crematoria and cemeteries

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ACENAPHTHENE	3.76	0.736	0.227	1.21	5.94
ACENAPHTHYLENE	4.16	0.814	0.251	1.34	6.56
ACETALDEHYDE	11.6	2.28	0.704	3.75	18.4
ANTHRACENE	11.1	2.16	0.668	3.56	17.4
ANTIMONY & COMPOUNDS	0.000138	0.000027	0.00000835	0.0000444	0.000218
ARSENIC & COMPOUNDS	0.000152	0.0000297	0.00000919	0.0000489	0.00024
BENZO(A)ANTHRACENE	0.434	0.0849	0.0262	0.14	0.685
BENZO(A)PYRENE	1.21	0.237	0.0733	0.39	1.91
BERYLLIUM & COMPOUNDS	0.00000512	0.000001	0.00000031	0.00000165	0.00000809
CADMIUM & COMPOUNDS	0.000043	0.0000084	0.0000026	0.0000138	0.0000678
CARBON DIOXIDE	2210000	432000	134000	711000	3490000
CARBON MONOXIDE	1950	381	118	627	3070
CHROMIUM (III) COMPOUNDS	0.000116	0.0000228	0.00000703	0.0000374	0.000183
CHROMIUM (VI) COMPOUNDS	0.000053	0.0000104	0.00000321	0.0000171	0.0000837
CHRYSENE	2.12	0.414	0.128	0.681	3.34
COBALT & COMPOUNDS	0.0000191	0.00000373	0.00000115	0.00000613	0.0000301
COPPER & COMPOUNDS	0.0000982	0.0000192	0.00000594	0.0000316	0.000155
FLUORANTHENE	6.98	1.37	0.422	2.25	11
FLUORENE	14.2	2.77	0.857	4.56	22.4
FLUORIDE COMPOUNDS	0.00258	0.000505	0.000156	0.000831	0.00408
FORMALDEHYDE	41.9	8.19	2.53	13.5	66
HYDROCHLORIC ACID	0.289	0.0565	0.0175	0.0929	0.455
LEAD & COMPOUNDS	0.000257	0.0000503	0.0000155	0.0000827	0.000405

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MERCURY & COMPOUNDS	0.0129	0.00252	0.000778	0.00414	0.0203
NICKEL & COMPOUNDS	0.000148	0.0000289	0.00000893	0.0000476	0.000233
NITRIC OXIDE	2640	516	159	849	4160
NITROGEN DIOXIDE	213	41.7	12.9	68.7	337
NITROUS OXIDE	12	2.35	0.726	3.87	19
OXIDES OF NITROGEN	4270	835	258	1370	6730
PARTICULATE MATTER ≤ 10 µm	60.5	11.8	3.66	19.5	95.5
PARTICULATE MATTER ≤ 2.5 µm	40.3	7.89	2.44	13	63.6
PHENANTHRENE	77.9	15.2	4.71	25.1	123
POLYCHLORINATED DIOXINS AND FURANS	0.000000232	4.54x10 ⁻⁰⁸	0.000000014	7.47x10 ⁻⁰⁸	0.000000366
POLYCYCLIC AROMATIC HYDROCARBONS	0.000000142	2.78x10 ⁻⁰⁸	8.6x10 ⁻⁰⁹	4.58x10 ⁻⁰⁸	0.000000224
PYRENE	5.48	1.07	0.331	1.76	8.65
SULFUR DIOXIDE	7510	1470	454	2420	11900
TOTAL SUSPENDED PARTICULATE	202	39.4	12.2	64.9	318
TOTAL VOLATILE ORGANIC COMPOUNDS	180	35.1	10.9	57.8	283
ZINC & COMPOUNDS	0.00138	0.00027	0.0000833	0.000444	0.00217

A.27 FURNITURE MANUFACTURING N.E.C.

Table A-27: Annual emissions from furniture manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.41	0	0	0	0.41
(2-METHYLBUTYL)CYCLOHEXANE	0.547	0	0	0	0.547
1,1,1-TRICHLOROETHANE	13.8	0	0	0	13.8
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.137	0	0	0	0.137
1,1,2-TRIMETHYLCYCLOHEXANE	0.273	0	0	0	0.273
1,1,2-TRIMETHYLCYCLOPENTANE	0.82	0	0	0	0.82
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.683	0	0	0	0.683
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	2.73	0	0	0	2.73
1,1,3-TRIMETHYLCYCLOPENTANE	2.73	0	0	0	2.73
1,1,4-TRIMETHYLCYCLOHEXANE	0.547	0	0	0	0.547
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.273	0	0	0	0.273
1,1-DIMETHYLCYCLOHEXANE	1.09	0	0	0	1.09
1,1-DIMETHYLCYCLOPENTANE	0.41	0	0	0	0.41
1,1-METHYLETHYLCYCLOPENTANE	0.273	0	0	0	0.273
1,2,3,5-TETRAMETHYLBENZENE	1.23	0	0	0	1.23
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	2.6	0	0	0.0842	2.68
1,2,3-TRIMETHYLCYCLOHEXANE	1.64	0	0	0	1.64
1,2,4,5-TETRAMETHYLBENZENE	0.82	0	0	0	0.82
1,2,4-TRIMETHYLBENZENE	5.74	0	0	0.0451	5.79
1,2,4-TRIMETHYLCYCLOPENTENE	5.6	0	0	0	5.6
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.547	0	0	0	0.547
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.683	0	0	0	0.683

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2-DIMETHYL-4-ETHYLBENZENE	1.37	0	0	0	1.37
1,2-DIMETHYLCYCLOPENTANE	4.78	0	0	0	4.78
1,3,5-TRIETHYL CYCLOHEXANE	0.273	0	0	0	0.273
1,3,5-TRIMETHYLBENZENE	0.41	0	0	0.0634	0.473
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	4.92	0	0	4.92
1,3-DIETHYL-CYCLOHEXANE	0.41	0	0	0	0.41
1,3-DIMETHYL-2-ETHYLBENZENE	1.09	0	0	0	1.09
1,3-DIMETHYL-4-ETHYLBENZENE	0.547	0	0	0	0.547
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.137	0	0	0	0.137
1,3-DIMETHYL-5-ETHYLBENZENE	1.09	0	0	0	1.09
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.547	15.6	0	0	16.2
1,4-DIMETHYL-2-ETHYLBENZENE	0.82	0	0	0	0.82
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.273	0	0	0	0.273
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0.273	0	0	0	0.273
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0.137	0	0	0	0.137
1-ETHYL-2-PROPYL CYCLOHEXANE	4.65	0	0	0	4.65
1-ETHYL-4-ISOPROPYLBENZENE	0.547	0	0	0	0.547
1-METHYL INDAN	1.64	0	0	0	1.64
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	1.23	0	0	0	1.23
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	1.64	0	0	0	1.64
1-METHYL-3-ISOPROPYLCYCLOHEXANE	1.37	0	0	0	1.37
1-METHYL-4-ISOBUTYLBENZENE	0.137	0	0	0	0.137
1-METHYL-4-ISOPROPYLBENZENE	0.137	0	0	0	0.137
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	2.05	0	0	0	2.05
1-METHYL-4-PENTYL CYCLOHEXANE	0.273	0	0	0	0.273
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	7.38	0	0	0	7.38
2,2,3,3-TETRAMETHYLPENTANE	0.137	0	0	0	0.137
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.41	0	0	0	0.41
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.273	0	0	0	0.273
2,3,5-TRIMETHYLHEPTANE	0.137	0	0	0	0.137
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	1.23	0	0	0	1.23
2,3-DIMETHYLOCTANE	2.05	0	0	0	2.05
2,3-DIMETHYLPENTANE	0.683	0	0	0	0.683
2,4-DIMETHYLHEPTANE	1.23	0	0	0	1.23
2,4-DIMETHYLHEXANE	9.33	274	0	0	284
2,4-DIMETHYLNONANE	0.137	0	0	0	0.137
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0.273	64.8	0	0	65.1
2,5-DIMETHYLHEPTANE	1.78	0	0	0	1.78

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	1.5	0	0	0	1.5
2,5-DIMETHYLOCTANE	0.137	0	0	0	0.137
2,6-DIMETHYLDECANE	1.09	0	0	0	1.09
2,6-DIMETHYLHEPTANE	3.14	0	0	0	3.14
2,6-DIMETHYLNONANE	6.01	0	0	0	6.01
2,6-DIMETHYLOCTANE	2.32	0	0	0	2.32
2,6-DIMETHYLUNDECANE	0.273	0	0	0	0.273
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.273	0	0	0	0.273
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	3.28	0	0	0	3.28
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	4.92	0	0	0	4.92
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	0.41	0	0	0	0.41
2-METHYL-3-ETHYLPENTANE	0.273	0	0	0	0.273
2-METHYL-3-HEXANONE	0	143	0	0	143
2-METHYLDECALIN	0.547	0	0	0	0.547
2-METHYLDECANE	3.42	0	0	0	3.42
2-METHYLHEPTANE	9.16	0	0	0	9.16
2-METHYLHEXANE	5.47	0	0	0	5.47
2-METHYLNAPHTHALENE	0.137	0	0	0	0.137
2-METHYLNONANE	2.32	0	0	0	2.32
2-METHYLOCTANE	1.37	0	0	0	1.37
2-METHYLUNDECANE {ISODODECANE}	1.23	0	0	0	1.23
3,3,5-TRIMETHYLHEPTANE	0.137	0	0	0	0.137
3,4-DIMETHYLHEXANE	0.547	0	0	0	0.547
3,4-DIMETHYLOCTANE	0.41	0	0	0	0.41
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.41	0	0	0	0.41
3,6-DIMETHYL DECANE	0.41	0	0	0	0.41
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.547	0	0	0	0.547
3,7-DIMETHYLNONANE	1.78	0	0	0	1.78
3-ETHYL-2-METHYLHEPTANE	0.683	0	0	0	0.683
3-ETHYL-3-METHYLOCTANE	0.547	0	0	0	0.547
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.137	0	0	0	0.137
3-ETHYLHEPTANE	0.547	0	0	0	0.547
3-ETHYLHEXANE	1.23	0	0	0	1.23
3-ETHYLOCTANE	0.41	0	0	0	0.41
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	3.14	0	0	0	3.14
3-METHYLHEPTANE	5.74	0	0	0	5.74
3-METHYLHEXANE	0.547	0	0	0	0.547
3-METHYLNONANE	1.37	0	0	0	1.37
3-METHYLOCTANE	1.64	0	0	0	1.64
3-METHYLUNDECANE	0.683	0	0	0	0.683

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-PHENYLPENTANE	0.683	0	0	0	0.683
4,5-DIMETHYLDECANE	0.137	0	0	0	0.137
4,5-DIMETHYLOCTANE	0.683	0	0	0	0.683
4-ETHYLDECANE	0.547	0	0	0	0.547
4-METHYLDECANE	2.73	0	0	0	2.73
4-METHYLHEPTANE	2.46	0	0	0	2.46
4-METHYLINDAN	0.273	0	0	0	0.273
4-METHYLNONANE	3.96	0	0	0	3.96
4-METHYLOCTANE	2.05	0	0	0	2.05
4-METHYLUNDECANE	0.41	0	0	0	0.41
5-ISOPROPYLNONANE	0.41	0	0	0	0.41
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	2.6	0	0	0	2.6
5-METHYLINDAN	2.19	0	0	0	2.19
5-METHYLUNDECANE	0.547	0	0	0	0.547
6-ETHYL-2-METHYLOCTANE	0.683	0	0	0	0.683
6-METHYLUNDECANE	0.683	0	0	0	0.683
ACETONE	251	48.4	0	0	300
AMMONIA (TOTAL)	0	0	0	9.32	9.32
ANTIMONY & COMPOUNDS	0.0000586	0	0	0.000343	0.000402
ARSENIC & COMPOUNDS	0.0000112	0	0	0.00386	0.00387
BENZALDEHYDE	0	4.11	0	0	4.11
BENZENE	0	0	0	9.49	9.49
BERYLLIUM & COMPOUNDS	0	0	0	0.000225	0.000225
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	42.1	247	0	0	289
BUTYLCYCLOHEXANE	2.46	0	0	0	2.46
C10 OLEFINS	0	38.8	0	0	38.8
C5 KETONES	6.01	0	0	0	6.01
C8 INTERNAL ALKENES	11.1	5.72	0	0	16.8
CADMIUM & COMPOUNDS	0.00000259	0	0	0.0214	0.0214
CARBITOL {DEGEE} {2-(2- ETHOXYETHOXY)ETHANOL}	1.64	0	0	0	1.64
CARBON DIOXIDE	0	0	0	2330000	2330000
CARBON MONOXIDE	0	0	0	1590	1590
CHROMIUM (III) COMPOUNDS	0.0000103	0	0	0.0248	0.0249
CHROMIUM (VI) COMPOUNDS	0.0000044	0	0	0.00133	0.00133
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.547	0	0	0	0.547
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.41	0	0	0	0.41
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	1.09	0	0	0	1.09
CIS-1,2-DIMETHYLCYCLOHEXANE	0.41	0	0	0	0.41
CIS-1,3-DIMETHYLCYCLOHEXANE	10.4	0	0	0	10.4
CIS-1,3-DIMETHYLCYCLOPENTANE	1.64	0	0	0	1.64
CIS-1,4-DIMETHYLCYCLOHEXANE	0.547	0	0	0	0.547
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	1.37	0	0	0	1.37
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	2.87	0	0	0	2.87
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	1.37	0	0	0	1.37
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.137	0	0	0	0.137

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.137	0	0	0	0.137
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	1.78	0	0	0	1.78
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.41	0	0	0	0.41
CIS-BICYCLO[3.3.0]OCTANE	0.137	0	0	0	0.137
CIS-BICYCLO[4.3.0]NONANE	0.547	0	0	0	0.547
CIS-DECALIN	0.137	0	0	0	0.137
COBALT & COMPOUNDS	0.0000198	0	0	0.00166	0.00168
COPPER & COMPOUNDS	0.000128	0	0	0.0174	0.0175
CUMENE (1-METHYLETHYLBENZENE)	0.957	0	0	0.0303	0.987
CYCLOHEXANE	0.547	19.8	0	2.37	22.7
DI(PROPYLENE GLYCOL) METHYL ETHER	4.1	0	0	0	4.1
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	40.2	0	0	0	40.2
DIBROMOETHANE	0	4.92	0	0	4.92
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	6.59	0	0	6.59
DIETHYLCYCLOHEXANE	0	43	0	0	43
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	15.8	0	0	0	15.8
DIMETHYLCYCLOHEXANES	0	164	0	0	164
DIMETHYLHEPTANES	0	25.5	0	0	25.5
ETHYL ACETATE	20.5	77.7	0	0	98.3
ETHYL ALCOHOL	33.1	0	0	0	33.1
ETHYLBENZENE	1.78	25.6	0	0.00354	27.4
ETHYLCYCLOHEXANE	11.9	54.5	0	0	66.4
ETHYLCYCLOPENTANE	18.7	8.38	0	0	27.1
ETHYLENE GLYCOL	45.8	0	0	0	45.8
ETHYLHEPTENE	0	12.2	0	0	12.2
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	7.62	0	0	7.62
FORMALDEHYDE	0	0	0	19	19
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0	0	0	0.00018	0.00018
HEXYLCYCLOHEXANE	0.273	0	0	0	0.273
HEXYLCYCLOPENTANE	0.41	0	0	0	0.41
INDAN	0.82	0	0	0	0.82
ISOBUTYL ALCOHOL	28.2	0	0	0	28.2
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	1.23	0	0	0	1.23
ISOMERS OF C10H18	0	24.1	0	0	24.1
ISOMERS OF DECANE (C10 PARAFFINS)	0	35	0	0	35
ISOMERS OF HEXANE	0	0	0	2.37	2.37
ISOMERS OF NONANE (C9 PARAFFIN)	43.2	135	0	0	178
ISOMERS OF PENTANE	0	0	0	21.3	21.3
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	8.81	0	0	8.81
ISOMERS OF XYLENE	279	326	0	0.0542	606
ISOPROPYL ALCOHOL	20.5	26.5	0	0	47
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	1.23	0	0	0	1.23
LEAD & COMPOUNDS	0.000107	0	0	0.0101	0.0102
MANGANESE & COMPOUNDS	0.00069	0	0	0.0113	0.012

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MERCURY & COMPOUNDS	0.00000776	0	0	0.00503	0.00503
METHANE	0	0	0	133	133
METHYL ALCOHOL	1.5	0	0	0	1.5
METHYL AMYL KETONE	3.55	31.6	0	0	35.2
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	1.64	0	0	0	1.64
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	277	42.5	0	0	319
METHYL ISOBUTYL KETONE	131	13.7	0	0	145
METHYLCYCLOHEXANE	190	190	0	0	380
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	1.37	0	0	0.072	1.44
MOLYBDENUM	0.00000431	0	0	0.0000252	0.0000296
NAPHTHALENE	0.957	0	0	0	0.957
N-BUTANE	0	0	0	21.3	21.3
N-BUTYL ACETATE	204	412	0	0	616
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	18.3	0	0	0	18.3
N-DODECANE	2.32	0	0	0.00492	2.33
N-HEPTADECANE	0	0	0	0.00006	0.00006
N-HEPTANE	121	129	0	0	249
NICKEL & COMPOUNDS	0.0000103	0	0	0.0404	0.0404
NITRIC OXIDE	0	0	0	1180	1180
NITROGEN DIOXIDE	0	0	0	94.9	94.9
NITROUS OXIDE	0	0	0	4.4	4.4
N-NONANE	4.92	0	0	0	4.92
N-OCTANE	16.3	0	0	0	16.3
N-PENTADECANE	0	0	0	0.00084	0.00084
N-PENTANE	0	0	0	14.2	14.2
N-PENTYLCYCLOHEXANE	0.82	0	0	0	0.82
N-PROPYLBENZENE	0.137	0	0	0.0368	0.173
N-TETRADECANE	0	0	0	0.0024	0.0024
N-TRIDECANE	0.137	0	0	0.0033	0.14
N-UNDECANE	18.9	13.6	0	0.00162	32.4
O-ETHYLTOLUENE	1.5	0	0	0.0619	1.57
OXIDES OF NITROGEN	0	0	0	1900	1900
PARTICULATE MATTER ≤ 10 µm	0.165	0	0	145	145
PARTICULATE MATTER ≤ 2.5 µm	0.04	0	0	144	144
PENTYLCYCLOPENTANE	1.23	0	0	0	1.23
P-ETHYLTOLUENE	1.78	0	0	0.119	1.9
PHTHALIC ANHYDRIDE	0	4.11	0	0	4.11
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	2.25x10 ⁻⁰⁸	2.25x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.013	0.013
PROPANE	0	0	0	9.49	9.49
PROPYL ACETATE	8.2	0	0	0	8.2
PROPYLCYCLOHEXANE	1.78	0	0	0	1.78
PROPYLCYCLOPENTANE	0.273	0	0	0	0.273

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPYLENE GLYCOL	16.9	0	0	0	16.9
PROPYLENE GLYCOL METHYL ETHER	4.1	0	0	0	4.1
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	8.2	0	0	0	8.2
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	5.68	0	0	5.68
SEC-BUTYL ALCOHOL	39.9	0	0	0	39.9
SELENIUM & COMPOUNDS	0.00000172	0	0	0.000461	0.000463
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	0	0	0	9.91	9.91
TOLUENE	621	1530	0	4.76	2150
TOTAL SUSPENDED PARTICULATE	0.862	0	0	149	150
TOTAL VOLATILE ORGANIC COMPOUNDS	2840	4290	0	105	7240
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	3.42	0	0	0	3.42
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	1.23	0	0	0	1.23
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	2.73	0	0	0	2.73
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	5.06	0	0	0	5.06
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	2.6	0	0	0	2.6
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.273	0	0	0	0.273
TRANS-1,3-DIMETHYLCYCLOHEXANE	3.42	0	0	0	3.42
TRANS-1,3-DIMETHYLCYCLOPENTANE	2.19	0	0	0	2.19
TRANS-1,4-DIMETHYLCYCLOHEXANE	3.55	0	0	0	3.55
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.547	0	0	0	0.547
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.957	0	0	0	0.957
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.41	0	0	0	0.41
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.683	0	0	0	0.683
TRIMETHYLBENZENES	0	4.19	0	0	4.19
TRIMETHYLCYCLOHEXANES	7.91	63.3	0	0	71.2
TRIMETHYLCYCLOPENTANE	12.6	6.48	0	0	19.1
VANADIUM & COMPOUNDS	0.0000612	0	0	0.000359	0.00042
ZINC & COMPOUNDS	0.000854	0	0	0.551	0.551

A.28 GAS SUPPLY

Table A-28: Annual emissions from gas supply

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	18.1	0	0	0	18.1
ARSENIC & COMPOUNDS	0.00736	0	0	0	0.00736
BENZENE	18.4	0	0	0	18.4
BERYLLIUM & COMPOUNDS	0.000437	0	0	0	0.000437
CADMIUM & COMPOUNDS	0.0414	0	0	0	0.0414
CARBON DIOXIDE	4510000	0	0	0	4510000
CARBON MONOXIDE	3090	0	0	0	3090
CHROMIUM (III) COMPOUNDS	0.0481	0	0	0	0.0481
CHROMIUM (VI) COMPOUNDS	0.00253	0	0	0	0.00253
COBALT & COMPOUNDS	0.00299	0	0	0	0.00299
COPPER & COMPOUNDS	0.0322	0	0	0	0.0322

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE	4.6	0	0	0	4.6
FORMALDEHYDE	36.8	0	0	0	36.8
ISOMERS OF HEXANE	4.6	0	0	0	4.6
ISOMERS OF PENTANE	41.4	0	0	0	41.4
LEAD & COMPOUNDS	0.0184	0	0	0	0.0184
MANGANESE & COMPOUNDS	0.014	0	0	0	0.014
MERCURY & COMPOUNDS	0.00966	0	0	0	0.00966
METHANE	258	0	0	0	258
N-BUTANE	41.4	0	0	0	41.4
NICKEL & COMPOUNDS	0.0782	0	0	0	0.0782
NITRIC OXIDE	2280	0	0	0	2280
NITROGEN DIOXIDE	184	0	0	0	184
NITROUS OXIDE	8.53	0	0	0	8.53
N-PENTANE	27.6	0	0	0	27.6
OXIDES OF NITROGEN	3680	0	0	0	3680
PARTICULATE MATTER ≤ 10 µm	280	0	0	0	280
PARTICULATE MATTER ≤ 2.5 µm	280	0	0	0	280
POLYCHLORINATED DIOXINS AND FURANS	4.37x10 ⁻⁰⁸	0	0	0	4.37x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0253	0	0	0	0.0253
PROPANE	18.4	0	0	0	18.4
SELENIUM & COMPOUNDS	0.000874	0	0	0	0.000874
SULFUR DIOXIDE	19.2	0	0	0	19.2
TOLUENE	9.2	0	0	0	9.2
TOTAL SUSPENDED PARTICULATE	280	0	0	0	280
TOTAL VOLATILE ORGANIC COMPOUNDS	202	0	0	0	202
ZINC & COMPOUNDS	1.06	0	0	0	1.06

A.29 GLASS AND GLASS PRODUCT MANUFACTURING

Table A-29: Annual emissions from glass and glass product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-BUTENE	88.7	0	0	0.00634	88.8
1-PENTENE	22	0	0	0.00157	22
2,2-DICHLORONITROANILINE	27.2	0	0	0.00194	27.2
2-METHYLPROPANE; ISOBUTANE	137	0	0	0.00978	137
AMMONIA (TOTAL)	49200	0	0	0.094	49200
ARSENIC & COMPOUNDS	1.26	0	0	0.000138	1.26
BENZENE	104	0	0	0.196	104
BERYLLIUM & COMPOUNDS	0.000129	0	0	0.0000023	0.000131
C2 ALKYL INDAN	77.1	0	0	0.0055	77.1
C4 SUBSTITUTED CYCLOHEXANONE	16.5	0	0	0.00118	16.5

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C5 SUBSTITUTED CYCLOHEXANE	28.6	0	0	0.00204	28.6
C6 SUBSTITUTED CYCLOHEXANE	21.3	0	0	0.00152	21.3
C7 CYCLOPARAFFINS	45.4	0	0	0.00324	45.4
C8 CYCLOPARAFFINS	2.75	0	0	0.000196	2.75
C9 CYCLOPARAFFINS	10.3	0	0	0.000737	10.3
CADMIUM & COMPOUNDS	1.9	0	0	0.000361	1.9
CARBON DIOXIDE	8430000	0	0	27600	8460000
CARBON MONOXIDE	3710	0	0	4.42	3720
CHROMIUM (III) COMPOUNDS	31.5	0	0	0.00262	31.5
CHROMIUM (VI) COMPOUNDS	0.000746	0	0	0.0000457	0.000792
COBALT & COMPOUNDS	0.000881	0	0	0.0000161	0.000898
COPPER & COMPOUNDS	6.31	0	0	0.000763	6.31
CYCLOHEXANE	8.24	0	0	0.0475	8.28
CYCLOPENTANE	17.2	0	0	0.00123	17.2
ETHANE	75.7	0	0	0.00541	75.7
ETHYLENE	29.6	0	0	0.00211	29.6
FLUORIDE COMPOUNDS	23.8	0	0	0	23.8
FORMALDEHYDE	65.9	0	0	0.382	66.3
ISOMERS OF DODECANE (C12 PARAFFINS)	66	0	0	0.00472	66
ISOMERS OF HEPTANE	75.7	0	0	0.00541	75.7
ISOMERS OF HEXANE	170	0	0	0.012	170
ISOMERS OF OCTANE (C8 PARAFFIN)	57.8	0	0	0.00413	57.8
ISOMERS OF PENTANE	121	0	0	0.00776	121
ISOMERS OF PENTENE	3.44	0	0	0.000245	3.44
ISOMERS OF TETRADECANE (C14 PARAFFINS)	21.3	0	0	0.00152	21.3
LEAD & COMPOUNDS	151	0	0	0.0121	151
MANGANESE & COMPOUNDS	0.00414	0	0	0.0000729	0.00421
MERCURY & COMPOUNDS	1.4	0	0	0.00195	1.4
METHANE	716	0	0	1.72	717
METHYLNAPHTHALENES	70.2	0	0	0.00501	70.2
MOLYBDENUM	0	0	0	0.000211	0.000211
NAPHTHALENE	45.1	0	0	0.00322	45.1
N-BUTANE	347	0	0	0.0239	347
N-DECANE	19.6	0	0	0.0014	19.6
N-DODECANE	128	0	0	0.00912	128
N-HEPTANE	110	0	0	0.00786	110
N-HEXANE	108	0	0	0.0547	108
NICKEL & COMPOUNDS	25.2	0	0	0.000453	25.2
NITRIC OXIDE	2350	0	0	22.1	2370
NITROGEN DIOXIDE	194	0	0	1.78	196
NITROUS OXIDE	40.3	0	0	0.298	40.6
N-OCTANE	18.6	0	0	0.00133	18.6
N-PENTANE	253	0	0	0.0175	253
N-PENTYLCYCLOHEXANE	14.1	0	0	0.00101	14.1
N-UNDECANE	53.7	0	0	0.00383	53.7

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	3880	0	0	35.6	3920
PARTICULATE MATTER ≤ 10 µm	8400	0	0	8.95	8410
PARTICULATE MATTER ≤ 2.5 µm	8250	0	0	1.96	8260
POLYCHLORINATED DIOXINS AND FURANS	0.00000281	0	0	1.6x10 ⁻¹⁰	0.00000281
POLYCYCLIC AROMATIC HYDROCARBONS	0.00746	0	0	0.000134	0.00759
PROPANE	230	0	0	0.0161	230
PROPYLENE	40.6	0	0	0.0029	40.6
SELENIUM & COMPOUNDS	227	0	0	0.018	227
SULFUR DIOXIDE	174	0	0	2.8	176
TOLUENE	29.5	0	0	0.0963	29.6
TOTAL SUSPENDED PARTICULATE	8570	0	0	9.14	8580
TOTAL VOLATILE ORGANIC COMPOUNDS	2860	0	0	0.956	2860
TRIMETHYLBENZENES	61.2	0	0	0.00437	61.2
TRIMETHYLDECENES	38.5	0	0	0.00275	38.5
VANADIUM & COMPOUNDS	0	0	0	0.000441	0.000441
ZINC & COMPOUNDS	139	0	0	0.0166	139

A.30 GRAVEL AND SAND QUARRYING

Table A-30: Annual emissions from gravel and sand quarrying

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	6.69	1.26	0.505	6.25	14.7
1,2,4-TRIMETHYLBENZENE	3.59	0.677	0.271	3.35	7.89
1,3,5-TRIMETHYLBENZENE	5.04	0.951	0.38	4.7	11.1
ANTIMONY & COMPOUNDS	24.9	1.42	0.687	17.7	44.6
ARSENIC & COMPOUNDS	4.86	0.291	0.139	3.47	8.76
BERYLLIUM & COMPOUNDS	0.0129	0.00148	0.000629	0.0103	0.0253
BORON & COMPOUNDS	0.857	0.0986	0.0419	0.689	1.69
CADMIUM & COMPOUNDS	4.01	0.229	0.111	2.84	7.19
CHROMIUM (III) COMPOUNDS	6.65	0.553	0.247	5	12.5
CHROMIUM (VI) COMPOUNDS	1.56	0.089	0.0431	1.11	2.81
COBALT & COMPOUNDS	1.88	0.127	0.059	1.36	3.43
COPPER & COMPOUNDS	49.8	2.9	1.4	35.4	89.5
CUMENE (1-METHYLETHYLBENZENE)	2.41	0.454	0.182	2.25	5.29
ETHYLBENZENE	0.282	0.0531	0.0213	0.263	0.619
FLUORIDE COMPOUNDS	8.57	0.986	0.419	6.89	16.9
HEXADECANE	0.0143	0.0027	0.00108	0.0134	0.0314
ISOMERS OF XYLENE	4.31	0.812	0.325	4.02	9.46
LEAD & COMPOUNDS	41.5	2.44	1.17	29.5	74.6
MANGANESE & COMPOUNDS	324	20.9	9.83	233	588
MERCURY & COMPOUNDS	4.30	0.245	0.118	3.05	7.71

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
M-ETHYLTOLUENE	5.73	1.08	0.432	5.35	12.6
MOLYBDENUM	3.03	0.174	0.0845	2.18	5.46
N-DODECANE	0.391	0.0738	0.0295	0.365	0.86
N-HEPTADECANE	0.00477	0.0009	0.00036	0.00445	0.0105
NICKEL & COMPOUNDS	13.5	0.892	0.417	9.77	24.6
N-PENTADECANE	0.0668	0.0126	0.00504	0.0624	0.147
N-PROPYLBENZENE	2.93	0.552	0.221	2.73	6.43
N-TETRADECANE	0.191	0.036	0.0144	0.178	0.42
N-TRIDECANE	0.262	0.0495	0.0198	0.245	0.577
N-UNDECANE	0.129	0.0243	0.00972	0.12	0.283
O-ETHYLTOLUENE	4.92	0.928	0.371	4.59	10.8
PARTICULATE MATTER ≤ 10 µm	647204	85500	35100	621000	1391204
PARTICULATE MATTER ≤ 2.5 µm	145121	18400	7620	136000	306121
P-ETHYLTOLUENE	9.43	1.78	0.712	8.8	20.7
SELENIUM & COMPOUNDS	1.22	0.0868	0.04	0.894	2.24
TOLUENE	1.32	0.249	0.0998	1.23	2.91
TOTAL SUSPENDED PARTICULATE	2594240	245000	106000	2140000	5084240
TOTAL VOLATILE ORGANIC COMPOUNDS	47.7	9	3.6	44.5	105
VANADIUM & COMPOUNDS	23.6	1.34	0.651	16.7	42.4
ZINC & COMPOUNDS	119	6.97	3.35	84.5	214

A.31 HOSPITALS

Table A-31: Annual emissions from hospitals

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0701	0	0	0	0.0701
1,2,4-TRIMETHYLBENZENE	0.0376	0	0	0	0.0376
1,3,5-TRIMETHYLBENZENE	0.0528	0	0	0	0.0528
1,3-BUTADIENE	1.3	8.39	0	1.68	11.4
1-BUTENE	2.48	16.1	0	3.21	21.8
1-CHLOROBUTANE	1.73	0	0	0	1.73
1-ETHOXY-2-PROPANOL	1.14	0	0	0	1.14
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.004	0	0	0	0.004
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.611	0	0	0	0.611
2,4-DIMETHYLHEXANE	2.94	0	0	0	2.94
2,4-DIMETHYLPENTANE	0.694	0	0	0	0.694
2-BUTYLTETRAHYDROFURAN	0.117	0	0	0	0.117
2-ETHYL-1-HEXANOL	0.791	0	0	0	0.791
2-METHYL-3-HEXANONE	1.53	0	0	0	1.53
3-(CHLOROMETHYL)-HEPTANE	0.485	0	0	0	0.485
ACETONE	0.519	0	0	0	0.519
ACETYLENE	2.09	13.5	0	2.71	18.4

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	231	41.2	12.3	59	343
ARSENIC & COMPOUNDS	0.198	0.57	0.00499	0.135	0.908
BENZENE	227	35.4	12.5	59.6	334
BERYLLIUM & COMPOUNDS	0.00534	0.000615	0.000296	0.00135	0.0076
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.012	0	0	0	0.012
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	2.65	0	0	0	2.65
BUTYLBENZENE ISOMERS	0.133	0	0	0	0.133
BUTYLCYCLOHEXANE	0.053	0	0	0	0.053
C10 OLEFINS	0.115	0	0	0	0.115
C11 OLEFINS	0.029	0	0	0	0.029
C12 OLEFINS	0.007	0	0	0	0.007
C8 INTERNAL ALKENES	0.0613	0	0	0	0.0613
C8 OLEFINS	0.1	0	0	0	0.1
CADMIUM & COMPOUNDS	0.516	0.112	0.0281	0.139	0.795
CARBON DIOXIDE	55200000	6400000	3060000	14000000	78600000
CARBON MONOXIDE	38000	4660	2100	9510	54200
CHLOROETHANE (ETHYL CHLORIDE)	0.485	0	0	0	0.485
CHROMIUM (III) COMPOUNDS	0.691	0.608	0.0326	0.256	1.59
CHROMIUM (VI) COMPOUNDS	0.0363	0.0316	0.00172	0.0137	0.0833
COBALT & COMPOUNDS	0.0366	0.00421	0.00203	0.00924	0.052
COPPER & COMPOUNDS	0.394	0.0453	0.0218	0.0995	0.56
CUMENE (1- METHYLETHYLBENZENE)	0.0362	0	0	0	0.0362
CYCLOHEXANE	56.4	6.48	3.12	14.4	80.5
DECALINS (MIXED CIS,TRANS)	0.019	0	0	0	0.019
DIACETONE ALCOHOL (4-HYDROXY- 4-METHYL-2-PENTANONE)	0.611	0	0	0	0.611
DIBUTYL ETHER	0.188	0	0	0	0.188
DICHLOROMETHANE {METHYLENE CHLORIDE}	4.32	0	0	0	4.32
DIETHYLCYCLOHEXANE	0.025	0	0	0	0.025
DIMETHOXYMETHANE (METHYLAL)	21.1	0	0	0	21.1
DIMETHYLBENZYLALCOHOL	0.005	0	0	0	0.005
DIMETHYLCYCLOBUTANONE	0.019	0	0	0	0.019
DIMETHYLCYCLOHEXANES	1.67	0	0	0	1.67
DIMETHYLCYCLOPENTANE	0.231	0	0	0	0.231
DIMETHYLHEPTANES	0.279	0	0	0	0.279
DIMETHYLHEXANES	0.109	0	0	0	0.109
DIMETHYLNONANES	0.07	0	0	0	0.07
DIMETHYLOCTANES	0.098	0	0	0	0.098
ETHANE	0.519	3.36	0	0.671	4.55
ETHYL ACETATE	0.833	0	0	0	0.833
ETHYL ISOPROPYL ETHER	4.07	0	0	0	4.07
ETHYL PROPYLCYCLOHEXANES	0.02	0	0	0	0.02
ETHYLBENZENE	0.223	0	0	0	0.223
ETHYLCYCLOHEXANE	0.61	0	0	0	0.61

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOPENTANE	0.0898	0	0	0	0.0898
ETHYLDIMETHYLPHENOL	0.018	0	0	0	0.018
ETHYLENE	5.31	34.4	0	6.88	46.6
ETHYLENE GLYCOL	0.454	0	0	0	0.454
ETHYLHEPTENE	0.01	0	0	0	0.01
ETHYLHEXANE	0.016	0	0	0	0.016
ETHYLMETHYLCYCLOHEXANES	0.224	0	0	0	0.224
ETHYLMETHYLOCTANE	0.022	0	0	0	0.022
ETHYLOCTANE	0.008	0	0	0	0.008
ETHYLOCTENES	0.014	0	0	0	0.014
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.0817	0	0	0	0.0817
FORMALDEHYDE	450	51.8	25	115	642
HEXADECANE	0.00015	0	0	0	0.00015
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	1.12	0	0	0	1.12
ISOMERS OF C9H16	0.039	0	0	0	0.039
ISOMERS OF DECANE (C10 PARAFFINS)	0.436	0	0	0	0.436
ISOMERS OF DODECANE (C12 PARAFFINS)	0.091	0	0	0	0.091
ISOMERS OF HEXANE	56.2	6.48	3.12	14	79.8
ISOMERS OF NONANE (C9 PARAFFIN)	1.14	0	0	0	1.14
ISOMERS OF PENTANE	506	58.3	28.1	126	718
ISOMERS OF PROPYLBENZENE	0.091	0	0	0	0.091
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.01	0	0	0	0.01
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.003	0	0	0	0.003
ISOMERS OF UNDECANE (C11 PARAFFINS)	1.09	0	0	0	1.09
ISOMERS OF XYLENE	3.51	0	0	0	3.51
LEAD & COMPOUNDS	0.336	0.21	0.0125	0.0937	0.652
MANGANESE & COMPOUNDS	0.172	0.0198	0.00952	0.0434	0.244
MERCURY & COMPOUNDS	0.118	0.0136	0.00655	0.0298	0.168
METHANE	3150	377	175	802	4500
METHYL AMYL KETONE	1.15	0	0	0	1.15
METHYL CHLORIDE	0.431	0	0	0	0.431
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	0.221	0	0	0	0.221
METHYL HEXANE	0.416	0	0	0	0.416
METHYL ISOBUTYL KETONE	0.147	0	0	0	0.147
METHYL PALMITATE {METHYL HEXADECANOATE}	0.282	0	0	0	0.282
METHYL PROPYLCYCLOHEXANES	0.083	0	0	0	0.083
METHYLCYCLOHEXANE	2.07	0	0	0	2.07
METHYLDECALINS	0.008	0	0	0	0.008
METHYLDECANES	0.146	0	0	0	0.146

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDECENES	0.025	0	0	0	0.025
METHYLDODECANES	0.006	0	0	0	0.006
METHYLHEXENES	0.04	0	0	0	0.04
METHYLINDANS	0.001	0	0	0	0.001
METHYLNONANE	0.246	0	0	0	0.246
METHYLNONENES	0.009	0	0	0	0.009
METHYLOCTANES	0.24	0	0	0	0.24
METHYLPROPYLNONANE	0.011	0	0	0	0.011
M-ETHYLTOLUENE	0.06	0	0	0	0.06
METHYLUNDECANE	0.01	0	0	0	0.01
MOLYBDENUM	0	0	0	0.00188	0.00188
NAPHTHALENE	0.01	0	0	0	0.01
N-BUTANE	506	58.3	28.1	126	718
N-BUTYL ACETATE	3.88	0	0	0	3.88
N-BUTYL ALCOHOL	15.7	0	0	0	15.7
N-DECANE	0.164	0	0	0	0.164
N-DODECANE	0.0041	0	0	0	0.0041
N-HEPTADECANE	0.00005	0	0	0	0.00005
N-HEPTANE	3.96	0	0	0	3.96
N-HEXANE	0.013	0	0	0.419	0.432
NICKEL & COMPOUNDS	0.966	0.164	0.053	0.252	1.44
NITRIC OXIDE	28300	4110	1550	7300	41200
NITROGEN DIOXIDE	2280	332	125	588	3330
NITROUS OXIDE	105	12.5	5.79	28.7	152
N-NONANE	0.284	0	0	0	0.284
NONADIENE	0.007	0	0	0	0.007
N-PENTADECANE	0.0007	0	0	0	0.0007
N-PENTANE	337	38.9	18.7	84	479
N-PENTYLCYCLOHEXANE	0.016	0	0	0	0.016
N-PROPYLBENZENE	0.0457	0	0	0	0.0457
N-TETRADECANE	0.002	0	0	0	0.002
N-TRIDEDECANE	0.00275	0	0	0	0.00275
N-UNDECANE	0.0953	0	0	0	0.0953
O-ETHYLTOLUENE	0.0516	0	0	0	0.0516
OXIDES OF NITROGEN	45600	6630	2500	11800	66500
PARTICULATE MATTER ≤ 10 µm	3440	496	190	880	5000
PARTICULATE MATTER ≤ 2.5 µm	3440	495	190	880	5000
PENTYLCYCLOPENTANE	0.002	0	0	0	0.002
P-ETHYLTOLUENE	0.0989	0	0	0	0.0989
POLYCHLORINATED DIOXINS AND FURANS	0.000000534	6.15x10 ⁻⁰⁸	2.96x10 ⁻⁰⁸	0.000000134	0.000000759
POLYCYCLIC AROMATIC HYDROCARBONS	0.343	0.0908	0.0172	0.0892	0.54
PROPANE	225	25.9	12.5	56	319
PROPENYLCYCLOHEXANE	0.007	0	0	0	0.007
PROPYLENE	3.2	20.7	0	4.15	28.1
SELENIUM & COMPOUNDS	0.0209	0.0552	0.000593	0.0135	0.0902
SUBSTITUTED C9 ESTER (C12)	22.4	0	0	0	22.4

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SULFUR DIOXIDE	256	122	13	77.6	469
TETRAMETHYLBENZENES	0.01	0	0	0	0.01
TETRAMETHYLCYCLOBUTENE	0.001	0	0	0	0.001
TETRAMETHYLCYCLOPENTANE	0.022	0	0	0	0.022
TETRAMETHYLTHIOUREA	0.002	0	0	0	0.002
TIN & COMPOUNDS	0.0102	0.054	0	0.0108	0.075
TOLUENE	130	13	6.24	28.8	178
TOTAL SUSPENDED PARTICULATE	3440	498	190	881	5010
TOTAL VOLATILE ORGANIC COMPOUNDS	2620	391	137	644	3790
TRIMETHYLBENZENES	0.145	0	0	0	0.145
TRIMETHYLCYCLOHEXANES	0.758	0	0	0	0.758
TRIMETHYLCYCLOPENTANE	0.186	0	0	0	0.186
TRIMETHYLHEPTANES	0.071	0	0	0	0.071
TRIMETHYLOCTANES	0.015	0	0	0	0.015
VANADIUM & COMPOUNDS	0	0	0	0.00393	0.00393
VINYL ACETATE	0.0939	0	0	0	0.0939
ZINC & COMPOUNDS	13	2.07	0.718	3.39	19.2

A.32 ICE-CREAM MANUFACTURING

Table A-32: Annual emissions from ice-cream manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	68.9	0	0	0	68.9
AMMONIA (TOTAL)	123	0	0	0	123
ANTIMONY & COMPOUNDS	0.00119	0	0	0	0.00119
ARSENIC & COMPOUNDS	0.00267	0	0	0	0.00267
BENZENE	6.12	0	0	0	6.12
BERYLLIUM & COMPOUNDS	0.000145	0	0	0	0.000145
CADMIUM & COMPOUNDS	0.0138	0	0	0	0.0138
CARBON DIOXIDE	1500000	0	0	0	1500000
CARBON MONOXIDE	294	0	0	0	294
CHLOROFORM (TRICHLOROMETHANE)	51.7	0	0	0	51.7
CHROMIUM (III) COMPOUNDS	0.0162	0	0	0	0.0162
CHROMIUM (VI) COMPOUNDS	0.00093	0	0	0	0.00093
COBALT & COMPOUNDS	0.0014	0	0	0	0.0014
COPPER & COMPOUNDS	0.0133	0	0	0	0.0133
CYCLOHEXANE	1.53	0	0	0	1.53
DICHLOROMETHANE {METHYLENE CHLORIDE}	77.5	0	0	0	77.5
FORMALDEHYDE	20.9	0	0	0	20.9
ISOMERS OF HEXANE	1.53	0	0	0	1.53
ISOMERS OF PENTANE	13.8	0	0	0	13.8
ISOMERS OF XYLENE	51.7	0	0	0	51.7
LEAD & COMPOUNDS	0.00829	0	0	0	0.00829

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	0.0187	0	0	0	0.0187
MERCURY & COMPOUNDS	0.00337	0	0	0	0.00337
METHANE	85900	0	0	0	85900
MOLYBDENUM	0.0000875	0	0	0	0.0000875
N-BUTANE	13.8	0	0	0	13.8
NICKEL & COMPOUNDS	0.0262	0	0	0	0.0262
NITRIC OXIDE	1290	0	0	0	1290
NITROGEN DIOXIDE	104	0	0	0	104
NITROUS OXIDE	2.84	0	0	0	2.84
N-PENTANE	9.18	0	0	0	9.18
OXIDES OF NITROGEN	2080	0	0	0	2080
PARTICULATE MATTER ≤ 10 µm	96.4	0	0	0	96.4
PARTICULATE MATTER ≤ 2.5 µm	93.8	0	0	0	93.8
P-DICHLOROBENZENE	8.62	0	0	0	8.62
PERCHLOROETHYLENE	60.3	0	0	0	60.3
POLYCHLORINATED DIOXINS AND FURANS	1.45x10 ⁻⁰⁸	0	0	0	1.45x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00841	0	0	0	0.00841
PROPANE	6.12	0	0	0	6.12
SELENIUM & COMPOUNDS	0.000326	0	0	0	0.000326
SULFUR DIOXIDE	6.39	0	0	0	6.39
TOLUENE	37.5	0	0	0	37.5
TOTAL SUSPENDED PARTICULATE	110	0	0	0	110
TOTAL VOLATILE ORGANIC COMPOUNDS	438	0	0	0	438
TRICHLOROETHYLENE (TCE)	8.62	0	0	0	8.62
VANADIUM & COMPOUNDS	0.00124	0	0	0	0.00124
ZINC & COMPOUNDS	0.369	0	0	0	0.369

A.33 INDUSTRIAL GAS MANUFACTURING

Table A-33: Annual emissions from industrial gas manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,4-DIMETHYLHEXANE	422	0	0	0	422
2,4-DIMETHYLPENTANE	101	0	0	0	101
2-METHYL-3-HEXANONE	351	0	0	0	351
ACETONE	119	0	0	0	119
AMMONIA (TOTAL)	0.0409	0	0	0	0.0409
ANTIMONY & COMPOUNDS	0.219	0	0	0	0.219
ARSENIC & COMPOUNDS	0.0407	0	0	0	0.0407
BENZENE	0.0824	0	0	0	0.0824
BERYLLIUM & COMPOUNDS	0.000001	0	0	0	0.000001
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	385	0	0	0	385

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.0319	0	0	0	0.0319
CARBON DIOXIDE	11900	0	0	0	11900
CARBON MONOXIDE	1.88	0	0	0	1.88
CHROMIUM (III) COMPOUNDS	0.0331	0	0	0	0.0331
CHROMIUM (VI) COMPOUNDS	0.0142	0	0	0	0.0142
COBALT & COMPOUNDS	0.0214	0	0	0	0.0214
COPPER & COMPOUNDS	0.434	0	0	0	0.434
CYCLOHEXANE	48.5	0	0	0	48.5
DIMETHYLCYCLOHEXANES	238	0	0	0	238
DIMETHYLHEPTANES	39.5	0	0	0	39.5
ETHYL ACETATE	191	0	0	0	191
ETHYLBENZENE	50.4	0	0	0	50.4
ETHYLCYCLOHEXANE	79.1	0	0	0	79.1
ETHYLTOLUENES {METHYLETHYLBENZENES}	18.8	0	0	0	18.8
FORMALDEHYDE	0.165	0	0	0	0.165
ISOMERS OF NONANE (C9 PARAFFIN)	131	0	0	0	131
ISOMERS OF XYLENE	633	0	0	0	633
LEAD & COMPOUNDS	0.358	0	0	0	0.358
MANGANESE & COMPOUNDS	2.49	0	0	0	2.49
MERCURY & COMPOUNDS	0.0367	0	0	0	0.0367
METHANE	0.729	0	0	0	0.729
METHYL AMYL KETONE	77.2	0	0	0	77.2
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	50.4	0	0	0	50.4
METHYL ISOBUTYL KETONE	33.5	0	0	0	33.5
METHYLCYCLOHEXANE	95	0	0	0	95
MOLYBDENUM	0.0257	0	0	0	0.0257
N-BUTYL ACETATE	521	0	0	0	521
N-HEPTANE	107	0	0	0	107
N-HEXANE	0.0205	0	0	0	0.0205
NICKEL & COMPOUNDS	0.0922	0	0	0	0.0922
NITRIC OXIDE	8.46	0	0	0	8.46
NITROGEN DIOXIDE	0.682	0	0	0	0.682
NITROUS OXIDE	0.129	0	0	0	0.129
OXIDES OF NITROGEN	13.6	0	0	0	13.6
PARTICULATE MATTER ≤ 10 µm	750	0	0	0	750
PARTICULATE MATTER ≤ 2.5 µm	86.8	0	0	0	86.8
POLYCHLORINATED DIOXINS AND FURANS	2.6x10 ⁻¹¹	0	0	0	2.6x10 ⁻¹¹
POLYCYCLIC AROMATIC HYDROCARBONS	0.0000584	0	0	0	0.0000584
SELENIUM & COMPOUNDS	0.0079	0	0	0	0.0079
SULFUR DIOXIDE	0.0000706	0	0	0	0.0000706
TOLUENE	2020	0	0	0	2020
TOTAL SUSPENDED PARTICULATE	2770	0	0	0	2770

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL VOLATILE ORGANIC COMPOUNDS	5820	0	0	0	5820
TRIMETHYLBENZENES	10.7	0	0	0	10.7
TRIMETHYLCYCLOHEXANES	92.4	0	0	0	92.4
VANADIUM & COMPOUNDS	0.211	0	0	0	0.211
ZINC & COMPOUNDS	1.3	0	0	0	1.3

A.34 INK MANUFACTURING

Table A-34: Annual emissions from ink manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0215	0	0	0	0.0215
1,2,4-TRIMETHYLBENZENE	0.0115	0	0	0	0.0115
1,3,5-TRIMETHYLBENZENE	0.0162	0	0	0	0.0162
2,4-TOLUENE DIISOCYANATE {TDI}	2.58	0	0	0	2.58
3,6-DIMETHYL UNDECANE	21.5	0	0	0	21.5
3,7-DIMETHYL-1-OCTANOL	5.16	0	0	0	5.16
ANTIMONY & COMPOUNDS	0.00138	0	0	0	0.00138
ARSENIC & COMPOUNDS	0.000264	0	0	0	0.000264
BENZOIC ACID	1.72	0	0	0	1.72
BIPHENYLOL {2-PHENYLPHENOL}	6.02	0	0	0	6.02
BUTYL ISOPROPYL PHTHALATE	1100	0	0	0	1100
C10 OLEFINS	15.5	0	0	0	15.5
CADMIUM & COMPOUNDS	0.0000608	0	0	0	0.0000608
CARYOPHYLLENE	9.47	0	0	0	9.47
CHROMIUM (III) COMPOUNDS	0.000241	0	0	0	0.000241
CHROMIUM (VI) COMPOUNDS	0.000103	0	0	0	0.000103
COBALT & COMPOUNDS	0.000466	0	0	0	0.000466
COPPER & COMPOUNDS	0.003	0	0	0	0.003
CUMENE (1-METHYLETHYLBENZENE)	0.00772	0	0	0	0.00772
CYCLOHEXANE	393	0	0	0	393
CYCLOHEXENE	18.9	0	0	0	18.9
DIBUTYL PHTHALATE	860	0	0	0	860
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	3.44	0	0	0	3.44
EICOSANE	41.3	0	0	0	41.3
ETHYL ACETATE	480	0	0	0	480
ETHYL ALCOHOL	33.3	0	0	0	33.3
ETHYLBENZENE	0.000903	0	0	0	0.000903
ETHYLOCTANE	37.9	0	0	0	37.9
HENEICOSANE	25.8	0	0	0	25.8
HEXADECANE	286	0	0	0	286
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	318	0	0	0	318
ISOMERS OF OCTADECANE (C18 PARAFFINS)	145	0	0	0	145

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF PENTADECANE (C15 PARAFFINS)	12.9	0	0	0	12.9
ISOMERS OF XYLENE	0.0138	0	0	0	0.0138
ISOPROPYL ACETATE	2590	0	0	0	2590
ISOPROPYL ALCOHOL	55.5	0	0	0	55.5
LEAD & COMPOUNDS	0.00252	0	0	0	0.00252
MANGANESE & COMPOUNDS	0.0162	0	0	0	0.0162
MERCURY & COMPOUNDS	0.000183	0	0	0	0.000183
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	3.44	0	0	0	3.44
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	302	0	0	0	302
METHYLETHYLPENTANOATE	2.58	0	0	0	2.58
METHYLHEPTANOL	6.02	0	0	0	6.02
M-ETHYLTOLUENE	0.0184	0	0	0	0.0184
METHYLUNDECANE	146	0	0	0	146
MOLYBDENUM	0.000101	0	0	0	0.000101
N-DODECANE	0.00126	0	0	0	0.00126
N-HEPTADECANE	0.000015	0	0	0	0.000015
NICKEL & COMPOUNDS	0.000243	0	0	0	0.000243
NONADECANE	76.6	0	0	0	76.6
N-PENTADECANE	0.000214	0	0	0	0.000214
N-PHENYLANILINE {DIPHENYLAMINE}	3.44	0	0	0	3.44
N-PROPYLBENZENE	0.00938	0	0	0	0.00938
N-TETRADECANE	0.000612	0	0	0	0.000612
N-TRIDECANE	0.000842	0	0	0	0.000842
N-UNDECANE	0.000413	0	0	0	0.000413
O-ETHYLTOLUENE	0.0158	0	0	0	0.0158
PARTICULATE MATTER ≤ 10 µm	619	0	0	0	619
PARTICULATE MATTER ≤ 2.5 µm	611	0	0	0	611
P-ETHYLTOLUENE	0.0303	0	0	0	0.0303
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0	0
PROPYL ACETATE	2360	0	0	0	2360
SELENIUM & COMPOUNDS	0.0000406	0	0	0	0.0000406
TOLUENE	1260	0	0	0	1260
TOTAL SUSPENDED PARTICULATE	688	0	0	0	688
TOTAL VOLATILE ORGANIC COMPOUNDS	10600	0	0	0	10600
TRIMETHYLDECANE	25.8	0	0	0	25.8
TRIMETHYLOCTANES	69.7	0	0	0	69.7
VANADIUM & COMPOUNDS	0.00144	0	0	0	0.00144
ZINC & COMPOUNDS	0.0201	0	0	0	0.0201

A.35 INORGANIC INDUSTRIAL CHEMICAL MANUFACTURING N.E.C.**Table A-35: Annual emissions from inorganic industrial chemical manufacturing n.e.c.**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCHLORIC ACID	0	0	0	104	104

A.36 LAUNDRIES AND DRY-CLEANERS**Table A-36: Annual emissions from laundries and dry-cleaners**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	187	9.36	7.41	26.2	230
2,2,4,4-TETRAMETHYL-3-PENTANONE	126	6.3	4.99	17.6	155
3,6-DIMETHYL UNDECANE	47.2	2.36	1.87	6.61	58
AMMONIA (TOTAL)	55.5	0	0	0	55.5
ARSENIC & COMPOUNDS	0.00938	0	0	0	0.00938
BENZENE	23.4	0	0	0	23.4
BENZOTHAZOLE	9.83	0.492	0.39	1.38	12.1
BERYLLIUM & COMPOUNDS	0.000557	0	0	0	0.000557
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	33.4	1.67	1.33	4.68	41.1
BUTYLBENZENE ISOMERS	735	36.8	29.2	103	904
BUTYLCYCLOHEXANE	330	16.5	13.1	46.3	406
C10 OLEFINS	423	21.2	16.8	59.2	520
C10H12	145	7.29	5.77	20.4	179
C11 OLEFINS	193	9.65	7.64	27	237
C12 OLEFINS	23.6	1.18	0.936	3.31	29
C9 OLEFINS	3.93	0.197	0.156	0.551	4.83
CADMIUM & COMPOUNDS	0.0528	0	0	0	0.0528
CARBON DIOXIDE	5750000	0	0	0	5750000
CARBON MONOXIDE	3870	0	0	0	3870
CHLOROBENZENE	51.1	2.56	2.03	7.16	62.9
CHROMIUM (III) COMPOUNDS	0.0613	0	0	0	0.0613
CHROMIUM (VI) COMPOUNDS	0.00322	0	0	0	0.00322
COBALT & COMPOUNDS	0.00381	0	0	0	0.00381
COPPER & COMPOUNDS	0.041	0	0	0	0.041
CUMENE (1-METHYLETHYLBENZENE)	66.8	3.35	2.65	9.36	82.2
CYCLOHEXANE	5.86	0	0	0	5.86
DECALINS (MIXED CIS,TRANS)	118	5.91	4.68	16.5	145
DIETHYLCYCLOHEXANE	88.5	4.43	3.51	12.4	109
DIETHYLMETHYLCYCLOHEXANES	108	5.42	4.29	15.1	133
DIMETHYLBENZYLALCOHOL	29.5	1.48	1.17	4.13	36.3
DIMETHYLBUTYLCYCLOHEXANE	9.83	0.492	0.39	1.38	12.1
DIMETHYLCYCLOHEXANES	92.4	4.63	3.67	12.9	114
DIMETHYLDECANE	57	2.86	2.26	7.99	70.1

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLHEPTANES	108	5.42	4.29	15.1	133
DIMETHYLNONANES	487	24.4	19.3	68.3	600
DIMETHYLOCTANES	1280	63.9	50.6	179	1570
DIMETHYLOCTYNE	19.7	0.985	0.78	2.75	24.2
ETHYL PROPYLCYCLOHEXANES	98.3	4.92	3.9	13.8	121
ETHYLBENZENE	68.8	3.45	2.73	9.64	84.6
ETHYLCYCLOHEXANE	116	5.81	4.6	16.3	143
ETHYLDIMETHYLPHENOL	108	5.42	4.29	15.1	133
ETHYLHEXANE	66.8	3.35	2.65	9.36	82.2
ETHYLMETHYLCYCLOHEXANES	839	42.1	33.3	118	1030
ETHYLMETHYLHEXANE	19.7	0.985	0.78	2.75	24.2
ETHYLOCTANE	41.3	2.07	1.64	5.78	50.8
ETHYLTOLUENES {METHYLETHYLBENZENES}	74.7	3.74	2.96	10.5	91.9
FORMALDEHYDE	46.9	0	0	0	46.9
ISOMERS OF C10H18	13.8	0.689	0.546	1.93	16.9
ISOMERS OF C11H20	62.9	3.15	2.5	8.81	77.4
ISOMERS OF DECANE (C10 PARAFFINS)	2220	111	88	311	2730
ISOMERS OF DODECANE (C12 PARAFFINS)	220	11	8.74	30.8	271
ISOMERS OF HEXANE	5.86	0	0	0	5.86
ISOMERS OF PENTANE	52.8	0	0	0	52.8
ISOMERS OF PROPYLBENZENE	193	9.65	7.64	27	237
ISOMERS OF TRIDECANE (C13 PARAFFINS)	9.83	0.492	0.39	1.38	12.1
ISOMERS OF UNDECANE (C11 PARAFFINS)	1560	78	61.8	218	1910
ISOMERS OF XYLENE	751	37.6	29.8	105	924
ISOPROPYLMETHYLCYCLOHEXANE	84.5	4.23	3.35	11.8	104
LEAD & COMPOUNDS	0.0234	0	0	0	0.0234
MANGANESE & COMPOUNDS	0.0179	0	0	0	0.0179
MERCURY & COMPOUNDS	0.0123	0	0	0	0.0123
METHANE	328	0	0	0	328
METHYL PROPYLCYCLOHEXANES	1180	59	46.7	165	1450
METHYLCYCLOHEXANE	3.93	0.197	0.156	0.551	4.83
METHYLDECALINS	108	5.42	4.29	15.1	133
METHYLDECANES	824	41.3	32.7	115	1010
METHYLDECENES	132	6.6	5.23	18.5	162
METHYLHEPTANE	3.93	0.197	0.156	0.551	4.83
METHYLNONANE	820	41.1	32.5	115	1010
METHYLOCTANES	293	14.7	11.6	41	360
METHYLUDECANE	179	8.96	7.1	25.1	220
NAPHTHALENE	68.8	3.45	2.73	9.64	84.6
N-BUTANE	52.8	0	0	0	52.8
NICKEL & COMPOUNDS	0.0997	0	0	0	0.0997
NITRIC OXIDE	2900	0	0	0	2900
NITROGEN DIOXIDE	234	0	0	0	234
NITROUS OXIDE	10.9	0	0	0	10.9

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-NONANE	1360	68.1	54	191	1670
NONADIENE	33.4	1.67	1.33	4.68	41.1
N-PENTANE	35.2	0	0	0	35.2
OCTANOL ISOMERS	19.7	0.985	0.78	2.75	24.2
OXIDES OF NITROGEN	4680	0	0	0	4680
PARTICULATE MATTER ≤ 10 µm	356	0	0	0	356
PARTICULATE MATTER ≤ 2.5 µm	356	0	0	0	356
PENTAMETHYLBENZENE	19.7	0.985	0.78	2.75	24.2
PENTYL CYCLOHEXANE	84.5	4.23	3.35	11.8	104
PENTYLIDENECYCLOHEXANE	33.4	1.67	1.33	4.68	41.1
PERCHLOROETHYLENE	352000	21400	16900	59600	450000
POLYCHLORINATED DIOXINS AND FURANS	5.57x10 ⁻⁰⁸	0	0	0	5.57x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0322	0	0	0	0.0322
PROPANE	23.4	0	0	0	23.4
PROPENYLCYCLOHEXANE	151	7.58	6.01	21.2	186
PROPYLCYCLOHEXANE	415	20.8	16.5	58.1	510
PROPYLHEPTENES	108	5.42	4.29	15.1	133
SELENIUM & COMPOUNDS	0.00111	0	0	0	0.00111
SULFUR DIOXIDE	24.5	0	0	0	24.5
T-BUTYLBENZENE	60.9	3.05	2.42	8.54	74.9
TETRAMETHYLCYCLOPENTANE	108	5.42	4.29	15.1	133
TETRAMETHYLTHIOUREA	9.83	0.492	0.39	1.38	12.1
TOLUENE	110	4.92	3.9	13.8	133
TOTAL SUSPENDED PARTICULATE	356	0	0	0	356
TOTAL VOLATILE ORGANIC COMPOUNDS	372000	22300	17700	62400	474000
TRIMETHYLBENZENES	438	22	17.4	61.4	539
TRIMETHYLCYCLOHEXANES	395	19.8	15.7	55.4	486
TRIMETHYLCYCLOHEXANOL	33.4	1.67	1.33	4.68	41.1
TRIMETHYLCYCLOPENTANONE	29.5	1.48	1.17	4.13	36.3
TRIMETHYLDECANE	3.93	0.197	0.156	0.551	4.83
TRIMETHYLHEPTANES	1160	58	45.9	162	1420
TRIMETHYLHEXENE	68.8	3.45	2.73	9.64	84.6
TRIMETHYLOCTANES	68.8	3.45	2.73	9.64	84.6
ZINC & COMPOUNDS	1.35	0	0	0	1.35

A.37 LIFTING AND MATERIAL HANDLING EQUIPMENT MANUFACTURING

Table A-37: Annual emissions from lifting and material handling equipment manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,4-TRIMETHYLBENZENE	0.0188	0	0	0	0.0188
1,4-PENTADIENE	0.0628	0	0	0	0.0628
1-BUTENE	0.289	0	0	0	0.289

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-PENTENE	0.345	0	0	0	0.345
2,2,3-TRIMETHYLHEXANE	0.00628	0	0	0	0.00628
2,2,3-TRIMETHYLBUTANE	0.0126	0	0	0	0.0126
2,2,4-TRIMETHYLPENTANE	0.308	0	0	0	0.308
2,2-DIMETHYLBUTANE	0.0942	0	0	0	0.0942
2,2-DIMETHYLHEXANE	0.0126	0	0	0	0.0126
2,2-DIMETHYLPENTANE	0.0314	0	0	0	0.0314
2,3,3-TRIMETHYLPENTANE	0.0314	0	0	0	0.0314
2,3,4-TRIMETHYLPENTANE	0.0314	0	0	0	0.0314
2,3-DIMETHYLBUTANE	0.509	0	0	0	0.509
2,3-DIMETHYLHEXANE	0.0502	0	0	0	0.0502
2,3-DIMETHYLPENTANE	0.113	0	0	0	0.113
2,4-DIMETHYLHEXANE	32.2	0	0	0	32.2
2,4-DIMETHYLPENTANE	7.7	0	0	0	7.7
2,5-DIMETHYLHEXANE	0.044	0	0	0	0.044
2-METHYL-1-BUTENE	0.71	0	0	0	0.71
2-METHYL-2-BUTENE	2.78	0	0	0	2.78
2-METHYL-3-HEXANONE	59.7	0	0	0	59.7
2-METHYLHEPTANE	0.0942	0	0	0	0.0942
2-METHYLHEXANE	0.32	0	0	0	0.32
2-METHYLNONANE	0.00628	0	0	0	0.00628
2-METHYLOCTANE	0.00628	0	0	0	0.00628
2-METHYLPENTANE	3	0	0	0	3
2-METHYLPROPANE; ISOBUTANE	1.92	0	0	0	1.92
3,3-DIMETHYLPENTANE	0.0377	0	0	0	0.0377
3-ETHYLPENTANE	0.0628	0	0	0	0.0628
3-METHYL-1-BUTENE	0.0188	0	0	0	0.0188
3-METHYLHEPTANE	0.0879	0	0	0	0.0879
3-METHYLHEXANE	0.396	0	0	0	0.396
3-METHYLOCTANE	0.0126	0	0	0	0.0126
3-METHYLPENTANE	1.47	0	0	0	1.47
4-METHYLHEPTANE	0.0502	0	0	0	0.0502
4-METHYLOCTANE	0.00628	0	0	0	0.00628
ACETONE	20.2	0	0	0	20.2
BENZENE	0.49	0	0	0	0.49
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	28.9	0	0	0	28.9
C8 INTERNAL ALKENES	0.633	0	0	0	0.633
CHROMIUM (III) COMPOUNDS	0.417	0	0	0	0.417
CIS-1,3-DIMETHYLCYCLOPENTANE	0.138	0	0	0	0.138
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0.0879	0	0	0	0.0879
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0879	0	0	0	0.0879
CIS-2-BUTENE	0.188	0	0	0	0.188
CIS-2-PENTENE	1.02	0	0	0	1.02
CYCLOHEXANE	8.28	0	0	0	8.28

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOPENTENE	0.0188	0	0	0	0.0188
DIMETHYLCYCLOHEXANES	17.9	0	0	0	17.9
DIMETHYLHEPTANES	2.99	0	0	0	2.99
ETHYL ACETATE	32.5	0	0	0	32.5
ETHYLBENZENE	8.64	0	0	0	8.64
ETHYLCYCLOHEXANE	6.36	0	0	0	6.36
ETHYLCYCLOPENTANE	0.947	0	0	0	0.947
ETHYLTOLUENES {METHYLETHYLBENZENES}	3.19	0	0	0	3.19
ISOMERS OF NONANE (C9 PARAFFIN)	12.3	0	0	0	12.3
ISOMERS OF PENTANE	31.1	0	0	0	31.1
ISOMERS OF XYLENE	97	0	0	0	97
MAGNESIUM OXIDE FUME	25.9	0	0	0	25.9
MANGANESE & COMPOUNDS	6.96	0	0	0	6.96
METHYL AMYL KETONE	13.2	0	0	0	13.2
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	8.57	0	0	0	8.57
METHYL ISOBUTYL KETONE	5.71	0	0	0	5.71
METHYLCYCLOHEXANE	15.6	0	0	0	15.6
METHYLCYCLOPENTANE	0.182	0	0	0	0.182
M-ETHYLTOLUENE	0.0377	0	0	0	0.0377
N-BUTANE	8.37	0	0	0	8.37
N-BUTYL ACETATE	66.5	0	0	0	66.5
N-DECANE	0.00628	0	0	0	0.00628
N-HEPTANE	17.1	0	0	0	17.1
N-HEXANE	0.138	0	0	0	0.138
NICKEL & COMPOUNDS	0.513	0	0	0	0.513
NITRIC OXIDE	76.8	0	0	0	76.8
NITROGEN DIOXIDE	6.2	0	0	0	6.2
N-NONANE	0.00628	0	0	0	0.00628
N-PROPYLBENZENE	0.0126	0	0	0	0.0126
OXIDES OF NITROGEN	124	0	0	0	124
PARTICULATE MATTER ≤ 10 µm	24.5	0	0	0	24.5
PARTICULATE MATTER ≤ 2.5 µm	24.5	0	0	0	24.5
P-ETHYLTOLUENE	0.0188	0	0	0	0.0188
TOLUENE	210	0	0	0	210
TOTAL SUSPENDED PARTICULATE	24.5	0	0	0	24.5
TOTAL VOLATILE ORGANIC COMPOUNDS	745	0	0	0	745
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0.00628	0	0	0	0.00628
TRANS-1,2-CIS-4- TRIMETHYLCYCLOPENTANE	0.0188	0	0	0	0.0188
TRANS-1,3- DIMETHYLCYCLOPENTANE	0.044	0	0	0	0.044
TRANS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0.0251	0	0	0	0.0251

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.0314	0	0	0	0.0314
TRANS-2-BUTENE	1.78	0	0	0	1.78
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0188	0	0	0	0.0188
TRANS-2-PENTENE	1.85	0	0	0	1.85
TRIMETHYLBENZENES	1.8	0	0	0	1.8
TRIMETHYLCYCLOHEXANES	7.39	0	0	0	7.39
TRIMETHYLCYCLOPENTANE	0.717	0	0	0	0.717

A.38 LOG SAWMILLING

Table A-38: Annual emissions from log sawmilling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0	0	0	27.6	27.6
(2-METHYLBUTYL)CYCLOHEXANE	0	0	0	36.7	36.7
1,1,1-TRICHLOROETHANE	0	0	0	942	942
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0	0	0	9.19	9.19
1,1,2-TRIMETHYLCYCLOHEXANE	0	0	0	18.4	18.4
1,1,2-TRIMETHYLCYCLOPENTANE	0	0	0	55.1	55.1
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0	0	0	45.9	45.9
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0	0	0	184	184
1,1,3-TRIMETHYLCYCLOPENTANE	0	0	0	184	184
1,1,4-TRIMETHYLCYCLOHEXANE	0	0	0	36.7	36.7
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0	0	0	18.4	18.4
1,1-DIMETHYLCYCLOHEXANE	0	0	0	73.5	73.5
1,1-DIMETHYLCYCLOPENTANE	0	0	0	27.6	27.6
1,1-METHYLETHYLCYCLOPENTANE	0	0	0	18.4	18.4
1,2,3,5-TETRAMETHYLBENZENE	0	0	0	82.7	82.7
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0	0	0	175	175
1,2,3-TRIMETHYLCYCLOHEXANE	0	0	0	110	110
1,2,4,5-TETRAMETHYLBENZENE	0	0	0	55.1	55.1
1,2,4-TRIMETHYLBENZENE	0	0	0	386	386
1,2,4-TRIMETHYLCYCLOPENTENE	0	0	0	377	377
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0	0	0	36.7	36.7
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0	0	0	45.9	45.9
1,2-DIMETHYL-4-ETHYLBENZENE	0	0	0	91.9	91.9
1,2-DIMETHYLCYCLOPENTANE	0	0	0	321	321
1,3,5-TRIETHYL CYCLOHEXANE	0	0	0	18.4	18.4
1,3,5-TRIMETHYLBENZENE	0	0	0	27.7	27.7

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0	0	0	27.6	27.6
1,3-DIMETHYL-2-ETHYLBENZENE	0	0	0	73.5	73.5
1,3-DIMETHYL-4-ETHYLBENZENE	0	0	0	36.7	36.7
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0	0	0	9.19	9.19
1,3-DIMETHYL-5-ETHYLBENZENE	0	0	0	73.5	73.5
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0	0	0	36.7	36.7
1,4-DIMETHYL-2-ETHYLBENZENE	0	0	0	55.1	55.1
1-BUTENE	0	0	0	1.37	1.37
1-DECENE	0	0	0	4.64	4.64
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0	0	0	18.4	18.4
1-ETHYL-2,2,6- TRIMETHYLCYCLOHEXANE	0	0	0	18.4	18.4
1-ETHYL-2,4- DIMETHYLCYCLOHEXANE	0	0	0	9.19	9.19
1-ETHYL-2-PROPYL CYCLOHEXANE	0	0	0	312	312
1-ETHYL-4-ISOPROPYLBENZENE	0	0	0	36.7	36.7
1-HEXENE	0	0	0	6.3	6.3
1-METHYL INDAN	0	0	0	110	110
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2- ISOPROPYLCYCLOHEXANE	0	0	0	82.7	82.7
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0	0	0	110	110
1-METHYL-3- ISOPROPYLCYCLOHEXANE	0	0	0	91.9	91.9
1-METHYL-4-ISOBUTYLBENZENE	0	0	0	9.19	9.19
1-METHYL-4-ISOPROPYLBENZENE	0	0	0	9.19	9.19
1-METHYL-4- ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0	0	0	138	138
1-METHYL-4-PENTYL CYCLOHEXANE	0	0	0	18.4	18.4
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0	0	0	496	496
2,2,3,3-TETRAMETHYLPENTANE	0	0	0	9.19	9.19
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0	0	0	27.6	27.6
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0	0	0	18.4	18.4
2,3,5-TRIMETHYLHEPTANE	0	0	0	9.19	9.19
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0	0	0	82.7	82.7
2,3-DIMETHYLOCTANE	0	0	0	138	138

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,3-DIMETHYLPENTANE	0	0	0	45.9	45.9
2,4-DIMETHYLHEPTANE	0	0	0	82.7	82.7
2,4-DIMETHYLHEXANE	0	0	0	129	129
2,4-DIMETHYLNONANE	0	0	0	9.19	9.19
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0	0	0	29.5	29.5
2,5-DIMETHYLHEPTANE	0	0	0	119	119
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0	0	0	101	101
2,5-DIMETHYLOCTANE	0	0	0	9.19	9.19
2,6-DIMETHYLDECANE	0	0	0	73.5	73.5
2,6-DIMETHYLHEPTANE	0	0	0	211	211
2,6-DIMETHYLNONANE	0	0	0	404	404
2,6-DIMETHYLOCTANE	0	0	0	156	156
2,6-DIMETHYLUDECANE	0	0	0	18.4	18.4
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0	0	0	18.4	18.4
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0	0	0	220	220
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0	0	0	331	331
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0	0	0	27.6	27.6
2-METHYL-3-ETHYLPENTANE	0	0	0	18.4	18.4
2-METHYL-BUTANE	0	0	0	2.12	2.12
2-METHYLDECALIN	0	0	0	36.7	36.7
2-METHYLDECANE	0	0	0	230	230
2-METHYLHEPTANE	0	0	0	615	615
2-METHYLHEXANE	0	0	0	367	367
2-METHYLNAPHTHALENE	0	0	0	9.19	9.19
2-METHYLNONANE	0	0	0	156	156
2-METHYLOCTANE	0	0	0	91.9	91.9
2-METHYLUDECANE {ISODODECANE}	0	0	0	82.7	82.7
3,3,5-TRIMETHYLHEPTANE	0	0	0	9.19	9.19
3,4-DIMETHYLHEXANE	0	0	0	36.7	36.7
3,4-DIMETHYLOCTANE	0	0	0	27.6	27.6
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0	0	0	27.6	27.6
3,6-DIMETHYL DECANE	0	0	0	27.6	27.6
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0	0	0	36.7	36.7
3,7-DIMETHYLNONANE	0	0	0	119	119
3-ETHYL-2-METHYLHEPTANE	0	0	0	45.9	45.9
3-ETHYL-3-METHYLOCTANE	0	0	0	36.7	36.7
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0	0	0	9.19	9.19
3-ETHYLHEPTANE	0	0	0	36.7	36.7

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-ETHYLHEXANE	0	0	0	82.7	82.7
3-ETHYLOCTANE	0	0	0	27.6	27.6
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0	0	0	211	211
3-METHYLHEPTANE	0	0	0	386	386
3-METHYLHEXANE	0	0	0	36.7	36.7
3-METHYLNONANE	0	0	0	91.9	91.9
3-METHYLOCTANE	0	0	0	110	110
3-METHYLUNDECANE	0	0	0	45.9	45.9
3-PHENYLPENTANE	0	0	0	45.9	45.9
4,5-DIMETHYLDECANE	0	0	0	9.19	9.19
4,5-DIMETHYLOCTANE	0	0	0	45.9	45.9
4-ETHYLDECANE	0	0	0	36.7	36.7
4-METHYLDECANE	0	0	0	184	184
4-METHYLHEPTANE	0	0	0	165	165
4-METHYLINDAN	0	0	0	18.4	18.4
4-METHYLNONANE	0	0	0	266	266
4-METHYLOCTANE	0	0	0	138	138
4-METHYLUNDECANE	0	0	0	27.6	27.6
5-ISOPROPYLNONANE	0	0	0	27.6	27.6
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0	0	0	175	175
5-METHYLINDAN	0	0	0	147	147
5-METHYLUNDECANE	0	0	0	36.7	36.7
6-ETHYL-2-METHYLOCTANE	0	0	0	45.9	45.9
6-METHYLUNDECANE	0	0	0	45.9	45.9
ACETONE	0	0	0	3160	3160
AMMONIA (TOTAL)	0	0	0	29.3	29.3
ANTIMONY & COMPOUNDS	0	0	0	0.0521	0.0521
ARSENIC & COMPOUNDS	0	0	0	1.19	1.19
BENZENE	0	0	0	11	11
BERYLLIUM & COMPOUNDS	0	0	0	0.061	0.061
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	0	0	2830	2830
BUTYLCYCLOHEXANE	0	0	0	165	165
C5 KETONES	0	0	0	404	404
C7 INTERNAL ALKENES	0	0	0	6.41	6.41
CADMIUM & COMPOUNDS	0	0	0	0.172	0.172
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0	0	0	110	110
CARBON DIOXIDE	0	0	0	16500000	16500000
CARBON MONOXIDE	0	0	0	3290	3290
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	10.5	10.5
CHROMIUM (III) COMPOUNDS	0	0	0	0.781	0.781
CHROMIUM (VI) COMPOUNDS	0	0	0	0.23	0.23
CIS,CIS-1,2,4-	0	0	0	36.7	36.7

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRIMETHYLCYCLOHEXANE					
CIS,TRANS-1,2,3- TRIMETHYLCYCLOHEXANE	0	0	0	27.6	27.6
CIS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	0	0	0	73.5	73.5
CIS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	27.6	27.6
CIS-1,3-DIMETHYLCYCLOHEXANE	0	0	0	698	698
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	110	110
CIS-1,4-DIMETHYLCYCLOHEXANE	0	0	0	36.7	36.7
CIS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0	0	0	91.9	91.9
CIS-1,CIS-3,5- TRIMETHYLCYCLOHEXANE	0	0	0	193	193
CIS-1,TRANS-2,3- TRIMETHYLCYCLOPENTANE	0	0	0	91.9	91.9
CIS-1-ETHYL-2- METHYLCYCLOHEXANE	0	0	0	9.19	9.19
CIS-1-ETHYL-2- METHYLCYCLOPENTANE	0	0	0	9.19	9.19
CIS-1-ETHYL-3- METHYLCYCLOHEXANE	0	0	0	119	119
CIS-1-METHYL-3- ETHYLCYCLOPENTANE	0	0	0	27.6	27.6
CIS-2-PENTENE	0	0	0	1.82	1.82
CIS-BICYCLO[3.3.0]OCTANE	0	0	0	9.19	9.19
CIS-BICYCLO[4.3.0]NONANE	0	0	0	36.7	36.7
CIS-DECALIN	0	0	0	9.19	9.19
COBALT & COMPOUNDS	0	0	0	0.291	0.291
COPPER & COMPOUNDS	0	0	0	0.0192	0.0192
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	64.3	64.3
CYCLOHEXANE	0	0	0	39.5	39.5
DI(PROPYLENE GLYCOL) METHYL ETHER	0	0	0	276	276
DIACETONE ALCOHOL (4-HYDROXY-4- METHYL-2-PENTANONE)	0	0	0	2700	2700
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	15.7	15.7
ETHANE	0	0	0	3.63	3.63
ETHYL ACETATE	0	0	0	1380	1380
ETHYL ALCOHOL	0	0	0	2220	2220
ETHYLBENZENE	0	0	0	139	139
ETHYLCYCLOHEXANE	0	0	0	285	285
ETHYLCYCLOPENTANE	0	0	0	156	156
ETHYLENE GLYCOL	0	0	0	3080	3080
FLUORIDE COMPOUNDS	0	0	0	434	434
FORMALDEHYDE	0	0	0	32.6	32.6
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0	0	0	0.0003	0.0003
HEXYLCYCLOHEXANE	0	0	0	18.4	18.4

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXYLCYCLOPENTANE	0	0	0	27.6	27.6
HYDROCHLORIC ACID	0	0	0	3470	3470
INDAN	0	0	0	55.1	55.1
ISOBUTYL ALCOHOL	0	0	0	1890	1890
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0	0	0	82.7	82.7
ISOMERS OF HEXANE	0	0	0	2.74	2.74
ISOMERS OF PENTANE	0	0	0	24.6	24.6
ISOMERS OF XYLENE	0	0	0	16100	16100
ISOPROPYL ALCOHOL	0	0	0	1380	1380
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0	0	0	82.7	82.7
LEAD & COMPOUNDS	0	0	0	1.23	1.23
MANGANESE & COMPOUNDS	0	0	0	1.43	1.43
MERCURY & COMPOUNDS	0	0	0	0.246	0.246
METHANE	0	0	0	17500	17500
METHYL ALCOHOL	0	0	0	101	101
METHYL AMYL KETONE	0	0	0	239	239
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	0	0	0	110	110
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	3820	3820
METHYL ISOBUTYL KETONE	0	0	0	2890	2890
METHYLCYCLOHEXANE	0	0	0	2790	2790
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	0	0	0	92	92
NAPHTHALENE	0	0	0	64.3	64.3
N-BUTANE	0	0	0	26.3	26.3
N-BUTYL ACETATE	0	0	0	3900	3900
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	0	0	0	1230	1230
N-DODECANE	0	0	0	156	156
N-HEPTADECANE	0	0	0	0.0001	0.0001
N-HEPTANE	0	0	0	1450	1450
N-HEXANE	0	0	0	16.4	16.4
NICKEL & COMPOUNDS	0	0	0	0.857	0.857
NITRIC OXIDE	0	0	0	40100	40100
NITROGEN DIOXIDE	0	0	0	3240	3240
NITROUS OXIDE	0	0	0	103	103
N-NONANE	0	0	0	331	331
N-OCTANE	0	0	0	1090	1090
N-PENTADECANE	0	0	0	0.0014	0.0014
N-PENTANE	0	0	0	16.4	16.4
N-PENTYLCYCLOHEXANE	0	0	0	55.1	55.1
N-PROPYLBENZENE	0	0	0	9.25	9.25
N-TETRADECANE	0	0	0	0.004	0.004

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	0	0	0	9.19	9.19
N-UNDECANE	0	0	0	1270	1270
O-ETHYLTOLUENE	0	0	0	101	101
OXIDES OF NITROGEN	0	0	0	64800	64800
PARTICULATE MATTER ≤ 10 µm	0	0	0	18400	18400
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	7420	7420
P-DICHLOROBENZENE	0	0	0	1.74	1.74
PENTYLCYCLOPENTANE	0	0	0	82.7	82.7
PERCHLOROETHYLENE	0	0	0	12.2	12.2
P-ETHYLTOLUENE	0	0	0	120	120
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	0.00000166	0.00000166
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.0787	0.0787
PROPANE	0	0	0	14	14
PROPYL ACETATE	0	0	0	551	551
PROPYLCYCLOHEXANE	0	0	0	119	119
PROPYLCYCLOPENTANE	0	0	0	18.4	18.4
PROPYLENE GLYCOL	0	0	0	1140	1140
PROPYLENE GLYCOL METHYL ETHER	0	0	0	276	276
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	0	0	0	551	551
SEC-BUTYL ALCOHOL	0	0	0	2680	2680
SELENIUM & COMPOUNDS	0	0	0	3.76	3.76
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	0	0	0	49500	49500
SULFURIC ACID	0	0	0	521	521
TOLUENE	0	0	0	12500	12500
TOTAL SUSPENDED PARTICULATE	0	0	0	45200	45200
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	90000	90000
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0	0	0	230	230
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0	82.7	82.7
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	184	184
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	340	340
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0	0	0	175	175
TRANS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	18.4	18.4
TRANS-1,3-DIMETHYLCYCLOHEXANE	0	0	0	230	230
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	147	147
TRANS-1,4-DIMETHYLCYCLOHEXANE	0	0	0	239	239
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0	0	0	36.7	36.7
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0	0	0	64.3	64.3

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0	0	0	27.6	27.6
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	45.9	45.9
TRICHLOROETHYLENE (TCE)	0	0	0	1.74	1.74
ZINC & COMPOUNDS	0	0	0	0.63	0.63

A.39 MEDICINAL AND PHARMACEUTICAL PRODUCT MANUFACTURING

Table A-39: Annual emissions from medicinal and pharmaceutical product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0234	0	0	0	0.0234
1,2,4-TRIMETHYLBENZENE	0.0126	0	0	0	0.0126
1,3,5-TRIMETHYLBENZENE	0.0176	0	0	0	0.0176
AMMONIA (TOTAL)	14.5	0	0	19.8	34.3
ANTIMONY & COMPOUNDS	0	0	0	0.0000468	0.0000468
ARSENIC & COMPOUNDS	0.0059	0	0	0.00125	0.00715
BENZENE	15.1	0	0	3.09	18.2
BERYLLIUM & COMPOUNDS	0.00035	0	0	0.0000735	0.000424
CADMIUM & COMPOUNDS	0.0332	0	0	0.00696	0.0401
CARBON DIOXIDE	3630000	0	0	758000	4390000
CARBON MONOXIDE	2440	0	0	520	2960
CHROMIUM (III) COMPOUNDS	0.0384	0	0	0.00809	0.0465
CHROMIUM (VI) COMPOUNDS	0.00214	0	0	0.000429	0.00257
COBALT & COMPOUNDS	0.0024	0	0	0.000518	0.00292
COPPER & COMPOUNDS	0.0258	0	0	0.00551	0.0313
CUMENE (1-METHYLETHYLBENZENE)	0.00842	0	0	0	0.00842
CYCLOHEXANE	3.76	0	0	0.773	4.54
CYCLOHEXANONE	9.84	0	0	0	9.84
ETHYL ACETATE	0	0	0	179	179
ETHYL ALCOHOL	0	0	0	481	481
ETHYLBENZENE	0.000985	0	0	0	0.000985
FORMALDEHYDE	30.1	0	0	6.19	36.3
HEXADECANE	0.00005	0	0	0	0.00005
ISOMERS OF HEXANE	3.61	0	0	0.773	4.38
ISOMERS OF PENTANE	32.5	0	0	6.96	39.4
ISOMERS OF XYLENE	0.0151	0	0	0	0.0151
ISOPROPYL ALCOHOL	1180	0	0	0	1180
LEAD & COMPOUNDS	0.0148	0	0	0.00318	0.0179
MANGANESE & COMPOUNDS	0.0112	0	0	0.00291	0.0142
MERCURY & COMPOUNDS	0.00774	0	0	0.00163	0.00937
METHANE	208	0	0	43.3	251
M-ETHYLTOLUENE	0.0201	0	0	0	0.0201
MOLYBDENUM	0.000702	0	0	0.00000344	0.000705
N-BUTANE	32.5	0	0	6.96	39.4

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-DODECANE	0.00137	0	0	0	0.00137
N-HEPTADECANE	0.000016	0	0	0	0.000016
N-HEXANE	0.157	0	0	0	0.157
NICKEL & COMPOUNDS	0.0627	0	0	0.0132	0.0758
NITRIC OXIDE	1850	0	0	384	2240
NITROGEN DIOXIDE	150	0	0	30.9	180
NITROUS OXIDE	7.7	0	0	1.43	9.14
N-PENTADECANE	0.000233	0	0	0	0.000233
N-PENTANE	21.6	0	0	4.64	26.3
N-PROPYLBENZENE	0.0102	0	0	0	0.0102
N-TETRADECANE	0.000668	0	0	0	0.000668
N-TRIDECANE	0.000919	0	0	0	0.000919
N-UNDECANE	0.000451	0	0	0	0.000451
O-ETHYLTOLUENE	0.0172	0	0	0	0.0172
OXIDES OF NITROGEN	2990	0	0	619	3610
PARTICULATE MATTER ≤ 10 µm	223	0	0	47.1	270
PARTICULATE MATTER ≤ 2.5 µm	223	0	0	47	270
P-ETHYLTOLUENE	0.033	0	0	0	0.033
POLYCHLORINATED DIOXINS AND FURANS	3.45x10 ⁻⁰⁸	0	0	7.35x10 ⁻⁰⁹	4.18x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0203	0	0	0.00425	0.0245
PROPANE	14.4	0	0	3.09	17.5
SELENIUM & COMPOUNDS	0.000701	0	0	0.000148	0.000849
SULFUR DIOXIDE	15.1	0	0	3.23	18.3
TOLUENE	7.54	0	0	1.55	9.08
TOTAL SUSPENDED PARTICULATE	223	0	0	47.7	270
TOTAL VOLATILE ORGANIC COMPOUNDS	1350	0	0	693	2040
VANADIUM & COMPOUNDS	0.00147	0	0	0.0000489	0.00152
ZINC & COMPOUNDS	0.848	0	0	0.179	1.03

A.40 METAL COATING AND FINISHING

Table A-40: Annual emissions from metal coating and finishing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	178	0.00558	0	0	178
1,2,3-TRIMETHYLBENZENE	5.43	0.0371	0	0	5.47
1,2,4-TRIMETHYLBENZENE	2.91	0.0199	0	0	2.93
1,3,5-TRIMETHYLBENZENE	4.09	0.0279	0	0	4.12
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0.656	0	0	0.656
1,4-DIETHYL-CYCLOHEXANE	63.3	2.08	0	0	65.4
1-NONENE	0	0	0	0	0
1-OCTENE	0	0	0	0	0

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-PENTENE	0	0	0	0	0
2,2-DIMETHYLBUTANE	0	0	0	0	0
2,4-DIMETHYLHEXANE	1340	5.29	0	0	1340
2,4-DIMETHYLPENTANE	316	1.25	0	0	317
2-METHYL-1-PENTENE	0	0	0	0	0
2-METHYL-2-BUTENE	0	0	0	0	0
2-METHYL-3-HEXANONE	703	52.5	0	0	755
2-METHYLPROPANE; ISOBUTANE	0	0	0	0	0
2-METHYLPROPENE (ISOBUTENE)	0	0	0	0	0
3-METHYLHEPTANE	0	0	0	0	0
3-METHYLHEXANE	0	0	0	0	0
3-METHYLPENTANE	0	0	0	0	0
ACETALDEHYDE	0	0	0	0	0
ACETONE	246	17.8	0	0	264
ACETYLENE	0	0	0	0	0
AMMONIA (TOTAL)	223	14.4	0	0	238
ANTIMONY & COMPOUNDS	0.109	0.745	0	0	0.854
ARSENIC & COMPOUNDS	0.0272	0.148	0	0	0.175
BENZALDEHYDE	0	0.548	0	0	0.548
BENZENE	16.1	14.6	0	0	30.7
BERYLLIUM & COMPOUNDS	0.000382	0.000347	0	0	0.00073
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	1210	4.76	0	0	1210
C10 OLEFINS	0	5.17	0	0	5.17
C10H12	62.4	0	0	0	62.4
C7 INTERNAL ALKENES	0	0	0	0	0
C8 INTERNAL ALKENES	28.4	0.11	0	0	28.5
C9 CYCLOPARAFFINS	27.1	0	0	0	27.1
C9 OLEFINS	0	0	0	0	0
CADMIUM & COMPOUNDS	0.043	0.0658	0	0	0.109
CARBON DIOXIDE	3950000	3590000	0	0	7530000
CARBON MONOXIDE	2700	2460	0	0	5160
CHLORINE	2.27x10 ⁻¹²	0	0	0	2.27x10 ⁻¹²
CHLOROFORM (TRICHLOROMETHANE)	129	0.00419	0	0	129
CHROMIUM (III) COMPOUNDS	0.0606	1.2	0	0	1.26
CHROMIUM (VI) COMPOUNDS	28.7	0.167	0	0	28.8
CIS-2-BUTENE	0	0	0	0	0
COBALT & COMPOUNDS	0.0346	0.254	0	0	0.289
COPPER & COMPOUNDS	0.262	1.65	0	0	1.91
CUMENE (1-METHYLETHYLBENZENE)	1.95	0.0133	0	0	1.96
CYANIDE (INORGANIC) COMPOUNDS	0.000029	0	0	0	0.000029
CYCLOHEXANE	101	10.9	0	0	112
CYCLOPENTANE	0	0	0	0	0
DIBROMOETHANE	0	0.656	0	0	0.656
DICHLOROMETHANE {METHYLENE CHLORIDE}	193	0.886	0	0	194

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIETHYLCYCLOHEXANE	0	5.74	0	0	5.74
DIMETHYLCYCLOHEXANES	746	4.38	0	0	750
DIMETHYLHEPTANES	125	0.492	0	0	125
ETHANE	0	0	0	0	0
ETHYL ACETATE	1330	28.6	0	0	1350
ETHYL ALCOHOL	30.6	0	0	0	30.6
ETHYLBENZENE	101	8.21	0	0	110
ETHYLCYCLOHEXANE	266	1.05	0	0	267
ETHYLCYCLOPENTANE	41.6	0.162	0	0	41.7
ETHYLENE	0	0	0	0	0
ETHYLHEPTENE	0	1.63	0	0	1.63
ETHYLTOLUENES {METHYLETHYLBENZENES}	37.5	2.81	0	0	40.3
FORMALDEHYDE	53.6	29.3	0	0	82.9
HEXADECANE	0.0116	0.000079	0	0	0.0117
HYDROCHLORIC ACID	0.876	4.46	0	0	5.34
ISOBUTYRALDEHYDE	0	0	0	0	0
ISOMERS OF BUTENE	0	0	0	0	0
ISOMERS OF C10H18	0	3.21	0	0	3.21
ISOMERS OF DECANE (C10 PARAFFINS)	0	4.66	0	0	4.66
ISOMERS OF HEPTANE	0	0	0	0	0
ISOMERS OF HEXANE	4.02	3.66	0	0	7.68
ISOMERS OF NONANE (C9 PARAFFIN)	540	5.83	0	0	546
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0	0
ISOMERS OF PENTANE	36.2	32.9	0	0	69.1
ISOMERS OF TETRADECANE (C14 PARAFFINS)	24.9	0	0	0	24.9
ISOMERS OF UNDECANE (C11 PARAFFINS)	46.2	1.17	0	0	47.4
ISOMERS OF XYLENE	1670	77.8	0	0	1750
ISOPROPYL ALCOHOL	10.6	3.54	0	0	14.1
LEAD & COMPOUNDS	0.211	1.37	0	0	1.58
MAGNESIUM OXIDE FUME	173	5190	0	0	5360
MANGANESE & COMPOUNDS	1.29	25.9	0	0	27.2
MERCURY & COMPOUNDS	0.0236	0.106	0	0	0.13
METHANE	214000	212	0	0	214000
METHYL ALCOHOL	42.5	0	0	0	42.5
METHYL AMYL KETONE	156	11.6	0	0	167
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	117	10.5	0	0	127
METHYL ISOBUTYL KETONE	72.7	5.01	0	0	77.7
METHYLCYCLOHEXANE	677	9.58	0	0	687
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	4.65	0.0318	0	0	4.68
MOLYBDENUM	0.00889	0.0548	0	0	0.0637
N-BUTANE	36.2	32.9	0	0	69.1

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-BUTYL ACETATE	1790	42.1	0	0	1830
N-BUTYL ALCOHOL	6.77	0	0	0	6.77
N-DECANE	0	0	0	0	0
N-DODECANE	0.318	0.00217	0	0	0.32
N-HEPTADECANE	0.00387	0.000026	0	0	0.0039
N-HEPTANE	551	9.09	0	0	560
N-HEXANE	0.00297	0	0	0	0.00297
NICKEL & COMPOUNDS	0.102	1.46	0	0	1.56
NITRIC OXIDE	2370	17700	0	0	20100
NITROGEN DIOXIDE	191	1430	0	0	1620
NITROUS OXIDE	7.48	6.78	0	0	14.3
N-NONANE	0	0	0	0	0
N-OCTANE	0	0	0	0	0
N-PENTADECANE	0.0542	0.00037	0	0	0.0546
N-PENTANE	24.1	21.9	0	0	46.1
N-PROPYLBENZENE	2.37	0.0162	0	0	2.39
N-TETRADECANE	0.155	0.00106	0	0	0.156
N-TRIDECANE	0.213	0.00146	0	0	0.214
N-UNDECANE	0.105	1.81	0	0	1.91
O-ETHYLTOLUENE	3.99	0.0273	0	0	4.02
OXIDES OF NITROGEN	3830	28600	0	0	32400
PARTICULATE MATTER ≤ 10 µm	9850	4790	0	0	14600
PARTICULATE MATTER ≤ 2.5 µm	9280	3190	0	0	12500
P-DICHLOROBENZENE	21.4	0.000697	0	0	21.4
PERCHLOROETHYLENE	150	0.00488	0	0	150
P-ETHYLTOLUENE	7.65	0.0523	0	0	7.7
PHTHALIC ANHYDRIDE	0	0.548	0	0	0.548
POLYCHLORINATED DIOXINS AND FURANS	0.0000206	0.00009	0	0	0.000111
POLYCYCLIC AROMATIC HYDROCARBONS	0.0221	0.0201	0	0	0.0422
PROPANE	16.1	14.6	0	0	30.7
PROPYL ACETATE	0.669	0	0	0	0.669
PROPYLENE	0	0	0	0	0
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	0	0.757	0	0	0.757
SELENIUM & COMPOUNDS	0.0041	0.0226	0	0	0.0267
SULFUR DIOXIDE	16.8	15.3	0	0	32.1
SULFURIC ACID	0.000000394	0	0	0	0.000000394
TOLUENE	7190	94.2	0	0	7280
TOTAL SUSPENDED PARTICULATE	11300	13700	0	0	25000
TOTAL VOLATILE ORGANIC COMPOUNDS	20900	590	0	0	21500
TRANS-2-BUTENE	0	0	0	0	0
TRANS-2-PENTENE	0	0	0	0	0
TRICHLOROETHYLENE (TCE)	21.4	0.000697	0	0	21.4
TRIMETHYLBENZENES	20.6	1.59	0	0	22.2

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRIMETHYLCYCLOHEXANES	309	1.22	0	0	310
TRIMETHYLCYCLOPENTANE	32.1	0.125	0	0	32.3
VANADIUM & COMPOUNDS	0.112	0.778	0	0	0.89
ZINC & COMPOUNDS	8030	1900	0	0	9930

A.41 MILK AND CREAM PROCESSING

Table A-41: Annual emissions from milk and cream processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	6.01	0	0	0	6.01
ARSENIC & COMPOUNDS	0.00245	0	0	0	0.00245
BENZENE	6.12	0	0	0	6.12
BERYLLIUM & COMPOUNDS	0.000145	0	0	0	0.000145
CADMIUM & COMPOUNDS	0.0138	0	0	0	0.0138
CARBON DIOXIDE	1500000	0	0	0	1500000
CARBON MONOXIDE	1030	0	0	0	1030
CHROMIUM (III) COMPOUNDS	0.016	0	0	0	0.016
CHROMIUM (VI) COMPOUNDS	0.000842	0	0	0	0.000842
COBALT & COMPOUNDS	0.000995	0	0	0	0.000995
COPPER & COMPOUNDS	0.0107	0	0	0	0.0107
CYCLOHEXANE	1.53	0	0	0	1.53
FORMALDEHYDE	12.2	0	0	0	12.2
ISOMERS OF HEXANE	1.53	0	0	0	1.53
ISOMERS OF PENTANE	13.8	0	0	0	13.8
LEAD & COMPOUNDS	0.00612	0	0	0	0.00612
MANGANESE & COMPOUNDS	0.00467	0	0	0	0.00467
MERCURY & COMPOUNDS	0.00321	0	0	0	0.00321
METHANE	85.7	0	0	0	85.7
N-BUTANE	13.8	0	0	0	13.8
NICKEL & COMPOUNDS	0.026	0	0	0	0.026
NITRIC OXIDE	759	0	0	0	759
NITROGEN DIOXIDE	61.2	0	0	0	61.2
NITROUS OXIDE	2.84	0	0	0	2.84
N-PENTANE	9.18	0	0	0	9.18
OXIDES OF NITROGEN	1220	0	0	0	1220
PARTICULATE MATTER ≤ 10 µm	93	0	0	0	93
PARTICULATE MATTER ≤ 2.5 µm	93	0	0	0	93
POLYCHLORINATED DIOXINS AND FURANS	1.45x10 ⁻⁰⁸	0	0	0	1.45x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00842	0	0	0	0.00842
PROPANE	6.12	0	0	0	6.12
SELENIUM & COMPOUNDS	0.000291	0	0	0	0.000291
SULFUR DIOXIDE	6.4	0	0	0	6.4
TOLUENE	3.06	0	0	0	3.06
TOTAL SUSPENDED	93	0	0	0	93

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE					
TOTAL VOLATILE ORGANIC COMPOUNDS	67.3	0	0	0	67.3
ZINC & COMPOUNDS	0.352	0	0	0	0.352

A.42 MINING AND CONSTRUCTION MACHINERY MANUFACTURING

Table A-42: Annual emissions from mining and construction machinery manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0.0453	0	0	0.0453
1,2,4-TRIMETHYLBENZENE	0	0.055	0	0	0.055
1,3,5-TRIMETHYLBENZENE	0	0.0341	0	0	0.0341
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0.492	0	0	0.492
1,4-DIETHYL-CYCLOHEXANE	0	1.56	0	0	1.56
1,4-PENTADIENE	0	0.102	0	0	0.102
1-BUTENE	0	0.471	0	0	0.471
1-PENTENE	0	0.564	0	0	0.564
2,2,3,TRIMETHYLHEXANE	0	0.0102	0	0	0.0102
2,2,3-TRIMETHYLBUTANE	0	0.0205	0	0	0.0205
2,2,4-TRIMETHYLPENTANE	0	0.502	0	0	0.502
2,2-DIMETHYLBUTANE	0	0.154	0	0	0.154
2,2-DIMETHYLHEXANE	0	0.0205	0	0	0.0205
2,2-DIMETHYLPENTANE	0	0.0512	0	0	0.0512
2,3,3-TRIMETHYLPENTANE	0	0.0512	0	0	0.0512
2,3,4-TRIMETHYLPENTANE	0	0.0512	0	0	0.0512
2,3-DIMETHYLBUTANE	0	0.83	0	0	0.83
2,3-DIMETHYLHEXANE	0	0.082	0	0	0.082
2,3-DIMETHYLPENTANE	0	0.184	0	0	0.184
2,4-DIMETHYLHEXANE	0	23.7	0	0	23.7
2,4-DIMETHYLPENTANE	0	5.72	0	0	5.72
2,5-DIMETHYLHEXANE	0	0.0717	0	0	0.0717
2-METHYL-1-BUTENE	0	1.16	0	0	1.16
2-METHYL-2-BUTENE	0	4.54	0	0	4.54
2-METHYL-3-HEXANONE	0	12.3	0	140	153
2-METHYLHEPTANE	0	0.154	0	0	0.154
2-METHYLHEXANE	0	0.523	0	0	0.523
2-METHYLNONANE	0	0.0102	0	0	0.0102
2-METHYLOCTANE	0	0.0102	0	0	0.0102
2-METHYLPENTANE	0	4.9	0	0	4.9
2-METHYLPROPANE; ISOBUTANE	0	3.13	0	0	3.13
3,3-DIMETHYLPENTANE	0	0.0615	0	0	0.0615
3-ETHYLPENTANE	0	0.102	0	0	0.102
3-METHYL-1-BUTENE	0	0.0307	0	0	0.0307
3-METHYLHEPTANE	0	0.143	0	0	0.143
3-METHYLHEXANE	0	0.646	0	0	0.646

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYLOCTANE	0	0.0205	0	0	0.0205
3-METHYLPENTANE	0	2.4	0	0	2.4
4-METHYLHEPTANE	0	0.082	0	0	0.082
4-METHYLOCTANE	0	0.0102	0	0	0.0102
ACETONE	0	4.15	0	47.5	51.7
ANTIMONY & COMPOUNDS	0	0	0	0.000332	0.000332
ARSENIC & COMPOUNDS	0	0	0	0.0000634	0.0000634
BENZALDEHYDE	0	0.411	0	0	0.411
BENZENE	0	0.799	0	0	0.799
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	21.2	0	0	21.2
C10 OLEFINS	0	3.88	0	0	3.88
C8 INTERNAL ALKENES	0	0.49	0	0	0.49
CADMIUM & COMPOUNDS	0	0	0	0.0000146	0.0000146
CHROMIUM (III) COMPOUNDS	0	0	0	0.0000581	0.0000581
CHROMIUM (VI) COMPOUNDS	0	0.0963	0	0.0000249	0.0963
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0.225	0	0	0.225
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0.143	0	0	0.143
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0.143	0	0	0.143
CIS-2-BUTENE	0	0.307	0	0	0.307
CIS-2-PENTENE	0	1.66	0	0	1.66
COBALT & COMPOUNDS	0	0	0	0.000112	0.000112
COPPER & COMPOUNDS	0	0	0	0.000722	0.000722
CUMENE (1-METHYLETHYLBENZENE)	0	0.0163	0	0	0.0163
CYCLOHEXANE	0	1.75	0	19.4	21.1
CYCLOPENTENE	0	0.0307	0	0	0.0307
DIBROMOETHANE	0	0.492	0	0	0.492
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0.659	0	0	0.659
DIETHYLCYCLOHEXANE	0	4.3	0	0	4.3
DIMETHYLCYCLOHEXANES	0	14.2	0	0	14.2
DIMETHYLHEPTANES	0	2.19	0	0	2.19
ETHYL ACETATE	0	6.66	0	76.5	83.1
ETHYLBENZENE	0	2.37	0	20.1	22.5
ETHYLCYCLOHEXANE	0	4.67	0	0	4.67
ETHYLCYCLOPENTANE	0	0.749	0	0	0.749
ETHYLHEPTENE	0	1.22	0	0	1.22
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0.653	0	7.51	8.16
HEXADECANE	0	0.000096	0	0	0.000096
ISOMERS OF C10H18	0	2.41	0	0	2.41
ISOMERS OF DECANE (C10 PARAFFINS)	0	3.5	0	0	3.5
ISOMERS OF NONANE (C9 PARAFFIN)	0	11.9	0	0	11.9

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF PENTANE	0	50.8	0	0	50.8
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0.881	0	0	0.881
ISOMERS OF XYLENE	0	28.8	0	197	226
ISOPROPYL ALCOHOL	0	2.65	0	0	2.65
LEAD & COMPOUNDS	0	0	0	0.000605	0.000605
MANGANESE & COMPOUNDS	0	0	0	0.0039	0.0039
MERCURY & COMPOUNDS	0	0	0	0.0000439	0.0000439
METHYL AMYL KETONE	0	2.71	0	30.9	33.6
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	3.96	0	20.1	24.1
METHYL ISOBUTYL KETONE	0	1.18	0	13.4	14.6
METHYLCYCLOHEXANE	0	17	0	0	17
METHYLCYCLOPENTANE	0	0.297	0	0	0.297
M-ETHYLTOLUENE	0	0.1	0	0	0.1
MOLYBDENUM	0	0	0	0.0000244	0.0000244
N-BUTANE	0	13.7	0	0	13.7
N-BUTYL ACETATE	0	36	0	80.3	116
N-DECANE	0	0.0102	0	0	0.0102
N-DODECANE	0	0.00265	0	0	0.00265
N-HEPTADECANE	0	0.000032	0	0	0.000032
N-HEPTANE	0	11.7	0	13.3	25
N-HEXANE	0	0.225	0	0	0.225
NICKEL & COMPOUNDS	0	0	0	0.0000586	0.0000586
N-NONANE	0	0.0102	0	0	0.0102
N-PENTADECANE	0	0.000451	0	0	0.000451
N-PROPYLBENZENE	0	0.0403	0	0	0.0403
N-TETRADECANE	0	0.00129	0	0	0.00129
N-TRIDECANE	0	0.00178	0	0	0.00178
N-UNDECANE	0	1.36	0	0	1.36
O-ETHYLTOLUENE	0	0.0333	0	0	0.0333
PARTICULATE MATTER ≤ 10 µm	0	0.201	0	0.937	1.14
PARTICULATE MATTER ≤ 2.5 µm	0	0.201	0	0.227	0.427
P-ETHYLTOLUENE	0	0.0945	0	0	0.0945
PHTHALIC ANHYDRIDE	0	0.411	0	0	0.411
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0.568	0	0	0.568
SELENIUM & COMPOUNDS	0	0	0	0.00000976	0.00000976
TOLUENE	0	134	0	136	270
TOTAL SUSPENDED PARTICULATE	0	0.201	0	4.88	5.08
TOTAL VOLATILE ORGANIC COMPOUNDS	0	475	0	806	1280
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0.0102	0	0	0.0102
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0.0307	0	0	0.0307
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0.0717	0	0	0.0717

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0.041	0	0	0.041
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0.0512	0	0	0.0512
TRANS-2-BUTENE	0	2.9	0	0	2.9
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0.0307	0	0	0.0307
TRANS-2-PENTENE	0	3.01	0	0	3.01
TRIMETHYLBENZENES	0	0.359	0	4.27	4.63
TRIMETHYLCYCLOHEXANES	0	5.42	0	0	5.42
TRIMETHYLCYCLOPENTANE	0	0.555	0	0	0.555
VANADIUM & COMPOUNDS	0	0	0	0.000347	0.000347
ZINC & COMPOUNDS	0	0	0	0.00484	0.00484

A.43 NON-BUILDING CONSTRUCTION N.E.C.

Table A-43: Annual emissions from non-building construction n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	0.358	0	0	0.154	0.512
ANTIMONY & COMPOUNDS	0.167	0	0	0	0.167
ARSENIC & COMPOUNDS	0.0321	0	0	0.0000629	0.0322
BENZENE	0.721	0	0	0.31	1.03
BERYLLIUM & COMPOUNDS	0.00000878	0	0	0.00000378	0.0000126
CADMIUM & COMPOUNDS	0.00818	0	0	0.000346	0.00853
CARBON DIOXIDE	104000	0	0	44900	149000
CARBON MONOXIDE	16.5	0	0	7.09	23.6
CHROMIUM (III) COMPOUNDS	0.0301	0	0	0.000366	0.0305
CHROMIUM (VI) COMPOUNDS	0.0127	0	0	0.000075	0.0128
COBALT & COMPOUNDS	0.0566	0	0	0.0000265	0.0567
COPPER & COMPOUNDS	0.365	0	0	0.000268	0.365
CYCLOHEXANE	0.179	0	0	0.077	0.256
FORMALDEHYDE	1.44	0	0	0.621	2.06
LEAD & COMPOUNDS	0.305	0	0	0.000157	0.306
MANGANESE & COMPOUNDS	1.97	0	0	0.00012	1.97
MERCURY & COMPOUNDS	0.0223	0	0	0.0000818	0.0224
METHANE	6.38	0	0	2.75	9.13
MOLYBDENUM	0.0131	0	0	0.000346	0.0134
N-HEXANE	0.179	0	0	0.077	0.256
NICKEL & COMPOUNDS	0.0311	0	0	0.000661	0.0317
NITRIC OXIDE	74	0	0	31.9	106
NITROGEN DIOXIDE	5.97	0	0	2.57	8.54
NITROUS OXIDE	1.13	0	0	0.487	1.62
OXIDES OF NITROGEN	119	0	0	51.4	171
PARTICULATE MATTER ≤ 10 µm	476	0	0	1.59	477
PARTICULATE MATTER ≤ 2.5 µm	118	0	0	1.58	119
POLYCHLORINATED DIOXINS	2.28x10 ⁻¹⁰	0	0	9.8x10 ⁻¹¹	3.26x10 ⁻¹⁰

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AND FURANS					
POLYCYCLIC AROMATIC HYDROCARBONS	0.000511	0	0	0.00022	0.000731
SELENIUM & COMPOUNDS	0.00494	0	0	0.00000756	0.00494
SULFUR DIOXIDE	0.000618	0	0	0.000266	0.000883
TOLUENE	0.36	0	0	0.155	0.515
TOTAL SUSPENDED PARTICULATE	2460	0	0	1.63	2470
TOTAL VOLATILE ORGANIC COMPOUNDS	2.88	0	0	1.24	4.12
VANADIUM & COMPOUNDS	0.176	0	0	0.000723	0.177
ZINC & COMPOUNDS	2.46	0	0	0.00912	2.47

A.44 NON-FERROUS METAL CASTING

Table A-44: Annual emissions from non-ferrous metal casting

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0	0	0.0224	0.0224
1,2,4-TRIMETHYLBENZENE	0	0	0	0.012	0.012
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0169	0.0169
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.0197	0.0197
AMMONIA (TOTAL)	0	0	0	1.15	1.15
ARSENIC & COMPOUNDS	0	0	0	0.000787	0.000787
BERYLLIUM & COMPOUNDS	0	0	0	0.000602	0.000602
CADMIUM & COMPOUNDS	0	0	0	0.000602	0.000602
CARBON DIOXIDE	0	0	0	32100	32100
CARBON MONOXIDE	0	0	0	7.2	7.2
CHROMIUM (III) COMPOUNDS	0	0	0	0.000422	0.000422
CHROMIUM (VI) COMPOUNDS	0	0	0	0.000181	0.000181
COPPER & COMPOUNDS	0	0	0	0.287	0.287
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.00807	0.00807
ETHYLBENZENE	0	0	0	0.000944	0.000944
FORMALDEHYDE	0	0	0	0.234	0.234
HEXADECANE	0	0	0	0.000048	0.000048
ISOMERS OF HEPTANE	0	0	0	0.0125	0.0125
ISOMERS OF HEXANE	0	0	0	0.025	0.025
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0.0226	0.0226
ISOMERS OF PENTANE	0	0	0	0.0264	0.0264
ISOMERS OF XYLENE	0	0	0	0.0144	0.0144
LEAD & COMPOUNDS	0	0	0	0.00181	0.00181
MANGANESE & COMPOUNDS	0	0	0	0.0012	0.0012
MERCURY & COMPOUNDS	0	0	0	0.000602	0.000602
M-ETHYLTOLUENE	0	0	0	0.0192	0.0192
N-BUTANE	0	0	0	0.0586	0.0586

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-DODECANE	0	0	0	0.00131	0.00131
N-HEPTADECANE	0	0	0	0.000016	0.000016
N-HEPTANE	0	0	0	0.00144	0.00144
N-HEXANE	0	0	0	0.0518	0.0518
NICKEL & COMPOUNDS	0	0	0	0.000602	0.000602
NITRIC OXIDE	0	0	0	17.9	17.9
NITROGEN DIOXIDE	0	0	0	1.44	1.44
NITROUS OXIDE	0	0	0	0.3	0.3
N-PENTADECANE	0	0	0	0.000224	0.000224
N-PENTANE	0	0	0	0.0226	0.0226
N-PROPYLBENZENE	0	0	0	0.00981	0.00981
N-TETRADECANE	0	0	0	0.00064	0.00064
N-TRIDECANE	0	0	0	0.00088	0.00088
N-UNDECANE	0	0	0	0.000432	0.000432
O-ETHYLTOLUENE	0	0	0	0.0165	0.0165
OXIDES OF NITROGEN	0	0	0	28.8	28.8
PARTICULATE MATTER ≤ 10 µm	0	0	0	244	244
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	183	183
P-ETHYLTOLUENE	0	0	0	0.0316	0.0316
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	2.16x10 ⁻¹⁰	2.16x10 ⁻¹⁰
PROPANE	0	0	0	0.00576	0.00576
SELENIUM & COMPOUNDS	0	0	0	0.00301	0.00301
SULFUR DIOXIDE	0	0	0	21.7	21.7
SULFUR TRIOXIDE	0	0	0	0.144	0.144
TOLUENE	0	0	0	0.00443	0.00443
TOTAL SUSPENDED PARTICULATE	0	0	0	384	384
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	0.64	0.64
ZINC & COMPOUNDS	0	0	0	0.000787	0.000787

A.45 NON-METALLIC MINERAL PRODUCT MANUFACTURING N.E.C.

Table A-45: Annual emissions from non-metallic mineral product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,4-BUTANEDIOL	11800	0	0	0	11800
ACETONE	14000	0	0	0	14000
AMMONIA (TOTAL)	2.84	0	0	0	2.84
ARSENIC & COMPOUNDS	0.00115	0	0	0	0.00115
BENZENE	2.89	0	0	0	2.89
BERYLLIUM & COMPOUNDS	0.0000686	0	0	0	0.0000686
CADMIUM & COMPOUNDS	0.00649	0	0	0	0.00649
CARBON DIOXIDE	708000	0	0	0	708000
CARBON MONOXIDE	485	0	0	0	485
CHROMIUM (III) COMPOUNDS	0.00754	0	0	0	0.00754

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (VI) COMPOUNDS	0.000397	0	0	0	0.000397
COBALT & COMPOUNDS	0.000469	0	0	0	0.000469
COPPER & COMPOUNDS	0.00505	0	0	0	0.00505
CYCLOHEXANE	0.722	0	0	0	0.722
FORMALDEHYDE	5.77	0	0	0	5.77
ISOMERS OF HEXANE	0.722	0	0	0	0.722
ISOMERS OF PENTANE	59200	0	0	0	59200
LEAD & COMPOUNDS	0.00289	0	0	0	0.00289
MANGANESE & COMPOUNDS	0.0022	0	0	0	0.0022
MERCURY & COMPOUNDS	0.00152	0	0	0	0.00152
METHANE	40.4	0	0	0	40.4
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	11800	0	0	0	11800
METHYL ISOBUTYL KETONE	845	0	0	0	845
METHYLCYCLOPENTANE	3400	0	0	0	3400
N-BUTANE	6.49	0	0	0	6.49
N-HEXANE	950	0	0	0	950
NICKEL & COMPOUNDS	0.0123	0	0	0	0.0123
NITRIC OXIDE	358	0	0	0	358
NITROGEN DIOXIDE	28.9	0	0	0	28.9
NITROUS OXIDE	1.34	0	0	0	1.34
N-PENTANE	4.33	0	0	0	4.33
OXIDES OF NITROGEN	577	0	0	0	577
PARTICULATE MATTER ≤ 10 µm	43.9	0	0	0	43.9
PARTICULATE MATTER ≤ 2.5 µm	43.9	0	0	0	43.9
POLYCHLORINATED DIOXINS AND FURANS	6.86x10 ⁻⁰⁹	0	0	0	6.86x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0.00397	0	0	0	0.00397
PROPANE	2.89	0	0	0	2.89
SELENIUM & COMPOUNDS	0.000137	0	0	0	0.000137
SULFUR DIOXIDE	3.02	0	0	0	3.02
TOLUENE	3610	0	0	0	3610
TOTAL SUSPENDED PARTICULATE	43.9	0	0	0	43.9
TOTAL VOLATILE ORGANIC COMPOUNDS	106000	0	0	0	106000
ZINC & COMPOUNDS	0.166	0	0	0	0.166

A.46 OIL AND FAT MANUFACTURING

Table A-46: Annual emissions from oil and fat manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	183	0	0	0	183
ARSENIC & COMPOUNDS	0.0127	0	0	0	0.0127
BENZENE	31.7	0	0	0	31.7

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0.000753	0	0	0	0.000753
CADMIUM & COMPOUNDS	0.0714	0	0	0	0.0714
CARBON DIOXIDE	7780000	0	0	0	7780000
CARBON MONOXIDE	5320	0	0	0	5320
CHROMIUM (III) COMPOUNDS	0.0829	0	0	0	0.0829
CHROMIUM (VI) COMPOUNDS	0.00436	0	0	0	0.00436
COBALT & COMPOUNDS	0.00515	0	0	0	0.00515
COPPER & COMPOUNDS	0.0555	0	0	0	0.0555
CYCLOHEXANE	7.93	0	0	0	7.93
FORMALDEHYDE	63.4	0	0	0	63.4
ISOMERS OF HEXANE	7.93	0	0	0	7.93
ISOMERS OF PENTANE	71.4	0	0	0	71.4
LEAD & COMPOUNDS	0.0317	0	0	0	0.0317
MANGANESE & COMPOUNDS	0.0242	0	0	0	0.0242
MERCURY & COMPOUNDS	0.0167	0	0	0	0.0167
METHANE	444	0	0	0	444
N-BUTANE	71.4	0	0	0	71.4
NICKEL & COMPOUNDS	0.135	0	0	0	0.135
NITRIC OXIDE	7050	0	0	0	7050
NITROGEN DIOXIDE	568	0	0	0	568
NITROUS OXIDE	14.7	0	0	0	14.7
N-PENTANE	47.6	0	0	0	47.6
OXIDES OF NITROGEN	11400	0	0	0	11400
PARTICULATE MATTER ≤ 10 µm	482	0	0	0	482
PARTICULATE MATTER ≤ 2.5 µm	482	0	0	0	482
POLYCHLORINATED DIOXINS AND FURANS	7.53x10 ⁻⁰⁸	0	0	0	7.53x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0436	0	0	0	0.0436
PROPANE	31.7	0	0	0	31.7
SELENIUM & COMPOUNDS	0.00151	0	0	0	0.00151
SULFUR DIOXIDE	33.1	0	0	0	33.1
TOLUENE	15.9	0	0	0	15.9
TOTAL SUSPENDED PARTICULATE	482	0	0	0	482
TOTAL VOLATILE ORGANIC COMPOUNDS	349	0	0	0	349
ZINC & COMPOUNDS	1.82	0	0	0	1.82

A.47 ORGANIC INDUSTRIAL CHEMICAL MANUFACTURING N.E.C.

Table A-47: Annual emissions organic industrial chemical manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.00186	0	0	0	0.00186
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	1.63	0	0	0	1.63

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,4-DIMETHYLHEXANE	25.5	0	0	0	25.5
2,4-DIMETHYLPENTANE	6.02	0	0	0	6.02
2-METHYL-3-HEXANONE	13.3	0	0	0	13.3
ACETONE	35.9	0	0	0	35.9
AMMONIA (TOTAL)	0.149	0	0	0	0.149
ARSENIC & COMPOUNDS	0.0000598	0	0	0	0.0000598
BENZENE	0.15	0	0	0	0.15
BERYLLIUM & COMPOUNDS	0.00000355	0	0	0	0.00000355
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	4.89	0	0	0	4.89
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	22.9	0	0	0	22.9
BUTYLBENZENE ISOMERS	54.2	0	0	0	54.2
BUTYLCYCLOHEXANE	21.6	0	0	0	21.6
C10 OLEFINS	46.9	0	0	0	46.9
C11 OLEFINS	11.8	0	0	0	11.8
C12 OLEFINS	2.85	0	0	0	2.85
C8 INTERNAL ALKENES	0.531	0	0	0	0.531
C8 OLEFINS	40.8	0	0	0	40.8
CADMIUM & COMPOUNDS	0.000336	0	0	0	0.000336
CARBON DIOXIDE	36600	0	0	0	36600
CARBON MONOXIDE	25.1	0	0	0	25.1
CHLOROFORM (TRICHLOROMETHANE)	0.00139	0	0	0	0.00139
CHROMIUM (III) COMPOUNDS	0.000391	0	0	0	0.000391
CHROMIUM (VI) COMPOUNDS	0.0000206	0	0	0	0.0000206
COBALT & COMPOUNDS	0.0000243	0	0	0	0.0000243
COPPER & COMPOUNDS	0.000262	0	0	0	0.000262
CUMENE (1- METHYLETHYLBENZENE)	4.48	0	0	0	4.48
CYCLOHEXANE	1.88	0	0	0	1.88
DECALINS (MIXED CIS,TRANS)	7.74	0	0	0	7.74
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.00209	0	0	0	0.00209
DIETHYLCYCLOHEXANE	10.2	0	0	0	10.2
DIMETHYLBENZYLALCOHOL	2.04	0	0	0	2.04
DIMETHYLCYCLOBUTANONE	7.74	0	0	0	7.74
DIMETHYLCYCLOHEXANES	28.5	0	0	0	28.5
DIMETHYLCYCLOPENTANE	94.1	0	0	0	94.1
DIMETHYLHEPTANES	4.41	0	0	0	4.41
DIMETHYLHEXANES	44.4	0	0	0	44.4
DIMETHYLNONANES	28.5	0	0	0	28.5
DIMETHYLOCTANES	39.9	0	0	0	39.9
ETHYL ACETATE	7.22	0	0	0	7.22
ETHYL PROPYLCYCLOHEXANES	8.15	0	0	0	8.15
ETHYLBENZENE	1.91	0	0	0	1.91
ETHYLCYCLOHEXANE	15.7	0	0	0	15.7
ETHYLCYCLOPENTANE	0.779	0	0	0	0.779
ETHYLDIMETHYLPHENOL	7.34	0	0	0	7.34

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLHEPTENE	4.08	0	0	0	4.08
ETHYLHEXANE	6.52	0	0	0	6.52
ETHYLMETHYLCYCLOHEXANES	91.3	0	0	0	91.3
ETHYLMETHYLOCTANE	8.97	0	0	0	8.97
ETHYLOCTANE	3.26	0	0	0	3.26
ETHYLOCTENES	5.71	0	0	0	5.71
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.708	0	0	0	0.708
FORMALDEHYDE	0.299	0	0	0	0.299
ISOMERS OF C9H16	15.9	0	0	0	15.9
ISOMERS OF DECANE (C10 PARAFFINS)	178	0	0	0	178
ISOMERS OF DODECANE (C12 PARAFFINS)	37.1	0	0	0	37.1
ISOMERS OF HEXANE	0.0374	0	0	0	0.0374
ISOMERS OF NONANE (C9 PARAFFIN)	9.87	0	0	0	9.87
ISOMERS OF PENTANE	0.336	0	0	0	0.336
ISOMERS OF PROPYLBENZENE	37.1	0	0	0	37.1
ISOMERS OF TETRADECANE (C14 PARAFFINS)	4.08	0	0	0	4.08
ISOMERS OF TRIDECANE (C13 PARAFFINS)	1.22	0	0	0	1.22
ISOMERS OF UNDECANE (C11 PARAFFINS)	123	0	0	0	123
ISOMERS OF XYLENE	83.1	0	0	0	83.1
LEAD & COMPOUNDS	0.00015	0	0	0	0.00015
MANGANESE & COMPOUNDS	0.000114	0	0	0	0.000114
MERCURY & COMPOUNDS	0.0000785	0	0	0	0.0000785
METHANE	4.41	0	0	0	4.41
METHYL ALCOHOL	79.1	0	0	0	79.1
METHYL AMYL KETONE	2.94	0	0	0	2.94
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	1.91	0	0	0	1.91
METHYL HEXANE	170	0	0	0	170
METHYL ISOBUTYL KETONE	1.27	0	0	0	1.27
METHYL PROPYLCYCLOHEXANES	33.8	0	0	0	33.8
METHYLCYCLOHEXANE	256	0	0	0	256
METHYLDECALINS	3.26	0	0	0	3.26
METHYLDECANES	59.5	0	0	0	59.5
METHYLDECENES	10.2	0	0	0	10.2
METHYLDODECANES	2.45	0	0	0	2.45
METHYLHEXENES	16.3	0	0	0	16.3
METHYLINDANS	0.408	0	0	0	0.408
METHYLNONANE	100	0	0	0	100
METHYLNONENES	3.67	0	0	0	3.67
METHYLOCTANES	97.8	0	0	0	97.8
METHYLPROPYLNONANE	4.48	0	0	0	4.48
METHYLUDECANE	4.08	0	0	0	4.08

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NAPHTHALENE	4.08	0	0	0	4.08
N-BUTANE	0.336	0	0	0	0.336
N-BUTYL ACETATE	33.6	0	0	0	33.6
N-HEPTANE	1130	0	0	0	1130
N-HEXANE	5.3	0	0	0	5.3
NICKEL & COMPOUNDS	0.000635	0	0	0	0.000635
NITRIC OXIDE	18.5	0	0	0	18.5
NITROGEN DIOXIDE	1.5	0	0	0	1.5
NITROUS OXIDE	0.0693	0	0	0	0.0693
N-NONANE	116	0	0	0	116
NONADIENE	2.85	0	0	0	2.85
N-PENTANE	0.224	0	0	0	0.224
N-PENTYLCYCLOHEXANE	6.52	0	0	0	6.52
N-PROPYLBENZENE	6.11	0	0	0	6.11
OXIDES OF NITROGEN	29.9	0	0	0	29.9
PARTICULATE MATTER ≤ 10 µm	2.27	0	0	0	2.27
PARTICULATE MATTER ≤ 2.5 µm	2.27	0	0	0	2.27
P-DICHLOROBENZENE	0.000232	0	0	0	0.000232
PENTYLCYCLOPENTANE	0.815	0	0	0	0.815
PERCHLOROETHYLENE	0.00163	0	0	0	0.00163
POLYCHLORINATED DIOXINS AND FURANS	3.55x10 ⁻¹⁰	0	0	0	3.55x10 ⁻¹⁰
POLYCYCLIC AROMATIC HYDROCARBONS	0.000206	0	0	0	0.000206
PROPANE	0.15	0	0	0	0.15
PROPENYLCYCLOHEXANE	2.85	0	0	0	2.85
SELENIUM & COMPOUNDS	0.0000071	0	0	0	0.0000071
SULFUR DIOXIDE	0.156	0	0	0	0.156
TETRAMETHYLBENZENES	4.08	0	0	0	4.08
TETRAMETHYLCYCLOBUTENE	0.408	0	0	0	0.408
TETRAMETHYLCYCLOPENTANE	8.97	0	0	0	8.97
TETRAMETHYLTHIOUREA	0.815	0	0	0	0.815
TOLUENE	985	0	0	0	985
TOTAL SUSPENDED PARTICULATE	2.27	0	0	0	2.27
TOTAL VOLATILE ORGANIC COMPOUNDS	4540	0	0	0	4540
TRICHLOROETHYLENE (TCE)	0.000232	0	0	0	0.000232
TRIMETHYLBENZENES	41.1	0	0	0	41.1
TRIMETHYLCYCLOHEXANES	38.5	0	0	0	38.5
TRIMETHYLCYCLOPENTANE	48.3	0	0	0	48.3
TRIMETHYLHEPTANES	28.9	0	0	0	28.9
TRIMETHYLOCTANES	6.11	0	0	0	6.11
ZINC & COMPOUNDS	0.0086	0	0	0	0.0086

A.48 PAINT MANUFACTURING

Table A-48: Annual emissions from paint manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	3.41	0	0	0	3.41
1,2,4-TRIMETHYLBENZENE	1.83	0	0	0	1.83
1,3,5-TRIMETHYLBENZENE	2.57	0	0	0	2.57
2,4-DIMETHYLHEXANE	24.5	0	0	0	24.5
2,4-DIMETHYLPENTANE	5.78	0	0	0	5.78
2,4-TOLUENE DIISOCYANATE {TDI}	0.105	0	0	0	0.105
2,6-DIMETHYLOCTANE	0.2	0	0	0	0.2
2-METHYL-3-HEXANONE	49.3	0	0	0	49.3
3,6-DIMETHYL UNDECANE	0.879	0	0	0	0.879
3,7-DIMETHYL-1-OCTANOL	0.211	0	0	0	0.211
ACETONE	366	0	0	0	366
ANTIMONY & COMPOUNDS	0.208	0	0	0	0.208
ARSENIC & COMPOUNDS	0.0386	0	0	0	0.0386
BENZOIC ACID	0.0703	0	0	0	0.0703
BIPHENYLOL {2-PHENYLPHENOL}	0.246	0	0	0	0.246
BUTANOIC ACID	50	0	0	0	50
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	22.1	0	0	0	22.1
BUTYL ISOPROPYL PHTHALATE	44.8	0	0	0	44.8
BUTYLCYCLOHEXANE	0.339	0	0	0	0.339
C10 OLEFINS	0.633	0	0	0	0.633
C8 INTERNAL ALKENES	0.51	0	0	0	0.51
CADMIUM & COMPOUNDS	0.0334	0	0	0	0.0334
CARYOPHYLLENE	0.387	0	0	0	0.387
CHROMIUM (III) COMPOUNDS	0.0306	0	0	0	0.0306
CHROMIUM (VI) COMPOUNDS	0.0131	0	0	0	0.0131
COBALT & COMPOUNDS	0.013	0	0	0	0.013
COPPER & COMPOUNDS	70.4	0	0	0	70.4
CUMENE (1-METHYLETHYLBENZENE)	1.22	0	0	0	1.22
CYCLOHEXANE	22.9	0	0	0	22.9
CYCLOHEXENE	0.773	0	0	0	0.773
DIBUTYL PHTHALATE	84.1	0	0	0	84.1
DIMETHYLCYCLOHEXANES	13.6	0	0	0	13.6
DIMETHYLHEPTANES	2.28	0	0	0	2.28
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	0.141	0	0	0	0.141
EICOSANE	1.69	0	0	0	1.69
ETHYL ACETATE	38500	0	0	0	38500
ETHYL ALCOHOL	18700	0	0	0	18700
ETHYLBENZENE	7.23	0	0	0	7.23
ETHYLCYCLOHEXANE	4.87	0	0	0	4.87
ETHYLCYCLOPENTANE	0.749	0	0	0	0.749
ETHYLOCTANE	1.55	0	0	0	1.55
ETHYLTOLUENES {METHYLETHYLBENZENES}	2.64	0	0	0	2.64

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HENEICOSANE	1.05	0	0	0	1.05
HEXADECANE	11.7	0	0	0	11.7
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	13	0	0	0	13
ISOMERS OF NONANE (C9 PARAFFIN)	9.49	0	0	0	9.49
ISOMERS OF OCTADECANE (C18 PARAFFINS)	5.94	0	0	0	5.94
ISOMERS OF PENTADECANE (C15 PARAFFINS)	0.527	0	0	0	0.527
ISOMERS OF XYLENE	4490	0	0	0	4490
ISOPROPYL ACETATE	106	0	0	0	106
ISOPROPYL ALCOHOL	23.7	0	0	0	23.7
LEAD & COMPOUNDS	138	0	0	0	138
MANGANESE & COMPOUNDS	2.35	0	0	0	2.35
MERCURY & COMPOUNDS	0.036	0	0	0	0.036
METHYL AMYL KETONE	10.9	0	0	0	10.9
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	0.141	0	0	0	0.141
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	11400	0	0	0	11400
METHYL ISOBUTYL KETONE	1100	0	0	0	1100
METHYLCYCLOHEXANE	12.3	0	0	0	12.3
METHYLETHYLPENTANOATE	0.105	0	0	0	0.105
METHYLHEPTANOL	0.246	0	0	0	0.246
METHYLNONANE	0.365	0	0	0	0.365
M-ETHYLTOLUENE	2.92	0	0	0	2.92
METHYLUNDECANE	5.98	0	0	0	5.98
MOLYBDENUM	0.0257	0	0	0	0.0257
N-BUTYL ACETATE	53.2	0	0	0	53.2
N-BUTYL ALCOHOL	7.14	0	0	0	7.14
N-BUTYLCYCHOHEPTANE	0.373	0	0	0	0.373
N-DECANE	0.57	0	0	0	0.57
N-DODECANE	0.205	0	0	0	0.205
N-HEPTADECANE	0.00243	0	0	0	0.00243
N-HEPTANE	13.5	0	0	0	13.5
N-HEXANE	149	0	0	0	149
NICKEL & COMPOUNDS	0.095	0	0	0	0.095
N-NONANE	0.843	0	0	0	0.843
N-OCTANE	0.00015	0	0	0	0.00015
NONADECANE	3.13	0	0	0	3.13
N-PENTADECANE	0.0362	0	0	0	0.0362
N-PHENYLANILINE {DIPHENYLAMINE}	0.141	0	0	0	0.141
N-PROPYL ALCOHOL	1000	0	0	0	1000
N-PROPYLBENZENE	1.49	0	0	0	1.49
N-TETRADECANE	0.101	0	0	0	0.101
N-TRIDECANE	0.139	0	0	0	0.139
N-UNDECANE	0.271	0	0	0	0.271
O-ETHYLTOLUENE	2.51	0	0	0	2.51

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE MATTER ≤ 10 µm	29300	0	0	0	29300
PARTICULATE MATTER ≤ 2.5 µm	28300	0	0	0	28300
P-ETHYLTOLUENE	4.8	0	0	0	4.8
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0	0
PROPYL ACETATE	1300	0	0	0	1300
PROPYLENE GLYCOL	50	0	0	0	50
SEC-BUTYLCYCLOHEXANE	0.156	0	0	0	0.156
SELENIUM & COMPOUNDS	0.00771	0	0	0	0.00771
TOLUENE	41000	0	0	0	41000
TOTAL SUSPENDED PARTICULATE	34300	0	0	0	34300
TOTAL VOLATILE ORGANIC COMPOUNDS	124000	0	0	0	124000
TRIMETHYLBENZENES	1.49	0	0	0	1.49
TRIMETHYLCYCLOHEXANES	6	0	0	0	6
TRIMETHYLCYCLOPENTANE	0.578	0	0	0	0.578
TRIMETHYLDECANE	1.05	0	0	0	1.05
TRIMETHYLOCTANES	2.85	0	0	0	2.85
VANADIUM & COMPOUNDS	0.198	0	0	0	0.198
ZINC & COMPOUNDS	68	0	0	0	68

A.49 PAPER PRODUCT MANUFACTURING N.E.C.

Table A-49: Annual emissions from paper product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.0185	0	0	0	0.0185
(2-METHYLBUTYL)CYCLOHEXANE	0.0246	0	0	0	0.0246
1,1,1-TRICHLOROETHANE	0.621	0	0	0	0.621
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.00615	0	0	0	0.00615
1,1,2-TRIMETHYLCYCLOHEXANE	0.0123	0	0	0	0.0123
1,1,2-TRIMETHYLCYCLOPENTANE	0.0369	0	0	0	0.0369
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.0308	0	0	0	0.0308
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.123	0	0	0	0.123
1,1,3-TRIMETHYLCYCLOPENTANE	0.123	0	0	0	0.123
1,1,4-TRIMETHYLCYCLOHEXANE	0.0246	0	0	0	0.0246
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.0123	0	0	0	0.0123
1,1-DIMETHYLCYCLOHEXANE	0.0492	0	0	0	0.0492
1,1-DIMETHYLCYCLOPENTANE	0.0185	0	0	0	0.0185
1,1-METHYLETHYLCYCLOPENTANE	0.0123	0	0	0	0.0123
1,2,3,5-TETRAMETHYLBENZENE	0.0554	0	0	0	0.0554
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.139	0	0	0	0.139
1,2,3-TRIMETHYLCYCLOHEXANE	0.0738	0	0	0	0.0738

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,4,5-TETRAMETHYLBENZENE	0.0369	0	0	0	0.0369
1,2,4-TRIMETHYLBENZENE	0.27	0	0	0	0.27
1,2,4-TRIMETHYLCYCLOPENTENE	0.252	0	0	0	0.252
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.0246	0	0	0	0.0246
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.0308	0	0	0	0.0308
1,2-DIMETHYL-4-ETHYLBENZENE	0.0615	0	0	0	0.0615
1,2-DIMETHYLCYCLOPENTANE	0.215	0	0	0	0.215
1,3,5-TRIETHYL CYCLOHEXANE	0.0123	0	0	0	0.0123
1,3,5-TRIMETHYLBENZENE	0.0354	0	0	0	0.0354
1,3-BUTADIENE	0	0	0	2.18	2.18
1,3-DIETHYL-5-METHYLCYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0.0185	0	0	0	0.0185
1,3-DIMETHYL-2-ETHYLBENZENE	0.0492	0	0	0	0.0492
1,3-DIMETHYL-4-ETHYLBENZENE	0.0246	0	0	0	0.0246
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.00615	0	0	0	0.00615
1,3-DIMETHYL-5-ETHYLBENZENE	0.0492	0	0	0	0.0492
1,3-DIPROPYL-5-ETHYLCYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.0246	0	0	0	0.0246
1,4-DIMETHYL-2-ETHYLBENZENE	0.0369	0	0	0	0.0369
1-BUTENE	0	0	0	4.18	4.18
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.0123	0	0	0	0.0123
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0.0123	0	0	0	0.0123
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0.00615	0	0	0	0.00615
1-ETHYL-2-PROPYL CYCLOHEXANE	0.209	0	0	0	0.209
1-ETHYL-4-ISOPROPYLBENZENE	0.0246	0	0	0	0.0246
1-METHYL INDAN	0.0738	0	0	0	0.0738
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.0554	0	0	0	0.0554
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0.0738	0	0	0	0.0738
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.0615	0	0	0	0.0615
1-METHYL-4-ISOBUTYLBENZENE	0.00615	0	0	0	0.00615
1-METHYL-4-ISOPROPYLBENZENE	0.00615	0	0	0	0.00615
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0.0923	0	0	0	0.0923
1-METHYL-4-PENTYL CYCLOHEXANE	0.0123	0	0	0	0.0123
2-(2-BUTOXYETHOXY)ETHANOL	0.332	0	0	0	0.332

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
{BUTYL CARBITOL}					
2,2,3,3-TETRAMETHYLPENTANE	0.00615	0	0	0	0.00615
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.0185	0	0	0	0.0185
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.0123	0	0	0	0.0123
2,3,5-TRIMETHYLHEPTANE	0.00615	0	0	0	0.00615
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.0554	0	0	0	0.0554
2,3-DIMETHYLOCTANE	0.0923	0	0	0	0.0923
2,3-DIMETHYLPENTANE	0.0308	0	0	0	0.0308
2,4-DIMETHYLHEPTANE	0.0554	0	0	0	0.0554
2,4-DIMETHYLHEXANE	24.6	0	0	0	24.6
2,4-DIMETHYLNONANE	0.00615	0	0	0	0.00615
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	5.8	0	0	0	5.8
2,5-DIMETHYLHEPTANE	0.08	0	0	0	0.08
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0.0677	0	0	0	0.0677
2,5-DIMETHYLOCTANE	0.00615	0	0	0	0.00615
2,6-DIMETHYLDECANE	0.0492	0	0	0	0.0492
2,6-DIMETHYLHEPTANE	0.141	0	0	0	0.141
2,6-DIMETHYLNONANE	0.271	0	0	0	0.271
2,6-DIMETHYLOCTANE	0.105	0	0	0	0.105
2,6-DIMETHYLUDECANE	0.0123	0	0	0	0.0123
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.0123	0	0	0	0.0123
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0.148	0	0	0	0.148
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0.221	0	0	0	0.221
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
2-METHYL-3-ETHYLPENTANE	0.0123	0	0	0	0.0123
2-METHYL-3-HEXANONE	12.8	0	0	0	12.8
2-METHYLDECALIN	0.0246	0	0	0	0.0246
2-METHYLDECANE	0.154	0	0	0	0.154
2-METHYLHEPTANE	0.412	0	0	0	0.412
2-METHYLHEXANE	0.246	0	0	0	0.246
2-METHYLNAPHTHALENE	0.00615	0	0	0	0.00615
2-METHYLNONANE	0.105	0	0	0	0.105
2-METHYLOCTANE	0.0615	0	0	0	0.0615
2-METHYLUDECANE {ISODODECANE}	0.0554	0	0	0	0.0554
3,3,5-TRIMETHYLHEPTANE	0.00615	0	0	0	0.00615
3,4-DIMETHYLHEXANE	0.0246	0	0	0	0.0246
3,4-DIMETHYLOCTANE	0.0185	0	0	0	0.0185
3,5-DIMETHYLNONANE	0	0	0	0	0

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3,5-DIMETHYLOCTANE	0.0185	0	0	0	0.0185
3,6-DIMETHYL DECANE	0.0185	0	0	0	0.0185
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.0246	0	0	0	0.0246
3,7-DIMETHYLNONANE	0.08	0	0	0	0.08
3-ETHYL-2-METHYLHEPTANE	0.0308	0	0	0	0.0308
3-ETHYL-3-METHYLOCTANE	0.0246	0	0	0	0.0246
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.00615	0	0	0	0.00615
3-ETHYLHEPTANE	0.0246	0	0	0	0.0246
3-ETHYLHEXANE	0.0554	0	0	0	0.0554
3-ETHYLOCTANE	0.0185	0	0	0	0.0185
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.141	0	0	0	0.141
3-METHYLHEPTANE	0.258	0	0	0	0.258
3-METHYLHEXANE	0.0246	0	0	0	0.0246
3-METHYLNONANE	0.0615	0	0	0	0.0615
3-METHYLOCTANE	0.0738	0	0	0	0.0738
3-METHYLUNDECANE	0.0308	0	0	0	0.0308
3-PHENYLPENTANE	0.0308	0	0	0	0.0308
4,5-DIMETHYLDECANE	0.00615	0	0	0	0.00615
4,5-DIMETHYLOCTANE	0.0308	0	0	0	0.0308
4-ETHYLDECANE	0.0246	0	0	0	0.0246
4-METHYLDECANE	0.123	0	0	0	0.123
4-METHYLHEPTANE	0.111	0	0	0	0.111
4-METHYLINDAN	0.0123	0	0	0	0.0123
4-METHYLNONANE	0.178	0	0	0	0.178
4-METHYLOCTANE	0.0923	0	0	0	0.0923
4-METHYLUNDECANE	0.0185	0	0	0	0.0185
5-ISOPROPYLNONANE	0.0185	0	0	0	0.0185
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.117	0	0	0	0.117
5-METHYLINDAN	0.0984	0	0	0	0.0984
5-METHYLUNDECANE	0.0246	0	0	0	0.0246
6-ETHYL-2-METHYLOCTANE	0.0308	0	0	0	0.0308
6-METHYLUNDECANE	0.0308	0	0	0	0.0308
ACETONE	6.44	0	0	0	6.44
ACETYLENE	0	0	0	3.52	3.52
AMMONIA (TOTAL)	6.65	0	0	4.11	10.8
ARSENIC & COMPOUNDS	0.00271	0	0	0.146	0.148
BENZENE	6.76	0	0	2.46	9.23
BERYLLIUM & COMPOUNDS	0.000161	0	0	0	0.000161
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	23.9	0	0	0	23.9
BUTYLCYCLOHEXANE	0.111	0	0	0	0.111
C5 KETONES	0.271	0	0	0	0.271
C8 INTERNAL ALKENES	0.51	0	0	0	0.51

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.0152	0	0	0.014	0.0293
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0.0738	0	0	0	0.0738
CARBON DIOXIDE	1660000	0	0	13900	1670000
CARBON MONOXIDE	1140	0	0	81.1	1220
CHROMIUM (III) COMPOUNDS	0.0177	0	0	0.14	0.158
CHROMIUM (VI) COMPOUNDS	0.00093	0	0	0.00728	0.00821
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0246	0	0	0	0.0246
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0492	0	0	0	0.0492
CIS-1,2-DIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
CIS-1,3-DIMETHYLCYCLOHEXANE	0.467	0	0	0	0.467
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0738	0	0	0	0.0738
CIS-1,4-DIMETHYLCYCLOHEXANE	0.0246	0	0	0	0.0246
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0615	0	0	0	0.0615
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0.129	0	0	0	0.129
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.0615	0	0	0	0.0615
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.00615	0	0	0	0.00615
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.00615	0	0	0	0.00615
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0.08	0	0	0	0.08
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.0185	0	0	0	0.0185
CIS-BICYCLO[3.3.0]OCTANE	0.00615	0	0	0	0.00615
CIS-BICYCLO[4.3.0]NONANE	0.0246	0	0	0	0.0246
CIS-DECALIN	0.00615	0	0	0	0.00615
COBALT & COMPOUNDS	0.0011	0	0	0	0.0011
COPPER & COMPOUNDS	0.0118	0	0	0	0.0118
CUMENE (1-METHYLETHYLBENZENE)	0.0511	0	0	0	0.0511
CYCLOHEXANE	3.49	0	0	0	3.49
DI(PROPYLENE GLYCOL) METHYL ETHER	0.185	0	0	0	0.185
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	1.81	0	0	0	1.81
DIMETHYLCYCLOHEXANES	13.6	0	0	0	13.6
DIMETHYLHEPTANES	2.28	0	0	0	2.28
ETHANE	0	0	0	0.873	0.873
ETHYL ACETATE	7.86	0	0	0	7.86
ETHYL ALCOHOL	1.49	0	0	0	1.49
ETHYLBENZENE	1.92	0	0	0	1.92
ETHYLCYCLOHEXANE	5.06	0	0	0	5.06

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOPENTANE	0.853	0	0	0	0.853
ETHYLENE	0	0	0	8.95	8.95
ETHYLENE GLYCOL	2.06	0	0	0	2.06
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.681	0	0	0	0.681
FORMALDEHYDE	13.5	0	0	0	13.5
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0.000048	0	0	0	0.000048
HEXYLCYCLOHEXANE	0.0123	0	0	0	0.0123
HEXYLCYCLOPENTANE	0.0185	0	0	0	0.0185
INDAN	0.0369	0	0	0	0.0369
ISOBUTYL ALCOHOL	1.27	0	0	0	1.27
ISOBUTYLCYCLOHEXANE (2- METHYLPROPYL CYCLOHEXANE)	0.0554	0	0	0	0.0554
ISOMERS OF HEXANE	1.69	0	0	0	1.69
ISOMERS OF NONANE (C9 PARAFFIN)	9.49	0	0	0	9.49
ISOMERS OF PENTANE	15.2	0	0	0	15.2
ISOMERS OF XYLENE	38.6	0	0	0	38.6
ISOPROPYL ALCOHOL	0.923	0	0	0	0.923
ISOPROPYLCYCLOHEXANE (2- METHYLETHYL CYCLOHEXANE)	0.0554	0	0	0	0.0554
LEAD & COMPOUNDS	0.00676	0	0	0.0478	0.0546
MANGANESE & COMPOUNDS	0.00516	0	0	0	0.00516
MERCURY & COMPOUNDS	0.00355	0	0	0	0.00355
METHANE	94.7	0	0	3.62	98.3
METHYL ALCOHOL	0.0677	0	0	0	0.0677
METHYL AMYL KETONE	2.98	0	0	0	2.98
METHYL CARBITOL {2-(2- METHOXYETHOXY)ETHANOL} {DEGM}	0.0738	0	0	0	0.0738
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	4.4	0	0	0	4.4
METHYL ISOBUTYL KETONE	3.16	0	0	0	3.16
METHYLCYCLOHEXANE	14.2	0	0	0	14.2
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	0.0807	0	0	0	0.0807
NAPHTHALENE	0.0431	0	0	0	0.0431
N-BUTANE	15.2	0	0	0	15.2
N-BUTYL ACETATE	34.9	0	0	0	34.9
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	0.824	0	0	0	0.824
N-DODECANE	0.106	0	0	0	0.106
N-HEPTADECANE	0.000016	0	0	0	0.000016
N-HEPTANE	11	0	0	0	11
NICKEL & COMPOUNDS	0.0287	0	0	0.014	0.0428
NITRIC OXIDE	839	0	0	234	1070
NITROGEN DIOXIDE	67.6	0	0	18.9	86.5
NITROUS OXIDE	3.14	0	0	0.13	3.27

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-NONANE	0.221	0	0	0	0.221
N-OCTANE	0.732	0	0	0	0.732
N-PENTADECANE	0.000224	0	0	0	0.000224
N-PENTANE	10.1	0	0	0	10.1
N-PENTYLCYCLOHEXANE	0.0369	0	0	0	0.0369
N-PROPYLBENZENE	0.016	0	0	0	0.016
N-TETRADECANE	0.00064	0	0	0	0.00064
N-TRIDECANE	0.00703	0	0	0	0.00703
N-UNDECANE	0.849	0	0	0	0.849
O-ETHYLTOLUENE	0.0842	0	0	0	0.0842
OXIDES OF NITROGEN	1350	0	0	377	1730
PARTICULATE MATTER ≤ 10 µm	103	0	0	26.5	129
PARTICULATE MATTER ≤ 2.5 µm	103	0	0	26.3	129
PENTYLCYCLOPENTANE	0.0554	0	0	0	0.0554
P-ETHYLTOLUENE	0.112	0	0	0	0.112
POLYCHLORINATED DIOXINS AND FURANS	1.61x10 ⁻⁰⁸	0	0	0	1.61x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0093	0	0	0.0144	0.0237
PROPANE	6.76	0	0	0	6.76
PROPYL ACETATE	0.369	0	0	0	0.369
PROPYLCYCLOHEXANE	0.08	0	0	0	0.08
PROPYLCYCLOPENTANE	0.0123	0	0	0	0.0123
PROPYLENE	0	0	0	5.39	5.39
PROPYLENE GLYCOL	0.763	0	0	0	0.763
PROPYLENE GLYCOL METHYL ETHER	0.185	0	0	0	0.185
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.369	0	0	0	0.369
SEC-BUTYL ALCOHOL	1.8	0	0	0	1.8
SELENIUM & COMPOUNDS	0.000321	0	0	0.014	0.0144
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	7.07	0	0	24.8	31.9
TIN & COMPOUNDS	0	0	0	0.014	0.014
TOLUENE	141	0	0	0	141
TOTAL SUSPENDED PARTICULATE	103	0	0	27.2	130
TOTAL VOLATILE ORGANIC COMPOUNDS	471	0	0	27.6	498
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.154	0	0	0	0.154
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.0554	0	0	0	0.0554
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.123	0	0	0	0.123
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.228	0	0	0	0.228
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.117	0	0	0	0.117
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.0123	0	0	0	0.0123
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.154	0	0	0	0.154

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0984	0	0	0	0.0984
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.16	0	0	0	0.16
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.0246	0	0	0	0.0246
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0431	0	0	0	0.0431
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.0185	0	0	0	0.0185
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0308	0	0	0	0.0308
TRIMETHYLBENZENES	0.374	0	0	0	0.374
TRIMETHYLCYCLOHEXANES	5.65	0	0	0	5.65
TRIMETHYLCYCLOPENTANE	0.578	0	0	0	0.578
ZINC & COMPOUNDS	0.389	0	0	0.151	0.54

A.50 PETROLEUM PRODUCT WHOLESALING

Table A-50: Annual emissions from petroleum product wholesaling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0.00608	0	0.00608
1,2,3-TRIMETHYLBENZENE	0.829	12.6	21.4	2.83	37.6
1,2,4-TRIMETHYLBENZENE	10.9	6.73	14.7	20.4	52.8
1,3,5-TRIMETHYLBENZENE	0.624	9.46	16.1	2.13	28.4
1,4-PENTADIENE	34.8	0	10.8	63	109
1-BUTENE	160	0	49.5	290	499
1-PENTENE	191	0	59.2	347	597
2,2,3,TRIMETHYLHEXANE	3.48	0	1.08	6.3	10.9
2,2,3-TRIMETHYLBUTANE	6.96	0	2.15	12.6	21.7
2,2,4-TRIMETHYLPENTANE	170	0	52.7	309	532
2,2-DIMETHYLBUTANE	52.2	0	16.1	94.5	163
2,2-DIMETHYLHEXANE	6.96	0	2.15	12.6	21.7
2,2-DIMETHYLPENTANE	17.4	0	5.38	31.5	54.3
2,3,3-TRIMETHYLPENTANE	17.4	0	5.38	31.5	54.3
2,3,4-TRIMETHYLPENTANE	17.4	0	5.38	31.5	54.3
2,3-DIMETHYLBUTANE	282	0	87.1	510	879
2,3-DIMETHYLHEXANE	27.8	0	8.61	50.4	86.9
2,3-DIMETHYLPENTANE	62.6	0	19.4	113	195
2,4-DIMETHYLHEXANE	48.7	0	15.1	88.2	152
2,4-DIMETHYLPENTANE	55.7	0	17.2	101	174
2,5-DIMETHYLHEXANE	24.4	0	7.53	44.1	76
2-METHYL-1-BUTENE	393	0	122	712	1230
2-METHYL-2-BUTENE	1540	0	477	2790	4810
2-METHYLHEPTANE	52.2	0	16.1	94.5	163
2-METHYLHEXANE	177	0	54.9	321	554
2-METHYLNONANE	3.48	0	1.08	6.3	10.9
2-METHYLOCTANE	3.48	0	1.08	6.3	10.9

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLPENTANE	1660	0	514	3010	5190
2-METHYLPROPANE; ISOBUTANE	1060	0	328	1920	3310
3,3-DIMETHYLPENTANE	20.9	0	6.45	37.8	65.1
3-ETHYLPENTANE	34.8	0	10.8	63	109
3-METHYL-1-BUTENE	10.4	0	3.23	18.9	32.6
3-METHYLHEPTANE	48.7	0	15.1	88.2	152
3-METHYLHEXANE	219	0	67.8	397	684
3-METHYLOCTANE	6.96	0	2.15	12.6	21.7
3-METHYLPENTANE	814	0	252	1470	2540
4-METHYLHEPTANE	27.8	0	8.61	50.4	86.9
4-METHYLOCTANE	3.48	0	1.08	6.3	10.9
AMMONIA (TOTAL)	0	0	0.00736	0	0.00736
ANTIMONY & COMPOUNDS	0.121	0	0	0.0463	0.167
ARSENIC & COMPOUNDS	0.0231	0	0	0.00858	0.0317
BENZENE	271	0	83.9	492	847
BUTANE, BRANCHED & LINEAR	11700	0	0	78.4	11800
CADMIUM & COMPOUNDS	0.00533	0	0	0.00744	0.0128
CHLOROFORM (TRICHLOROMETHANE)	0	0	0.00456	0	0.00456
CHROMIUM (III) COMPOUNDS	0.0211	0	0	0.00681	0.028
CHROMIUM (VI) COMPOUNDS	0.00906	0	0	0.00292	0.012
CIS-1,3- DIMETHYLCYCLOPENTANE	76.5	0	23.7	139	239
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	48.7	0	15.1	88.2	152
CIS-1-2- DIMETHYLCYCLOPENTANE	48.7	0	15.1	88.2	152
CIS-2-BUTENE	104	0	32.3	189	326
CIS-2-PENTENE	564	0	174	1020	1760
COBALT & COMPOUNDS	0.0409	0	0	0.00286	0.0437
COPPER & COMPOUNDS	0.263	0	0	0.0904	0.353
CUMENE (1- METHYLETHYLBENZENE)	0.298	4.51	7.7	1.02	13.5
CYCLOHEXANE	17.4	0	5.38	31.5	54.3
CYCLOPENTENE	10.4	0	3.23	18.9	32.6
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0.00684	0	0.00684
ETHYL ALCOHOL	0	0	0	275	275
ETHYLBENZENE	34.8	0.528	11.7	63.1	110
ETHYLCYCLOPENTANE	10.4	0	3.23	18.9	32.6
FORMALDEHYDE	0	0	0.000759	0	0.000759
HEXADECANE	0.00177	0.0269	0.0459	0.00606	0.0806
ISOMERS OF PENTANE	17200	0	5330	31200	53800
ISOMERS OF XYLENE	192	8.08	73	348	621
LEAD & COMPOUNDS	0.22	0	0	0.0744	0.295
MANGANESE & COMPOUNDS	1.42	0	0	0.523	1.94
MERCURY & COMPOUNDS	0.016	0	0	0.00801	0.024
METHANE	0	0	7.57	0	7.57
METHYLCYCLOPENTANE	101	0	31.2	183	315

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
M-ETHYLTOLUENE	21.6	10.7	24.8	40.2	97.4
MOLYBDENUM	0.00888	0	0	0.00572	0.0146
N-BUTANE	4640	0	1430	8400	14500
N-DECANE	1450	0	1.08	6.3	1460
N-DODECANE	1350	0.734	1.25	0.166	1350
N-HEPTADECANE	0.000591	0.00896	0.0153	0.00202	0.0268
N-HEPTANE	143	0	42	246	431
N-HEXANE	76.5	0	23.7	139	239
NICKEL & COMPOUNDS	0.0213	0	0	0.0212	0.0425
N-NONANE	351	0	1.08	6.3	359
N-OCTANE	37	0	0	0	37
N-PENTADECANE	533	0.125	0.214	0.0283	533
N-PROPYLBENZENE	7.32	5.49	11.5	13.8	38.2
N-TETRADECANE	866	0.358	0.611	0.0808	867
N-TRIDECANE	1310	0.493	0.841	0.111	1310
N-UNDECANE	1500	0.242	0.413	0.0546	1500
O-ETHYLTOLUENE	0.61	9.23	15.8	2.08	27.7
PARTICULATE MATTER ≤ 10 µm	341	0	0	163	504
PARTICULATE MATTER ≤ 2.5 µm	82.5	0	0	16.3	98.8
P-DICHLOROBENZENE	0	0	0.000759	0	0.000759
PERCHLOROETHYLENE	0	0	0.00532	0	0.00532
P-ETHYLTOLUENE	11.6	17.7	33.4	22.9	85.6
PROPANE	238	0	0	1.6	240
SELENIUM & COMPOUNDS	0.00355	0	0	0.00172	0.00527
TOLUENE	661	2.48	209	1200	2070
TOTAL SUSPENDED PARTICULATE	1780	0	0	572	2350
TOTAL VOLATILE ORGANIC COMPOUNDS	53000	89.5	10600	61300	125000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	3.48	0	1.08	6.3	10.9
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	10.4	0	3.23	18.9	32.6
TRANS-1,3-DIMETHYLCYCLOPENTANE	24.4	0	7.53	44.1	76
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	13.9	0	4.3	25.2	43.4
TRANS-1-2-DIMETHYLCYCLOPENTANE	17.4	0	5.38	31.5	54.3
TRANS-2-BUTENE	985	0	304	1780	3070
TRANS-2-ETHYLMETHYLCYCLOPENTANE	10.4	0	3.23	18.9	32.6
TRANS-2-PENTENE	1020	0	316	1850	3190
TRICHLOROETHYLENE (TCE)	0	0	0.000759	0	0.000759
VANADIUM & COMPOUNDS	0.126	0	0	0.044	0.17
ZINC & COMPOUNDS	1.76	0	0	0.214	1.97

A.51 PLASTER PRODUCT MANUFACTURING

Table A-51: Annual emissions from plaster product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	573	0	0	0	573
ARSENIC & COMPOUNDS	0.0326	0	0	0	0.0326
BENZENE	229	0	0	0	229
BERYLLIUM & COMPOUNDS	0.00194	0	0	0	0.00194
BORON & COMPOUNDS	230	0	0	0	230
CADMIUM & COMPOUNDS	0.183	0	0	0	0.183
CARBON DIOXIDE	20000000	0	0	0	20000000
CARBON MONOXIDE	138000	0	0	0	138000
CHROMIUM (III) COMPOUNDS	12	0	0	0	12
CHROMIUM (VI) COMPOUNDS	0.0112	0	0	0	0.0112
COBALT & COMPOUNDS	0.0132	0	0	0	0.0132
COPPER & COMPOUNDS	8.81	0	0	0	8.81
CYCLOHEXANE	57.2	0	0	0	57.2
FORMALDEHYDE	1150	0	0	0	1150
HYDROCHLORIC ACID	1.51	0	0	0	1.51
ISOMERS OF HEXANE	57.2	0	0	0	57.2
ISOMERS OF PENTANE	514	0	0	0	514
LEAD & COMPOUNDS	12.6	0	0	0	12.6
MANGANESE & COMPOUNDS	402	0	0	0	402
MERCURY & COMPOUNDS	0.0428	0	0	0	0.0428
METHANE	3200	0	0	0	3200
N-BUTANE	514	0	0	0	514
NICKEL & COMPOUNDS	36.2	0	0	0	36.2
NITRIC OXIDE	23100	0	0	0	23100
NITROGEN DIOXIDE	1860	0	0	0	1860
NITROUS OXIDE	37.8	0	0	0	37.8
N-PENTANE	343	0	0	0	343
OXIDES OF NITROGEN	37300	0	0	0	37300
PARTICULATE MATTER ≤ 10 µm	13600	0	0	0	13600
PARTICULATE MATTER ≤ 2.5 µm	7810	0	0	0	7810
POLYCHLORINATED DIOXINS AND FURANS	0.000128	0	0	0	0.000128
POLYCYCLIC AROMATIC HYDROCARBONS	10.2	0	0	0	10.2
PROPANE	229	0	0	0	229
SELENIUM & COMPOUNDS	0.00387	0	0	0	0.00387
SULFUR DIOXIDE	3400	0	0	0	3400
TOLUENE	114	0	0	0	114
TOTAL SUSPENDED PARTICULATE	16100	0	0	0	16100
TOTAL VOLATILE ORGANIC COMPOUNDS	3410	0	0	0	3410
ZINC & COMPOUNDS	74.6	0	0	0	74.6

A.52 PLASTIC BAG AND FILM MANUFACTURING**Table A-52: Annual emissions from plastic bag and film manufacturing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	25.7	0	0	0	25.7
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.113	0	0	0	0.113
1,2-DICHLOROETHANE	0.085	0	0	0	0.085
1,3-BUTADIENE	0	0	0	0	0
1,3-DICHLOROBENZENE {M- DICHLOROBENZENE}	0.0283	0	0	0	0.0283
1,4-DIOXANE	0.0567	0	0	0	0.0567
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.002	0	0	0	0.002
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEXANE	1.47	0	0	0	1.47
2,4-DIMETHYLPENTANE	0.347	0	0	0	0.347
2-METHYL-3-HEXANONE	0.766	0	0	0	0.766
ACETALDEHYDE	0.368	0	0	0	0.368
ACETONE	4260	0	0	0	4260
BENZENE	1.11	0	0	0	1.11
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.006	0	0	0	0.006
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	1.32	0	0	0	1.32
BUTYLBENZENE ISOMERS	0.0665	0	0	0	0.0665
BUTYLCYCLOHEXANE	0.0265	0	0	0	0.0265
C10 OLEFINS	0.0575	0	0	0	0.0575
C11 OLEFINS	0.0145	0	0	0	0.0145
C12 OLEFINS	0.0035	0	0	0	0.0035
C8 INTERNAL ALKENES	0.0306	0	0	0	0.0306
C8 OLEFINS	0.05	0	0	0	0.05
CARBON TETRACHLORIDE	0.17	0	0	0	0.17
CHLOROBENZENE	0.0283	0	0	0	0.0283
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	19.4	0	0	0	19.4
CUMENE (1- METHYLETHYLBENZENE)	0.0055	0	0	0	0.0055
CYCLOHEXANE	0.106	0	0	0	0.106
DECALINS (MIXED CIS,TRANS)	0.0095	0	0	0	0.0095
DI(2-ETHYLHEXYL)PHTHALATE	0.085	0	0	0	0.085
DIBROMOETHANE	0.0567	0	0	0	0.0567
DICHLROMETHANE {METHYLENE CHLORIDE}	29.9	0	0	0	29.9
DIETHYLCYCLOHEXANE	0.0125	0	0	0	0.0125
DIMETHYLBENZYLALCOHOL	0.0025	0	0	0	0.0025
DIMETHYLCYCLOBUTANONE	0.0095	0	0	0	0.0095

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOHEXANES	0.836	0	0	0	0.836
DIMETHYLCYCLOPENTANE	0.116	0	0	0	0.116
DIMETHYLHEPTANES	0.139	0	0	0	0.139
DIMETHYLHEXANES	0.0545	0	0	0	0.0545
DIMETHYLNONANES	0.035	0	0	0	0.035
DIMETHYLOCTANES	0.049	0	0	0	0.049
ETHYL ACETATE	0.417	0	0	0	0.417
ETHYL PROPYLCYCLOHEXANES	0.01	0	0	0	0.01
ETHYLBENZENE	0.11	0	0	0	0.11
ETHYLCYCLOHEXANE	0.305	0	0	0	0.305
ETHYLCYCLOPENTANE	0.0449	0	0	0	0.0449
ETHYLDIMETHYLPHENOL	0.009	0	0	0	0.009
ETHYLHEPTENE	0.005	0	0	0	0.005
ETHYLHEXANE	0.008	0	0	0	0.008
ETHYLMETHYLCYCLOHEXANES	0.112	0	0	0	0.112
ETHYLMETHYLOCTANE	0.011	0	0	0	0.011
ETHYLOCTANE	0.004	0	0	0	0.004
ETHYLOCTENES	0.007	0	0	0	0.007
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.0408	0	0	0	0.0408
FORMALDEHYDE	2.04	0	0	0	2.04
ISOMERS OF C9H16	0.0195	0	0	0	0.0195
ISOMERS OF DECANE (C10 PARAFFINS)	0.218	0	0	0	0.218
ISOMERS OF DODECANE (C12 PARAFFINS)	0.0455	0	0	0	0.0455
ISOMERS OF NONANE (C9 PARAFFIN)	0.57	0	0	0	0.57
ISOMERS OF PROPYLBENZENE	0.0455	0	0	0	0.0455
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.005	0	0	0	0.005
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.0015	0	0	0	0.0015
ISOMERS OF UNDECANE (C11 PARAFFINS)	0.152	0	0	0	0.152
ISOMERS OF XYLENE	18.5	0	0	0	18.5
METHYL AMYL KETONE	0.169	0	0	0	0.169
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	9450	0	0	0	9450
METHYL HEXANE	0.208	0	0	0	0.208
METHYL ISOBUTYL KETONE	2700	0	0	0	2700
METHYL PROPYLCYCLOHEXANES	0.0415	0	0	0	0.0415
METHYLCYCLOHEXANE	1.04	0	0	0	1.04
METHYLDECALINS	0.004	0	0	0	0.004
METHYLDECANES	0.073	0	0	0	0.073
METHYLDECENES	0.0125	0	0	0	0.0125
METHYLDODECANES	0.003	0	0	0	0.003
METHYLHEXENES	0.02	0	0	0	0.02
METHYLINDANS	0.0005	0	0	0	0.0005

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLNONANE	0.123	0	0	0	0.123
METHYLNONENES	0.0045	0	0	0	0.0045
METHYLOCTANES	0.12	0	0	0	0.12
METHYLPROPYLNONANE	0.0055	0	0	0	0.0055
METHYLUNDECANE	0.005	0	0	0	0.005
NAPHTHALENE	0.005	0	0	0	0.005
N-BUTYL ACETATE	1.94	0	0	0	1.94
N-HEPTANE	1.98	0	0	0	1.98
N-HEXANE	0.0065	0	0	0	0.0065
N-NONANE	0.142	0	0	0	0.142
NONADIENE	0.0035	0	0	0	0.0035
N-PENTYLCYCLOHEXANE	0.008	0	0	0	0.008
N-PROPYLBENZENE	0.0075	0	0	0	0.0075
O-DICHLOROBENZENE	0.085	0	0	0	0.085
PARTICULATE MATTER ≤ 10 µm	899	0	0	0	899
PARTICULATE MATTER ≤ 2.5 µm	832	0	0	0	832
P-DICHLOROBENZENE	2.95	0	0	0	2.95
PENTYLCYCLOPENTANE	0.001	0	0	0	0.001
PERCHLOROETHYLENE	24.3	0	0	0	24.3
PHENOL (CARBOLIC ACID)	0.709	0	0	0	0.709
PROPENYLCYCLOHEXANE	0.0035	0	0	0	0.0035
STYRENE (ETHENYLBENZENE)	0.0283	0	0	0	0.0283
TETRAMETHYLBENZENES	0.005	0	0	0	0.005
TETRAMETHYLCYCLOBUTENE	0.0005	0	0	0	0.0005
TETRAMETHYLCYCLOPENTANE	0.011	0	0	0	0.011
TETRAMETHYLTHIOUREA	0.001	0	0	0	0.001
TOLUENE	1150	0	0	0	1150
TOTAL SUSPENDED PARTICULATE	899	0	0	0	899
TOTAL VOLATILE ORGANIC COMPOUNDS	17700	0	0	0	17700
TRICHLOROETHYLENE (TCE)	2.98	0	0	0	2.98
TRIMETHYLBENZENES	0.0725	0	0	0	0.0725
TRIMETHYLCYCLOHEXANES	0.379	0	0	0	0.379
TRIMETHYLCYCLOPENTANE	0.0932	0	0	0	0.0932
TRIMETHYLHEPTANES	0.0355	0	0	0	0.0355
TRIMETHYLOCTANES	0.0075	0	0	0	0.0075
VINYL CHLORIDE MONOMER	0.113	0	0	0	0.113

A.53 PLASTIC INJECTION MOULDED PRODUCT MANUFACTURING

Table A-53: Annual emissions from plastic injection moulded product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.00984	0	0	0	0.00984
(2-METHYLBUTYL)CYCLOHEXANE	0.0131	0	0	0	0.0131

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.331	0	0	0	0.331
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.00328	0	0	0	0.00328
1,1,2-TRIMETHYLCYCLOHEXANE	0.00656	0	0	0	0.00656
1,1,2-TRIMETHYLCYCLOPENTANE	0.0197	0	0	0	0.0197
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.0164	0	0	0	0.0164
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.0656	0	0	0	0.0656
1,1,3-TRIMETHYLCYCLOPENTANE	0.0656	0	0	0	0.0656
1,1,4-TRIMETHYLCYCLOHEXANE	0.0131	0	0	0	0.0131
1,1-DIMETHYL-2- PROPYLCYCLOHEXANE	0.00656	0	0	0	0.00656
1,1-DIMETHYLCYCLOHEXANE	0.0262	0	0	0	0.0262
1,1-DIMETHYLCYCLOPENTANE	0.00984	0	0	0	0.00984
1,1-METHYLETHYLCYCLOPENTANE	0.00656	0	0	0	0.00656
1,2,3,5-TETRAMETHYLBENZENE	0.0295	0	0	0	0.0295
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.0623	0	0	0	0.0623
1,2,3-TRIMETHYLCYCLOHEXANE	0.0394	0	0	0	0.0394
1,2,4,5-TETRAMETHYLBENZENE	0.0197	0	0	0	0.0197
1,2,4-TRIMETHYLBENZENE	0.159	0	0	0	0.159
1,2,4-TRIMETHYLCYCLOPENTENE	0.134	0	0	0	0.134
1,2-DIETHYL-1- METHYLCYCLOHEXANE	0.0131	0	0	0	0.0131
1,2-DIMETHYL-3- ETHYLCYCLOHEXANE	0.0164	0	0	0	0.0164
1,2-DIMETHYL-4-ETHYLBENZENE	0.0328	0	0	0	0.0328
1,2-DIMETHYLCYCLOPENTANE	0.115	0	0	0	0.115
1,3,5-TRIETHYL CYCLOHEXANE	0.00656	0	0	0	0.00656
1,3,5-TRIMETHYLBENZENE	0.00984	0	0	0	0.00984
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0.246	0	0	0	0.246
1,3-DIETHYL-CYCLOHEXANE	0.00984	0	0	0	0.00984
1,3-DIMETHYL-2-ETHYLBENZENE	0.0262	0	0	0	0.0262
1,3-DIMETHYL-4-ETHYLBENZENE	0.0131	0	0	0	0.0131
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.00328	0	0	0	0.00328
1,3-DIMETHYL-5-ETHYLBENZENE	0.0262	0	0	0	0.0262
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.794	0	0	0	0.794
1,4-DIMETHYL-2-ETHYLBENZENE	0.0197	0	0	0	0.0197
1,4-PENTADIENE	0.0703	0	0	0	0.0703
1-BUTENE	0.324	0	0	0	0.324
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.0226	0	0	0	0.0226
1-ETHYL-2,2,6- TRIMETHYLCYCLOHEXANE	0.00656	0	0	0	0.00656
1-ETHYL-2,4- DIMETHYLCYCLOHEXANE	0.00328	0	0	0	0.00328
1-ETHYL-2-PROPYL CYCLOHEXANE	0.112	0	0	0	0.112

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-ETHYL-4-ISOPROPYL BENZENE	0.0131	0	0	0	0.0131
1-METHYL INDAN	0.0394	0	0	0	0.0394
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.0295	0	0	0	0.0295
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0.0394	0	0	0	0.0394
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.0328	0	0	0	0.0328
1-METHYL-4-ISOBUTYLBENZENE	0.00328	0	0	0	0.00328
1-METHYL-4-ISOPROPYLBENZENE	0.00328	0	0	0	0.00328
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4-N-PROPYLBENZENE	0.0492	0	0	0	0.0492
1-METHYL-4-PENTYL CYCLOHEXANE	0.00656	0	0	0	0.00656
1-PENTENE	0.387	0	0	0	0.387
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.177	0	0	0	0.177
2,2,3,3-TETRAMETHYLPENTANE	0.00328	0	0	0	0.00328
2,2,3,TRIMETHYLHEXANE	0.00703	0	0	0	0.00703
2,2,3-TRIMETHYLBUTANE	0.0141	0	0	0	0.0141
2,2,4-TRIMETHYLPENTANE	0.345	0	0	0	0.345
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.00984	0	0	0	0.00984
2,2-DIMETHYLBUTANE	0.106	0	0	0	0.106
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,2-DIMETHYLHEXANE	0.0141	0	0	0	0.0141
2,2-DIMETHYLPENTANE	0.0352	0	0	0	0.0352
2,3,3-TRIMETHYLPENTANE	0.0352	0	0	0	0.0352
2,3,4-TRIMETHYLPENTANE	0.0417	0	0	0	0.0417
2,3,5-TRIMETHYLHEPTANE	0.00328	0	0	0	0.00328
2,3-DIMETHYLBUTANE	0.57	0	0	0	0.57
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.0858	0	0	0	0.0858
2,3-DIMETHYLOCTANE	0.0492	0	0	0	0.0492
2,3-DIMETHYLPENTANE	0.143	0	0	0	0.143
2,4-DIMETHYLHEPTANE	0.0295	0	0	0	0.0295
2,4-DIMETHYLHEXANE	6.02	0	0	0	6.02
2,4-DIMETHYLNONANE	0.00328	0	0	0	0.00328
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	1.51	0	0	0	1.51
2,5-DIMETHYLHEPTANE	0.0426	0	0	0	0.0426
2,5-DIMETHYLHEXANE	0.0492	0	0	0	0.0492
2,5-DIMETHYLNONANE	0.0361	0	0	0	0.0361
2,5-DIMETHYLOCTANE	0.00328	0	0	0	0.00328
2,6-DIMETHYLDECANE	0.0262	0	0	0	0.0262
2,6-DIMETHYLHEPTANE	0.0754	0	0	0	0.0754

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,6-DIMETHYLNONANE	0.144	0	0	0	0.144
2,6-DIMETHYLOCTANE	0.0558	0	0	0	0.0558
2,6-DIMETHYLUDECANE	0.00656	0	0	0	0.00656
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.00656	0	0	0	0.00656
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0.0787	0	0	0	0.0787
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0.118	0	0	0	0.118
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0.00984	0	0	0	0.00984
2-METHYL-1-BUTENE	0.795	0	0	0	0.795
2-METHYL-2-BUTENE	3.12	0	0	0	3.12
2-METHYL-3-ETHYLPENTANE	0.00656	0	0	0	0.00656
2-METHYL-3-HEXANONE	3.06	0	0	0	3.06
2-METHYLDECALIN	0.0131	0	0	0	0.0131
2-METHYLDECANE	0.082	0	0	0	0.082
2-METHYLHEPTANE	0.325	0	0	0	0.325
2-METHYLHEXANE	0.49	0	0	0	0.49
2-METHYLNAPHTHALENE	0.00328	0	0	0	0.00328
2-METHYLNONANE	0.0628	0	0	0	0.0628
2-METHYLOCTANE	0.0398	0	0	0	0.0398
2-METHYLPENTANE	3.36	0	0	0	3.36
2-METHYLPROPANE; ISOBUTANE	2.15	0	0	0	2.15
2-METHYLUDECANE {ISODODECANE}	0.0295	0	0	0	0.0295
3,3,5-TRIMETHYLHEPTANE	0.00328	0	0	0	0.00328
3,3-DIMETHYLPENTANE	0.0422	0	0	0	0.0422
3,4-DIMETHYLHEXANE	0.0131	0	0	0	0.0131
3,4-DIMETHYLOCTANE	0.00984	0	0	0	0.00984
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.00984	0	0	0	0.00984
3,6-DIMETHYL DECANE	0.00984	0	0	0	0.00984
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.0131	0	0	0	0.0131
3,7-DIMETHYLNONANE	0.0426	0	0	0	0.0426
3-ETHYL-2-METHYLHEPTANE	0.0164	0	0	0	0.0164
3-ETHYL-3-METHYLOCTANE	0.0131	0	0	0	0.0131
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.00328	0	0	0	0.00328
3-ETHYLHEPTANE	0.0131	0	0	0	0.0131
3-ETHYLHEXANE	0.0295	0	0	0	0.0295
3-ETHYLOCTANE	0.00984	0	0	0	0.00984
3-ETHYLPENTANE	0.0703	0	0	0	0.0703
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-1-BUTENE	0.0211	0	0	0	0.0211
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.0754	0	0	0	0.0754

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYLHEPTANE	0.236	0	0	0	0.236
3-METHYLHEXANE	0.456	0	0	0	0.456
3-METHYLNONANE	0.0328	0	0	0	0.0328
3-METHYLOCTANE	0.0534	0	0	0	0.0534
3-METHYLPENTANE	1.65	0	0	0	1.65
3-METHYLUNDECANE	0.0164	0	0	0	0.0164
3-PHENYLPENTANE	0.0164	0	0	0	0.0164
4,5-DIMETHYLDECANE	0.00328	0	0	0	0.00328
4,5-DIMETHYLOCTANE	0.0164	0	0	0	0.0164
4-ETHYLDECANE	0.0131	0	0	0	0.0131
4-METHYLDECANE	0.0656	0	0	0	0.0656
4-METHYLHEPTANE	0.115	0	0	0	0.115
4-METHYLINDAN	0.00656	0	0	0	0.00656
4-METHYLNONANE	0.0951	0	0	0	0.0951
4-METHYLOCTANE	0.0562	0	0	0	0.0562
4-METHYLUNDECANE	0.00984	0	0	0	0.00984
5-ISOPROPYLNONANE	0.00984	0	0	0	0.00984
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.0623	0	0	0	0.0623
5-METHYLINDAN	0.0525	0	0	0	0.0525
5-METHYLUNDECANE	0.0131	0	0	0	0.0131
6-ETHYL-2-METHYLOCTANE	0.0164	0	0	0	0.0164
6-METHYLUNDECANE	0.0164	0	0	0	0.0164
ACETONE	2.17	0	0	0	2.17
AMMONIA (TOTAL)	17.7	0	0	0	17.7
ANTIMONY & COMPOUNDS	1.62	0	0	0	1.62
ARSENIC & COMPOUNDS	0.308	0	0	0	0.308
BENZALDEHYDE	0.205	0	0	0	0.205
BENZENE	18.2	0	0	0	18.2
BERYLLIUM & COMPOUNDS	0.00062	0	0	0	0.00062
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.048	0	0	0	0.048
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	6.3	0	0	0	6.3
BUTYLBENZENE ISOMERS	0.532	0	0	0	0.532
BUTYLCYCLOHEXANE	0.271	0	0	0	0.271
C10 OLEFINS	2.4	0	0	0	2.4
C11 OLEFINS	0.116	0	0	0	0.116
C12 OLEFINS	0.028	0	0	0	0.028
C5 KETONES	0.144	0	0	0	0.144
C8 INTERNAL ALKENES	0.123	0	0	0	0.123
C8 OLEFINS	0.4	0	0	0	0.4
CADMIUM & COMPOUNDS	0.3	0	0	0	0.3
CARBITOL {DEGEE} {2-(2- ETHOXYETHOXY)ETHANOL}	0.0394	0	0	0	0.0394
CARBON DIOXIDE	4340000	0	0	0	4340000
CARBON MONOXIDE	2960	0	0	0	2960
CHROMIUM (III) COMPOUNDS	0.285	0	0	0	0.285

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (VI) COMPOUNDS	0.105	0	0	0	0.105
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0131	0	0	0	0.0131
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.00984	0	0	0	0.00984
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0262	0	0	0	0.0262
CIS-1,2-DIMETHYLCYCLOHEXANE	0.00984	0	0	0	0.00984
CIS-1,3-DIMETHYLCYCLOHEXANE	0.249	0	0	0	0.249
CIS-1,3-DIMETHYLCYCLOPENTANE	0.194	0	0	0	0.194
CIS-1,4-DIMETHYLCYCLOHEXANE	0.0131	0	0	0	0.0131
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0328	0	0	0	0.0328
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0.0985	0	0	0	0.0985
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0.0689	0	0	0	0.0689
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.0328	0	0	0	0.0328
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0985	0	0	0	0.0985
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.00328	0	0	0	0.00328
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.00328	0	0	0	0.00328
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0426	0	0	0	0.0426
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.00984	0	0	0	0.00984
CIS-2-BUTENE	0.211	0	0	0	0.211
CIS-2-PENTENE	1.14	0	0	0	1.14
CIS-BICYCLO[3.3.0]OCTANE	0.00328	0	0	0	0.00328
CIS-BICYCLO[4.3.0]NONANE	0.0131	0	0	0	0.0131
CIS-DECALIN	0.00328	0	0	0	0.00328
COBALT & COMPOUNDS	0.104	0	0	0	0.104
COPPER & COMPOUNDS	3.2	0	0	0	3.2
CUMENE (1-METHYLETHYLBENZENE)	0.067	0	0	0	0.067
CYCLOHEXANE	4.9	0	0	0	4.9
CYCLOPENTENE	0.0211	0	0	0	0.0211
DECALINS (MIXED CIS,TRANS)	0.076	0	0	0	0.076
DI(PROPYLENE GLYCOL) METHYL ETHER	0.0984	0	0	0	0.0984
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0.964	0	0	0	0.964
DIBROMOETHANE	0.246	0	0	0	0.246
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.33	0	0	0	0.33
DIETHYLCYCLOHEXANE	2.25	0	0	0	2.25
DIMETHYLBENZYLALCOHOL	0.02	0	0	0	0.02
DIMETHYLCYCLOBUTANONE	0.076	0	0	0	0.076

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOHEXANES	3.95	0	0	0	3.95
DIMETHYLCYCLOPENTANE	0.924	0	0	0	0.924
DIMETHYLHEPTANES	0.567	0	0	0	0.567
DIMETHYLHEXANES	0.436	0	0	0	0.436
DIMETHYLNONANES	0.28	0	0	0	0.28
DIMETHYLOCTANES	0.392	0	0	0	0.392
ETHYL ACETATE	2.16	0	0	0	2.16
ETHYL ALCOHOL	0.794	0	0	0	0.794
ETHYL PROPYLCYCLOHEXANES	0.08	0	0	0	0.08
ETHYLBENZENE	0.805	0	0	0	0.805
ETHYLCYCLOHEXANE	1.37	0	0	0	1.37
ETHYLCYCLOPENTANE	0.257	0	0	0	0.257
ETHYLDIMETHYLPHENOL	0.072	0	0	0	0.072
ETHYLENE GLYCOL	1.1	0	0	0	1.1
ETHYLHEPTENE	0.651	0	0	0	0.651
ETHYLHEXANE	0.064	0	0	0	0.064
ETHYLMETHYLCYCLOHEXANES	0.896	0	0	0	0.896
ETHYLMETHYLOCTANE	0.088	0	0	0	0.088
ETHYLOCTANE	0.032	0	0	0	0.032
ETHYLOCTENES	0.056	0	0	0	0.056
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.163	0	0	0	0.163
FORMALDEHYDE	35.5	0	0	0	35.5
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXYLCYCLOHEXANE	0.00656	0	0	0	0.00656
HEXYLCYCLOPENTANE	0.00984	0	0	0	0.00984
INDAN	0.0197	0	0	0	0.0197
ISOBUTYL ALCOHOL	0.676	0	0	0	0.676
ISOBUTYLCYCLOHEXANE (2- METHYLPROPYL CYCLOHEXANE)	0.0295	0	0	0	0.0295
ISOMERS OF C10H18	1.2	0	0	0	1.2
ISOMERS OF C9H16	0.156	0	0	0	0.156
ISOMERS OF DECANE (C10 PARAFFINS)	3.49	0	0	0	3.49
ISOMERS OF DODECANE (C12 PARAFFINS)	0.364	0	0	0	0.364
ISOMERS OF HEPTANE	0.00416	0	0	0	0.00416
ISOMERS OF HEXANE	4.41	0	0	0	4.41
ISOMERS OF NONANE (C9 PARAFFIN)	3.69	0	0	0	3.69
ISOMERS OF OCTANE (C8 PARAFFIN)	0.00752	0	0	0	0.00752
ISOMERS OF PENTANE	74.5	0	0	0	74.5
ISOMERS OF PROPYLBENZENE	0.364	0	0	0	0.364
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.04	0	0	0	0.04
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.012	0	0	0	0.012
ISOMERS OF UNDECANE (C11 PARAFFINS)	1.65	0	0	0	1.65
ISOMERS OF XYLENE	14.1	0	0	0	14.1

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOPROPYL ALCOHOL	1.82	0	0	0	1.82
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.0295	0	0	0	0.0295
LEAD & COMPOUNDS	2.62	0	0	0	2.62
MANGANESE & COMPOUNDS	18.3	0	0	0	18.3
MERCURY & COMPOUNDS	0.29	0	0	0	0.29
METHANE	247	0	0	0	247
METHYL ALCOHOL	0.0361	0	0	0	0.0361
METHYL AMYL KETONE	0.763	0	0	0	0.763
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	0.0394	0	0	0	0.0394
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	2.9	0	0	0	2.9
METHYL HEXANE	1.66	0	0	0	1.66
METHYL ISOBUTYL KETONE	1.33	0	0	0	1.33
METHYL PROPYLCYCLOHEXANES	0.332	0	0	0	0.332
METHYLCYCLOHEXANE	8.93	0	0	0	8.93
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0.204	0	0	0	0.204
METHYLDECALINS	0.032	0	0	0	0.032
METHYLDECANES	0.584	0	0	0	0.584
METHYLDECENES	0.1	0	0	0	0.1
METHYLDODECANES	0.024	0	0	0	0.024
METHYLHEXENES	0.16	0	0	0	0.16
METHYLINDANS	0.004	0	0	0	0.004
METHYLNONANE	0.984	0	0	0	0.984
METHYLNONENES	0.036	0	0	0	0.036
METHYLOCTANES	0.96	0	0	0	0.96
METHYLPROPYLNONANE	0.044	0	0	0	0.044
M-ETHYLTOLUENE	0.075	0	0	0	0.075
METHYLUNDECANE	0.04	0	0	0	0.04
MOLYBDENUM	0.2	0	0	0	0.2
NAPHTHALENE	0.063	0	0	0	0.063
N-BUTANE	49	0	0	0	49
N-BUTYL ACETATE	11.7	0	0	0	11.7
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	0.447	0	0	0	0.447
N-DODECANE	0.0558	0	0	0	0.0558
N-HEPTANE	15.1	0	0	0	15.1
N-HEXANE	0.247	0	0	0	0.247
NICKEL & COMPOUNDS	0.816	0	0	0	0.816
NITRIC OXIDE	2200	0	0	0	2200
NITROGEN DIOXIDE	177	0	0	0	177
NITROUS OXIDE	8.41	0	0	0	8.41
N-NONANE	1.26	0	0	0	1.26
N-OCTANE	0.39	0	0	0	0.39

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NONADIENE	0.028	0	0	0	0.028
N-PENTANE	26.4	0	0	0	26.4
N-PENTYLCYCLOHEXANE	0.0837	0	0	0	0.0837
N-PROPYLBENZENE	0.0773	0	0	0	0.0773
N-TRIDECANE	0.00328	0	0	0	0.00328
N-UNDECANE	1.13	0	0	0	1.13
O-ETHYLTOLUENE	0.0361	0	0	0	0.0361
OXIDES OF NITROGEN	3540	0	0	0	3540
PARTICULATE MATTER ≤ 10 µm	5960	0	0	0	5960
PARTICULATE MATTER ≤ 2.5 µm	839	0	0	0	839
PENTYLCYCLOPENTANE	0.0375	0	0	0	0.0375
P-ETHYLTOLUENE	0.0637	0	0	0	0.0637
PHTHALIC ANHYDRIDE	0.205	0	0	0	0.205
POLYCHLORINATED DIOXINS AND FURANS	4.19x10 ⁻⁰⁸	0	0	0	4.19x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0243	0	0	0	0.0243
PROPANE	17.6	0	0	0	17.6
PROPENYLCYCLOHEXANE	0.028	0	0	0	0.028
PROPYL ACETATE	0.197	0	0	0	0.197
PROPYLCYCLOHEXANE	0.0426	0	0	0	0.0426
PROPYLCYCLOPENTANE	0.00656	0	0	0	0.00656
PROPYLENE GLYCOL	0.407	0	0	0	0.407
PROPYLENE GLYCOL METHYL ETHER	0.0984	0	0	0	0.0984
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.197	0	0	0	0.197
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0.284	0	0	0	0.284
SEC-BUTYL ALCOHOL	0.958	0	0	0	0.958
SELENIUM & COMPOUNDS	0.0619	0	0	0	0.0619
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	21.8	0	0	0	21.8
SULFUR TRIOXIDE	0.048	0	0	0	0.048
TETRAMETHYLBENZENES	0.04	0	0	0	0.04
TETRAMETHYLCYCLOBUTENE	0.004	0	0	0	0.004
TETRAMETHYLCYCLOPENTANE	0.088	0	0	0	0.088
TETRAMETHYLTHIOUREA	0.008	0	0	0	0.008
TOLUENE	58.1	0	0	0	58.1
TOTAL SUSPENDED PARTICULATE	20300	0	0	0	20300
TOTAL VOLATILE ORGANIC COMPOUNDS	441	0	0	0	441
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.082	0	0	0	0.082
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.0366	0	0	0	0.0366
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0656	0	0	0	0.0656
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.121	0	0	0	0.121

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.0623	0	0	0	0.0623
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0211	0	0	0	0.0211
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.00656	0	0	0	0.00656
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.082	0	0	0	0.082
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.102	0	0	0	0.102
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.0853	0	0	0	0.0853
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0281	0	0	0	0.0281
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.0352	0	0	0	0.0352
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.0131	0	0	0	0.0131
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.023	0	0	0	0.023
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.00984	0	0	0	0.00984
TRANS-2-BUTENE	1.99	0	0	0	1.99
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0375	0	0	0	0.0375
TRANS-2-PENTENE	2.07	0	0	0	2.07
TRIMETHYLBENZENES	0.49	0	0	0	0.49
TRIMETHYLCYCLOHEXANES	1.68	0	0	0	1.68
TRIMETHYLCYCLOPENTANE	0.607	0	0	0	0.607
TRIMETHYLHEPTANES	0.284	0	0	0	0.284
TRIMETHYLOCTANES	0.06	0	0	0	0.06
VANADIUM & COMPOUNDS	1.54	0	0	0	1.54
ZINC & COMPOUNDS	8.52	0	0	0	8.52

A.54 PLASTIC PRODUCT, RIGID FIBRE REINFORCED, MANUFACTURING

Table A-54: Annual emissions from plastic product, rigid fibre reinforced, manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-BUTADIENE	1330	202	63.7	319	1920
1,3-DIETHYL-5-METHYLCYCLOHEXANE	3.38	0	0	0	3.38
1,4-BUTANEDIOL	29	5.9	3.54	8.85	47.3
1,4-DIETHYL-CYCLOHEXANE	10.7	0	0	0	10.7
2,4-DIMETHYLHEXANE	93.5	0	0	0	93.5
2,4-DIMETHYLPENTANE	22.2	0	0	0	22.2
2-METHYL-3-HEXANONE	25.8	0	0	0	25.8
ACETONE	11900	4260	5090	2680	24000
AMMONIA (TOTAL)	8.17	0	0	0	8.17
ANTIMONY & COMPOUNDS	0.0076	0	0	0.0145	0.0221
ARSENIC & COMPOUNDS	0.00474	0	0	0.00277	0.00751

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZALDEHYDE	2.82	0	0	0	2.82
BENZENE	242	35.3	11.1	55.9	344
BERYLLIUM & COMPOUNDS	0.000198	0	0	0	0.000198
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	84.7	0	0	0	84.7
C10 OLEFINS	26.7	0	0	0	26.7
C7 CYCLOPARAFFINS	960	145	45.8	230	1380
C8 CYCLOPARAFFINS	133	20.2	6.37	31.9	192
C8 INTERNAL ALKENES	1.03	0	0	0	1.03
CADMIUM & COMPOUNDS	0.0199	0	0	0.00064	0.0206
CARBON DIOXIDE	2040000	0	0	0	2040000
CARBON MONOXIDE	1400	0	0	0	1400
CHROMIUM (III) COMPOUNDS	0.0229	0	0	0.00254	0.0254
CHROMIUM (VI) COMPOUNDS	0.00162	0	0	0.00109	0.00271
COBALT & COMPOUNDS	0.00182	0	0	0.0049	0.00672
COPPER & COMPOUNDS	0.0294	0	0	0.0315	0.0609
CYCLOHEXANE	377	56.2	17.7	88.9	540
CYCLOPENTANE	4.67	0.706	0.223	1.12	6.71
DIBROMOETHANE	3.38	0	0	0	3.38
DICHLOROMETHANE {METHYLENE CHLORIDE}	4.53	0	0	0	4.53
DIETHYLCYCLOHEXANE	29.5	0	0	0	29.5
DIMETHYLCYCLOHEXANES	59.8	0	0	0	59.8
DIMETHYLHEPTANES	8.73	0	0	0	8.73
ETHYL ACETATE	14.1	0	0	0	14.1
ETHYLBENZENE	7.17	0	32.5	0	39.6
ETHYLCYCLOHEXANE	18.1	0	0	0	18.1
ETHYLCYCLOPENTANE	1.52	0	0	0	1.52
ETHYLHEPTENE	8.39	0	0	0	8.39
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.38	0	0	0	1.38
FORMALDEHYDE	16.6	0	0	0	16.6
ISOMERS OF C10H18	16.5	0	0	0	16.5
ISOMERS OF DECANE (C10 PARAFFINS)	24	0	0	0	24
ISOMERS OF HEPTANE	109	16.4	5.19	26	156
ISOMERS OF HEXANE	540	81.4	25.7	129	776
ISOMERS OF NONANE (C9 PARAFFIN)	52.3	0	0	0	52.3
ISOMERS OF OCTANE (C8 PARAFFIN)	18	2.72	0.859	4.31	25.9
ISOMERS OF PENTANE	164	29.6	17.8	44.4	256
ISOMERS OF UNDECANE (C11 PARAFFINS)	6.05	0	0	0	6.05
ISOMERS OF XYLENE	80.9	0	93.8	0	175
ISOPROPYL ALCOHOL	18.2	0	0	0	18.2
LEAD & COMPOUNDS	0.0205	0	0	0.0264	0.0469
MANGANESE & COMPOUNDS	0.0922	0	0	0.171	0.263
MERCURY & COMPOUNDS	0.00568	0	0	0.00192	0.0076

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHANE	116	0	0	0	116
METHYL AMYL KETONE	5.72	0	0	0	5.72
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	47.8	5.9	3.54	8.85	66.1
METHYL ISOBUTYL KETONE	4.56	0.422	0.253	0.634	5.87
METHYLCYCLOHEXANE	70.4	0	0	0	70.4
METHYLCYCLOPENTANE	1150	174	55.5	276	1660
MOLYBDENUM	0.000938	0	0	0.00107	0.002
N-BUTANE	18.7	0	0	0	18.7
N-BUTYL ACETATE	133	0	0	0	133
N-HEPTANE	81.3	6.35	2.01	10.1	99.7
N-HEXANE	878	133	42.1	210	1260
NICKEL & COMPOUNDS	0.0388	0	0	0.00256	0.0414
NITRIC OXIDE	1030	0	0	0	1030
NITROGEN DIOXIDE	83.2	0	0	0	83.2
NITROUS OXIDE	3.86	0	0	0	3.86
N-OCTANE	8.67	1.31	0.414	2.07	12.5
N-PENTANE	12.5	0	0	0	12.5
N-UNDECANE	9.32	0	0	0	9.32
OXIDES OF NITROGEN	1660	0	0	0	1660
PARTICULATE MATTER ≤ 10 µm	153	0	0	40.9	194
PARTICULATE MATTER ≤ 2.5 µm	129	0	0	9.9	139
PHTHALIC ANHYDRIDE	2.82	0	0	0	2.82
POLYCHLORINATED DIOXINS AND FURANS	1.98X10 ⁻⁰⁸	0	0	0	1.98X10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0114	0	0	0	0.0114
PROPANE	8.32	0	0	0	8.32
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	3.9	0	0	0	3.9
SELENIUM & COMPOUNDS	0.000677	0	0	0.000426	0.0011
STYRENE (ETHENYLBENZENE)	889	134	7860	213	9100
SULFUR DIOXIDE	8.69	0	0	0	8.69
TOLUENE	515	3.12	34	4.78	557
TOTAL SUSPENDED PARTICULATE	220	0	0	213	433
TOTAL VOLATILE ORGANIC COMPOUNDS	20400	5310	13400	4350	43400
TRIMETHYLBENZENES	0.758	0	0	0	0.758
TRIMETHYLCYCLOHEXANES	21.1	0	0	0	21.1
TRIMETHYLCYCLOPENTANE	1.17	0	0	0	1.17
VANADIUM & COMPOUNDS	0.00722	0	0	0.0151	0.0224
ZINC & COMPOUNDS	0.513	0	0	0.211	0.725

A.55 PORT OPERATORS**Table A-55: Annual emissions from port operators**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	0.18	0	0	0	0.18
BENZENE	1250	0	0	0	1250
BERYLLIUM & COMPOUNDS	0.13	0	0	0	0.13
CADMIUM & COMPOUNDS	0.13	0	0	0	0.13
CARBON DIOXIDE	5360000	0	0	0	5360000
CARBON MONOXIDE	31300	0	0	0	31300
CHROMIUM (III) COMPOUNDS	0.094	0	0	0	0.094
CHROMIUM (VI) COMPOUNDS	0.04	0	0	0	0.04
COPPER & COMPOUNDS	0.27	0	0	0	0.27
CYCLOHEXANE	312	0	0	0	312
FORMALDEHYDE	2500	0	0	0	2500
ISOMERS OF HEXANE	312	0	0	0	312
ISOMERS OF PENTANE	2810	0	0	0	2810
LEAD & COMPOUNDS	0.4	0	0	0	0.4
MERCURY & COMPOUNDS	0.13	0	0	0	0.13
METHANE	17500	0	0	0	17500
N-BUTANE	2810	0	0	0	2810
NICKEL & COMPOUNDS	0.13	0	0	0	0.13
NITRIC OXIDE	63400	0	0	0	63400
NITROGEN DIOXIDE	5110	0	0	0	5110
NITROUS OXIDE	50.2	0	0	0	50.2
N-PENTANE	1870	0	0	0	1870
OXIDES OF NITROGEN	102000	0	0	0	102000
PARTICULATE MATTER ≤ 10 µm	8950	0	0	0	8950
PARTICULATE MATTER ≤ 2.5 µm	8950	0	0	0	8950
POLYCYCLIC AROMATIC HYDROCARBONS	0.38	0	0	0	0.38
PROPANE	1250	0	0	0	1250
SULFUR DIOXIDE	9940	0	0	0	9940
TOLUENE	624	0	0	0	624
TOTAL SUSPENDED PARTICULATE	8950	0	0	0	8950
TOTAL VOLATILE ORGANIC COMPOUNDS	13700	0	0	0	13700

A.56 POULTRY FARMING (EGGS)**Table A-56: Annual emissions from poultry farming (eggs)**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	814000	0	0	91900	906000
PARTICULATE MATTER ≤ 10 µm	45400	0	0	5120	50500
PARTICULATE MATTER ≤ 2.5 µm	10400	0	0	1170	11600
TOTAL SUSPENDED	104000	0	0	11700	116000

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE					

A.57 POULTRY FARMING (MEAT)

Table A-57: Annual emissions from poultry farming (meat)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	419000	4200	1060	317000	741000
ARSENIC & COMPOUNDS	0.00275	0	0	0	0.00275
BENZENE	6.88	0	0	0	6.88
BERYLLIUM & COMPOUNDS	0.000163	0	0	0	0.000163
CADMIUM & COMPOUNDS	0.0155	0	0	0	0.0155
CARBON DIOXIDE	1690000	0	0	0	1690000
CARBON MONOXIDE	1160	0	0	0	1160
CHROMIUM (III) COMPOUNDS	0.018	0	0	0	0.018
CHROMIUM (VI) COMPOUNDS	0.000946	0	0	0	0.000946
COBALT & COMPOUNDS	0.00112	0	0	0	0.00112
COPPER & COMPOUNDS	0.012	0	0	0	0.012
CYCLOHEXANE	1.72	0	0	0	1.72
FORMALDEHYDE	13.8	0	0	0	13.8
ISOMERS OF HEXANE	1.72	0	0	0	1.72
ISOMERS OF PENTANE	15.5	0	0	0	15.5
LEAD & COMPOUNDS	0.00688	0	0	0	0.00688
MANGANESE & COMPOUNDS	0.00525	0	0	0	0.00525
MERCURY & COMPOUNDS	0.00361	0	0	0	0.00361
METHANE	96.3	0	0	0	96.3
N-BUTANE	15.5	0	0	0	15.5
NICKEL & COMPOUNDS	0.0292	0	0	0	0.0292
NITRIC OXIDE	853	0	0	0	853
NITROGEN DIOXIDE	68.8	0	0	0	68.8
NITROUS OXIDE	3.19	0	0	0	3.19
N-PENTANE	10.3	0	0	0	10.3
OXIDES OF NITROGEN	1380	0	0	0	1380
PARTICULATE MATTER ≤ 10 µm	64100	2350	593	64900	132000
PARTICULATE MATTER ≤ 2.5 µm	14800	539	136	14900	30300
POLYCHLORINATED DIOXINS AND FURANS	1.63X10 ⁻⁰⁸	0	0	0	1.63X10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00946	0	0	0	0.00946
PROPANE	6.88	0	0	0	6.88
SELENIUM & COMPOUNDS	0.000327	0	0	0	0.000327
SULFUR DIOXIDE	7.19	0	0	0	7.19
TOLUENE	3.44	0	0	0	3.44
TOTAL SUSPENDED PARTICULATE	147000	5390	1360	149000	303000
TOTAL VOLATILE ORGANIC COMPOUNDS	75.7	0	0	0	75.7

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ZINC & COMPOUNDS	0.396	0	0	0	0.396

A.58 PREPARED ANIMAL AND BIRD FEED MANUFACTURING

Table A-58: Annual emissions from prepared animal and bird feed manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLPROPANE; ISOBUTANE	0.00394	0	0	0	0.00394
AMMONIA (TOTAL)	0.23	0	0	7.61	7.84
ARSENIC & COMPOUNDS	0.000157	0	0	0.0031	0.00326
BENZENE	0	0	0	7.74	7.74
BERYLLIUM & COMPOUNDS	0.00012	0	0	0.000184	0.000304
CADMIUM & COMPOUNDS	0.00012	0	0	0.0174	0.0175
CARBON DIOXIDE	6410	0	0	1900000	1900000
CARBON MONOXIDE	1.44	0	0	1300	1300
CHROMIUM (III) COMPOUNDS	0.0000843	0	0	0.0202	0.0203
CHROMIUM (VI) COMPOUNDS	0.0000361	0	0	0.00106	0.0011
COBALT & COMPOUNDS	0	0	0	0.00126	0.00126
COPPER & COMPOUNDS	0.000241	0	0	0.0136	0.0138
CYCLOHEXANE	0	0	0	1.94	1.94
FORMALDEHYDE	0.0468	0	0	15.5	15.5
ISOMERS OF HEPTANE	0.0025	0	0	0	0.0025
ISOMERS OF HEXANE	0.00499	0	0	1.94	1.94
ISOMERS OF OCTANE (C8 PARAFFIN)	0.00451	0	0	0	0.00451
ISOMERS OF PENTANE	0.00528	0	0	17.4	17.4
LEAD & COMPOUNDS	0.000361	0	0	0.00774	0.00811
MANGANESE & COMPOUNDS	0.000241	0	0	0.0059	0.00615
MERCURY & COMPOUNDS	0.00012	0	0	0.00407	0.00419
METHANE	0	0	0	108	108
N-BUTANE	0.0117	0	0	17.4	17.4
N-HEPTANE	0.000288	0	0	0	0.000288
N-HEXANE	0.0104	0	0	0	0.0104
NICKEL & COMPOUNDS	0.00012	0	0	0.0329	0.033
NITRIC OXIDE	3.57	0	0	960	964
NITROGEN DIOXIDE	0.288	0	0	77.4	77.7
NITROUS OXIDE	0.06	0	0	3.59	3.65
N-PENTANE	0.00451	0	0	11.6	11.6
OXIDES OF NITROGEN	5.76	0	0	1550	1550
PARTICULATE MATTER ≤ 10 µm	0.312	0	0	118	118
PARTICULATE MATTER ≤ 2.5 µm	0.31	0	0	118	118
PHOSPHORIC ACID	0	44	0	0	44
POLYCHLORINATED DIOXINS AND FURANS	4.32X10 ⁻¹¹	0	0	1.84X10 ⁻⁰⁸	1.84X10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.0106	0.0106
PROPANE	0.00115	0	0	7.74	7.75

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SELENIUM & COMPOUNDS	0.000602	0	0	0.000368	0.00097
SULFUR DIOXIDE	2.04	0	0	8.09	10.1
SULFUR TRIOXIDE	0.0288	0	0	0	0.0288
TOLUENE	0	0	0	3.87	3.87
TOTAL SUSPENDED PARTICULATE	0.319	0	0	118	118
TOTAL VOLATILE ORGANIC COMPOUNDS	0.096	0	0	85.2	85.3
ZINC & COMPOUNDS	0.000157	0	0	0.445	0.445

A.59 PRINTING

Table A-59: Annual emissions from printing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	2450	0	0	0	2450
1,1,3-TRIMETHYLCYCLOHEXANE	0.0167	0	0	0	0.0167
1,1,3-TRIMETHYLCYCLOPENTANE	0.0111	0	0	0	0.0111
1,1-DIMETHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
1,2,3,5-TETRAMETHYLBENZENE	0.00557	0	0	0	0.00557
1,2,3-TRIMETHYLBENZENE	0.163	0	0	0	0.163
1,2,3-TRIMETHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
1,2,4-TRIMETHYLBENZENE	0.185	0	0	0	0.185
1,2,4-TRIMETHYLCYCLOPENTENE	0.0279	0	0	0	0.0279
1,2-DIMETHYL-4-ETHYLBENZENE	0.00557	0	0	0	0.00557
1,2-DIMETHYLCYCLOPENTANE	0.0279	0	0	0	0.0279
1,3,5-TRIMETHYLBENZENE	0.304	0	0	0	0.304
1,3-BUTADIENE	0.42	0	0	0	0.42
1,3-DIETHYL-5-METHYLCYCLOHEXANE	233	0	0	0	233
1,3-DIMETHYL-2-ETHYLBENZENE	0.00557	0	0	0	0.00557
1,3-DIMETHYL-5-ETHYLBENZENE	0.00557	0	0	0	0.00557
1,4-BUTANEDIOL	3040	0	0	0	3040
1,4-DIETHYL-CYCLOHEXANE	26700	0	0	0	26700
1-BUTENE	26400	0	0	109	26500
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.2	0	0	0	0.2
1-ETHYL-2-PROPYL CYCLOHEXANE	0.0223	0	0	0	0.0223
1-METHYL INDAN	0.00557	0	0	0	0.00557
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.00557	0	0	0	0.00557
1-METHYL-3-ISOPROPYLBENZENE	0.00557	0	0	0	0.00557
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.00557	0	0	0	0.00557
1-METHYL-4N-PROPYLBENZENE	0.0111	0	0	0	0.0111
1-NONENE	0.152	0	0	0	0.152
1-OCTENE	0.152	0	0	0	0.152

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-PENTENE	23100	0	0	95.5	23200
2,2-DIMETHYLBUTANE	0.152	0	0	0	0.152
2,3-DIMETHYLHEXANE	0.00557	0	0	0	0.00557
2,3-DIMETHYLOCTANE	0.0111	0	0	0	0.0111
2,4-DIMETHYLHEPTANE	0.00557	0	0	0	0.00557
2,4-DIMETHYLHEXANE	43.1	0	0	0	43.1
2,4-DIMETHYLPENTANE	10.3	0	0	0	10.3
2,4-TOLUENE DIISOCYANATE {TDI}	269	0	1.87	3.75	275
2,5-DIMETHYLHEPTANE	0.00557	0	0	0	0.00557
2,5-DIMETHYLNONANE	0.00557	0	0	0	0.00557
2,6-DIMETHYLDECANE	0.00557	0	0	0	0.00557
2,6-DIMETHYLHEPTANE	0.0167	0	0	0	0.0167
2,6-DIMETHYLNONANE	0.0334	0	0	0	0.0334
2,6-DIMETHYLOCTANE	0.0111	0	0	0	0.0111
2-METHYL-1-PENTENE	0.304	0	0	0	0.304
2-METHYL-2-BUTENE	0.152	0	0	0	0.152
2-METHYL-3-HEXANONE	22.5	0	0	0	22.5
2-METHYLDECANE	0.0167	0	0	0	0.0167
2-METHYLHEPTANE	0.0501	0	0	0	0.0501
2-METHYLHEXANE	0.0279	0	0	0	0.0279
2-METHYLNONANE	0.0111	0	0	0	0.0111
2-METHYLOCTANE	0.00557	0	0	0	0.00557
2-METHYLPROPANE; ISOBUTANE	9.48	0	0	0	9.48
2-METHYLPROPENE (ISOBUTENE)	0.304	0	0	0	0.304
2-METHYLUNDECANE {ISODODECANE}	0.00557	0	0	0	0.00557
3,6-DIMETHYL UNDECANE	2240	0	15.6	31.2	2290
3,7-DIMETHYL-1-OCTANOL	538	0	3.75	7.5	549
3,7-DIMETHYLNONANE	0.00557	0	0	0	0.00557
3-ETHYLHEXANE	0.00557	0	0	0	0.00557
3-METHYLDECANE	0.0167	0	0	0	0.0167
3-METHYLHEPTANE	0.337	0	0	0	0.337
3-METHYLHEXANE	0.152	0	0	0	0.152
3-METHYLNONANE	0.00557	0	0	0	0.00557
3-METHYLOCTANE	0.00557	0	0	0	0.00557
3-METHYLPENTANE	0.304	0	0	0	0.304
4-METHYLDECANE	0.0111	0	0	0	0.0111
4-METHYLHEPTANE	0.0111	0	0	0	0.0111
4-METHYLNONANE	0.0223	0	0	0	0.0223
4-METHYLOCTANE	0.0111	0	0	0	0.0111
5-METHYLDECANE	0.0111	0	0	0	0.0111
5-METHYLINDAN	0.0111	0	0	0	0.0111
ACETALDEHYDE	0.455	0	0	0	0.455
ACETONE	7800	0	0	0	7800
ACETYLENE	5.54	0	0	0	5.54
AMMONIA (TOTAL)	172	0	0	0.000204	172
ARSENIC & COMPOUNDS	0.0612	0	0	8.32x10 ⁻⁰⁸	0.0612
BENZALDEHYDE	195	0	0	0	195

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZENE	85.2	0	0	0.000208	85.2
BENZOIC ACID	179	0	1.25	2.5	183
BERYLLIUM & COMPOUNDS	0.00197	0	0	4.94x10 ⁻⁰⁹	0.00197
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.6	0	0	0	0.6
BIPHENYLOL {2-PHENYLPHENOL}	628	0	4.37	8.75	641
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	38.8	0	0	0	38.8
BUTYL ISOPROPYL PHTHALATE	114000	0	797	1590	117000
BUTYLBENZENE ISOMERS	6.65	0	0	0	6.65
BUTYLCYCLOHEXANE	2.66	0	0	0	2.66
C10 OLEFINS	3460	0	11.2	22.5	3490
C10H12	25500	0	0	0	25500
C11 OLEFINS	1.45	0	0	0	1.45
C12 OLEFINS	0.35	0	0	0	0.35
C7 INTERNAL ALKENES	0.152	0	0	0	0.152
C8 INTERNAL ALKENES	0.898	0	0	0	0.898
C8 OLEFINS	5	0	0	0	5
C9 CYCLOPARAFFINS	11100	0	0	0	11100
C9 OLEFINS	0.607	0	0	0	0.607
CADMIUM & COMPOUNDS	0.189	0	0	0.000000468	0.189
CARBON DIOXIDE	20700000	0	0	51	20700000
CARBON MONOXIDE	14900	0	0	0.0349	14900
CARYOPHYLLENE	987	0	6.87	13.7	1010
CHLOROFORM (TRICHLOROMETHANE)	0.482	0	0	0	0.482
CHROMIUM (III) COMPOUNDS	0.244	0	0	0.000000543	0.244
CHROMIUM (VI) COMPOUNDS	0.0128	0	0	2.86x10 ⁻⁰⁸	0.0128
CIS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
CIS-1,3-DIMETHYLCYCLOHEXANE	0.0613	0	0	0	0.0613
CIS-1,3-DIMETHYLCYCLOPENTANE	0.00557	0	0	0	0.00557
CIS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0.00557	0	0	0	0.00557
CIS-1,CIS-3,5- TRIMETHYLCYCLOHEXANE	0.0167	0	0	0	0.0167
CIS-1,TRANS-2,3- TRIMETHYLCYCLOPENTANE	0.00557	0	0	0	0.00557
CIS-1-ETHYL-3- METHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
CIS-2-BUTENE	0.304	0	0	0	0.304
COBALT & COMPOUNDS	0.0135	0	0	3.38x10 ⁻⁰⁸	0.0135
COPPER & COMPOUNDS	0.145	0	0	0.000000364	0.145
CUMENE (1-METHYLETHYLBENZENE)	0.556	0	0	0	0.556
CYCLOHEXANE	41000	0	286	571	41900
CYCLOHEXENE	1970	0	13.7	27.5	2010
CYCLOPENTANE	0.304	0	0	0	0.304
DECALINS (MIXED CIS,TRANS)	0.95	0	0	0	0.95
DIBROMOETHANE	233	0	0	0	233

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIBUTYL PHTHALATE	89600	0	624	1250	91500
DICHLOROMETHANE {METHYLENE CHLORIDE}	313	0	0	0	313
DIETHYLCYCLOHEXANE	2040	0	0	0	2040
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	2550	0	0	0	2550
DIMETHYLBENZYLALCOHOL	0.25	0	0	0	0.25
DIMETHYLCYCLOBUTANONE	0.95	0	0	0	0.95
DIMETHYLCYCLOHEXANES	536	0	0	0	536
DIMETHYLCYCLOPENTANE	11.6	0	0	0	11.6
DIMETHYLHEPTANES	4.26	0	0	0	4.26
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	359	0	2.5	5	366
DIMETHYLHEXANES	5.45	0	0	0	5.45
DIMETHYLNONANES	3.5	0	0	0	3.5
DIMETHYLOCTANES	4.9	0	0	0	4.9
EICOSANE	4310	0	30	60	4400
ETHANE	213	0	0	0	213
ETHYL ACETATE	4810	0	0	0	4810
ETHYL ALCOHOL	14500	0	0	0	14500
ETHYL PROPYLCYCLOHEXANES	1	0	0	0	1
ETHYLBENZENE	242	0	0	0	242
ETHYLCYCLOHEXANE	9.89	0	0	0	9.89
ETHYLCYCLOPENTANE	1.33	0	0	0	1.33
ETHYLDIMETHYLPHENOL	0.9	0	0	0	0.9
ETHYLENE	3890	0	0	16	3910
ETHYLHEPTENE	579	0	0	0	579
ETHYLHEXANE	0.8	0	0	0	0.8
ETHYLMETHYLCYCLOHEXANES	11.2	0	0	0	11.2
ETHYLMETHYLOCTANE	1.1	0	0	0	1.1
ETHYLOCTANE	3950	0	27.5	55	4030
ETHYLOCTENES	0.7	0	0	0	0.7
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.2	0	0	0	1.2
FORMALDEHYDE	42500	0	0	175	42700
HENEICOSANE	2690	0	18.7	37.5	2750
HEXADECANE	29800	0	207	415	30400
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0.00557	0	0	0	0.00557
ISOBUTYRALDEHYDE	0.304	0	0	0	0.304
ISOMERS OF BUTENE	3.95	0	0	0	3.95
ISOMERS OF C10H18	1140	0	0	0	1140
ISOMERS OF C9H16	1.95	0	0	0	1.95
ISOMERS OF DECANE (C10 PARAFFINS)	1680	0	0	0	1680
ISOMERS OF DODECANE (C12 PARAFFINS)	4.55	0	0	0	4.55
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	33100	0	231	461	33800
ISOMERS OF HEPTANE	0.607	0	0	0	0.607

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEXANE	21.1	0	0	0.000052	21.1
ISOMERS OF NONANE (C9 PARAFFIN)	9450	0	0	0	9450
ISOMERS OF OCTADECANE (C18 PARAFFINS)	15200	0	106	211	15500
ISOMERS OF OCTANE (C8 PARAFFIN)	0.304	0	0	0	0.304
ISOMERS OF PENTADECANE (C15 PARAFFINS)	1350	0	9.37	18.7	1370
ISOMERS OF PENTANE	15500	0	0	0.000468	15500
ISOMERS OF PROPYLBENZENE	4.55	0	0	0	4.55
ISOMERS OF TETRADECANE (C14 PARAFFINS)	10100	0	0	0	10100
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.15	0	0	0	0.15
ISOMERS OF UNDECANE (C11 PARAFFINS)	19300	0	0	0	19300
ISOMERS OF XYLENE	11200	0	0	0	11200
ISOPROPYL ACETATE	270000	0	1880	3760	276000
ISOPROPYL ALCOHOL	8750	0	0	0	8750
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.00557	0	0	0	0.00557
LEAD & COMPOUNDS	0.0922	0	0	0.000000208	0.0922
MANGANESE & COMPOUNDS	0.0633	0	0	0.000000159	0.0633
MERCURY & COMPOUNDS	0.0436	0	0	0.000000109	0.0436
METHANE	36300	0	0	137	36500
METHYL ALCOHOL	111	0	0	0	111
METHYL AMYL KETONE	4.99	0	0	0	4.99
METHYL CARBITOL [2-(2-METHOXYETHOXY)ETHANOL] {DEGM}	359	0	2.5	5	366
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	13000	0	0	0	13000
METHYL HEXANE	20.8	0	0	0	20.8
METHYL ISOBUTYL KETONE	4440	0	0	0	4440
METHYL PROPYLCYCLOHEXANES	4.15	0	0	0	4.15
METHYLCYCLOHEXANE	2510	0	0	0	2510
METHYLCYCLOPENTANE	878	0	0	0	878
METHYLDECALINS	0.4	0	0	0	0.4
METHYLDECANES	7.3	0	0	0	7.3
METHYLDECENES	1.25	0	0	0	1.25
METHYLDODECANES	0.3	0	0	0	0.3
METHYLETHYLPENTANOATE	269	0	1.87	3.75	275
METHYLHEPTANOL	628	0	4.37	8.75	641
METHYLHEXENES	2	0	0	0	2
METHYLINDANS	0.05	0	0	0	0.05
METHYLNONANE	12.3	0	0	0	12.3
METHYLNONENES	0.45	0	0	0	0.45
METHYLOCTANES	12	0	0	0	12
METHYLPROPYLNONANE	0.55	0	0	0	0.55
M-ETHYLTOLUENE	0.157	0	0	0	0.157
METHYLUDECANE	15300	0	106	212	15600

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NAPHTHALENE	0.506	0	0	0	0.506
N-BUTANE	202	0	0	0.000468	202
N-BUTYL ACETATE	7240	0	0	0	7240
N-BUTYL ALCOHOL	6650	0	0	0	6650
N-DECANE	0.258	0	0	0	0.258
N-DODECANE	0.0111	0	0	0	0.0111
N-HEPTANE	942	0	0	0	942
N-HEXANE	246	0	0	0	246
NICKEL & COMPOUNDS	0.356	0	0	0.00000884	0.356
NITRIC OXIDE	16100	0	0	0.0258	16100
NITROGEN DIOXIDE	1300	0	0	0.00208	1300
NITROUS OXIDE	39.2	0	0	0.0000965	39.2
N-NONANE	14.4	0	0	0	14.4
N-OCTANE	0.398	0	0	0	0.398
NONADECANE	7980	0	55.6	111	8150
NONADIENE	0.35	0	0	0	0.35
N-PENTANE	126	0	0	0.000312	126
N-PENTYLCYCLOHEXANE	0.806	0	0	0	0.806
N-PHENYLANILINE {DIPHENYLAMINE}	359	0	2.5	5	366
N-PROPYL ALCOHOL	742	0	0	0	742
N-PROPYLBENZENE	0.75	0	0	0	0.75
N-UNDECANE	643	0	0	0	643
O-ETHYLTOLUENE	0.157	0	0	0	0.157
OXIDES OF NITROGEN	26000	0	0	0.0416	26000
PARTICULATE MATTER $\leq 10 \mu\text{m}$	1460	0	0	0.00316	1460
PARTICULATE MATTER $\leq 2.5 \mu\text{m}$	1460	0	0	0.00316	1460
P-DICHLOROBENZENE	0.0804	0	0	0	0.0804
PENTYLCYCLOPENTANE	0.106	0	0	0	0.106
PERCHLOROETHYLENE	4960	0	0	0	4960
P-ETHYLTOLUENE	0.0111	0	0	0	0.0111
PHTHALIC ANHYDRIDE	195	0	0	0	195
POLYCHLORINATED DIOXINS AND FURANS	1.97×10^{-07}	0	0	4.94×10^{-13}	0.000000197
POLYCYCLIC AROMATIC HYDROCARBONS	0.511	0	0	0.000000286	0.511
PROPANE	127	0	0	0.000208	127
PROPENYLCYCLOHEXANE	0.35	0	0	0	0.35
PROPYL ACETATE	247000	0	1710	3430	252000
PROPYLCYCLOHEXANE	0.0111	0	0	0	0.0111
PROPYLENE	65300	0	0	270	65500
PROPYLENE GLYCOL	1.78	0	0	0	1.78
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	269	0	0	0	269
SELENIUM & COMPOUNDS	0.00664	0	0	9.88×10^{-09}	0.00664
SULFUR DIOXIDE	93.3	0	0	0.000217	93.3
TETRAMETHYLBENZENES	0.5	0	0	0	0.5
TETRAMETHYLCYCLOBUTENE	0.05	0	0	0	0.05

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TETRAMETHYLCYCLOPENTANE	1.1	0	0	0	1.1
TETRAMETHYLTHIOUREA	0.1	0	0	0	0.1
TIN & COMPOUNDS	0.0027	0	0	0	0.0027
TOLUENE	20200	0	0	0.000104	20200
TOTAL SUSPENDED PARTICULATE	1460	0	0	0.00316	1460
TOTAL VOLATILE ORGANIC COMPOUNDS	1300000	0	6190	13000	1320000
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.0167	0	0	0	0.0167
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0167	0	0	0	0.0167
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0279	0	0	0	0.0279
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.0111	0	0	0	0.0111
TRANS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0	0
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.0167	0	0	0	0.0167
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0111	0	0	0	0.0111
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.0167	0	0	0	0.0167
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.00557	0	0	0	0.00557
TRANS-2-BUTENE	1.97	0	0	0	1.97
TRANS-2-PENTENE	0.152	0	0	0	0.152
TRICHLOROETHYLENE (TCE)	0.0804	0	0	0	0.0804
TRIMETHYLBENZENES	5.66	0	0	0	5.66
TRIMETHYLCYCLOHEXANES	13.9	0	0	0	13.9
TRIMETHYLCYCLOPENTANE	6.87	0	0	0	6.87
TRIMETHYLDECANE	2690	0	18.7	37.5	2750
TRIMETHYLHEPTANES	3.55	0	0	0	3.55
TRIMETHYLOCTANES	7270	0	50.6	101	7420
ZINC & COMPOUNDS	4.8	0	0	0.000012	4.8

A.60 PROFESSIONAL AND SCIENTIFIC EQUIPMENT MANUFACTURING N.E.C.

Table A-60: Annual emissions from professional and scientific equipment manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCHLORIC ACID	46	0	0	0	46

A.61 RAIL TRANSPORT**Table A-61: Annual emissions from rail transport**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0	0	0	0.000387	0.000387
(2-METHYLBUTYL)CYCLOHEXANE	0	0	0	0.000516	0.000516
1,1,1-TRICHLOROETHANE	0	0	0	0.013	0.013
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0	0	0	0.000129	0.000129
1,1,2-TRIMETHYLCYCLOHEXANE	0	0	0	0.000258	0.000258
1,1,2-TRIMETHYLCYCLOPENTANE	0	0	0	0.000774	0.000774
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0	0	0	0.000645	0.000645
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0	0	0	0.00258	0.00258
1,1,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.00258	0.00258
1,1,4-TRIMETHYLCYCLOHEXANE	0	0	0	0.000516	0.000516
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0	0	0	0.000258	0.000258
1,1-DIMETHYLCYCLOHEXANE	0	0	0	0.00103	0.00103
1,1-DIMETHYLCYCLOPENTANE	0	0	0	0.000387	0.000387
1,1-METHYLETHYLCYCLOPENTANE	0	0	0	0.000258	0.000258
1,2,3,5-TETRAMETHYLBENZENE	0	0	0	0.00116	0.00116
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0	0	0	0.00245	0.00245
1,2,3-TRIMETHYLCYCLOHEXANE	0	0	0	0.00155	0.00155
1,2,4,5-TETRAMETHYLBENZENE	0	0	0	0.000774	0.000774
1,2,4-TRIMETHYLBENZENE	0	0	0	0.00542	0.00542
1,2,4-TRIMETHYLCYCLOPENTENE	0	0	0	0.0053	0.0053
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0	0	0	0.000516	0.000516
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0	0	0	0.000645	0.000645
1,2-DIMETHYL-4-ETHYLBENZENE	0	0	0	0.00129	0.00129
1,2-DIMETHYLCYCLOPENTANE	0	0	0	0.00452	0.00452
1,3,5-TRIETHYL CYCLOHEXANE	0	0	0	0.000258	0.000258
1,3,5-TRIMETHYLBENZENE	0	0	0	0.000387	0.000387
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0	0	0	0.000387	0.000387
1,3-DIMETHYL-2-ETHYLBENZENE	0	0	0	0.00103	0.00103
1,3-DIMETHYL-4-ETHYLBENZENE	0	0	0	0.000516	0.000516
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0	0	0	0.000129	0.000129
1,3-DIMETHYL-5-ETHYLBENZENE	0	0	0	0.00103	0.00103
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0	0	0	0.000516	0.000516
1,4-DIMETHYL-2-ETHYLBENZENE	0	0	0	0.000774	0.000774
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.000258	0.000258

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0	0	0	0.000258	0.000258
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0	0	0	0.000129	0.000129
1-ETHYL-2-PROPYL CYCLOHEXANE	0	0	0	0.00439	0.00439
1-ETHYL-4-ISOPROPYLBENZENE	0	0	0	0.000516	0.000516
1-METHYL INDAN	0	0	0	0.00155	0.00155
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0	0	0	0.00116	0.00116
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0	0	0	0.00155	0.00155
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0	0	0	0.00129	0.00129
1-METHYL-4-ISOBUTYLBENZENE	0	0	0	0.000129	0.000129
1-METHYL-4-ISOPROPYLBENZENE	0	0	0	0.000129	0.000129
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0	0	0	0.00194	0.00194
1-METHYL-4-PENTYL CYCLOHEXANE	0	0	0	0.000258	0.000258
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0	0	0	0.00697	0.00697
2,2,3,3-TETRAMETHYLPENTANE	0	0	0	0.000129	0.000129
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0	0	0	0.000387	0.000387
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0	0	0	0.000258	0.000258
2,3,5-TRIMETHYLHEPTANE	0	0	0	0.000129	0.000129
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0	0	0	0.00116	0.00116
2,3-DIMETHYLOCTANE	0	0	0	0.00194	0.00194
2,3-DIMETHYLPENTANE	0	0	0	0.000645	0.000645
2,4-DIMETHYLHEPTANE	0	0	0	0.00116	0.00116
2,4-DIMETHYLHEXANE	0	0	0	0.00181	0.00181
2,4-DIMETHYLNONANE	0	0	0	0.000129	0.000129
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0	0	0	0.000258	0.000258
2,5-DIMETHYLHEPTANE	0	0	0	0.00168	0.00168
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0	0	0	0.00142	0.00142
2,5-DIMETHYLOCTANE	0	0	0	0.000129	0.000129
2,6-DIMETHYLDECANE	0	0	0	0.00103	0.00103
2,6-DIMETHYLHEPTANE	0	0	0	0.00297	0.00297
2,6-DIMETHYLNONANE	0	0	0	0.00568	0.00568
2,6-DIMETHYLOCTANE	0	0	0	0.0022	0.0022
2,6-DIMETHYLUDECANE	0	0	0	0.000258	0.000258
2,7-DIMETHYLDECANE	0	0	0	0	0

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,7-DIMETHYLOCTANE	0	0	0	0.000258	0.000258
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0	0	0	0.0031	0.0031
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0	0	0	0.00465	0.00465
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0	0	0	0.000387	0.000387
2-METHYL-3-ETHYLPENTANE	0	0	0	0.000258	0.000258
2-METHYLDECALIN	0	0	0	0.000516	0.000516
2-METHYLDECANE	0	0	0	0.00323	0.00323
2-METHYLHEPTANE	0	0	0	0.00865	0.00865
2-METHYLHEXANE	0	0	0	0.00517	0.00517
2-METHYLNAPHTHALENE	0	0	0	0.000129	0.000129
2-METHYLNONANE	0	0	0	0.0022	0.0022
2-METHYLOCTANE	0	0	0	0.00129	0.00129
2-METHYLUNDECANE {ISODODECANE}	0	0	0	0.00116	0.00116
3,3,5-TRIMETHYLHEPTANE	0	0	0	0.000129	0.000129
3,4-DIMETHYLHEXANE	0	0	0	0.000516	0.000516
3,4-DIMETHYLOCTANE	0	0	0	0.000387	0.000387
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0	0	0	0.000387	0.000387
3,6-DIMETHYL DECANE	0	0	0	0.000387	0.000387
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0	0	0	0.000516	0.000516
3,7-DIMETHYLNONANE	0	0	0	0.00168	0.00168
3-ETHYL-2-METHYLHEPTANE	0	0	0	0.000645	0.000645
3-ETHYL-3-METHYLOCTANE	0	0	0	0.000516	0.000516
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0	0	0	0.000129	0.000129
3-ETHYLHEPTANE	0	0	0	0.000516	0.000516
3-ETHYLHEXANE	0	0	0	0.00116	0.00116
3-ETHYLOCTANE	0	0	0	0.000387	0.000387
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0	0	0	0.00297	0.00297
3-METHYLHEPTANE	0	0	0	0.00542	0.00542
3-METHYLHEXANE	0	0	0	0.000516	0.000516
3-METHYLNONANE	0	0	0	0.00129	0.00129
3-METHYLOCTANE	0	0	0	0.00155	0.00155
3-METHYLUNDECANE	0	0	0	0.000645	0.000645
3-PHENYLPENTANE	0	0	0	0.000645	0.000645
4,5-DIMETHYLDECANE	0	0	0	0.000129	0.000129
4,5-DIMETHYLOCTANE	0	0	0	0.000645	0.000645
4-ETHYLDECANE	0	0	0	0.000516	0.000516
4-METHYLDECANE	0	0	0	0.00258	0.00258
4-METHYLHEPTANE	0	0	0	0.00232	0.00232
4-METHYLINDAN	0	0	0	0.000258	0.000258

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYLNONANE	0	0	0	0.00375	0.00375
4-METHYLOCTANE	0	0	0	0.00194	0.00194
4-METHYLUNDECANE	0	0	0	0.000387	0.000387
5-ISOPROPYLNONANE	0	0	0	0.000387	0.000387
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0	0	0	0.00245	0.00245
5-METHYLINDAN	0	0	0	0.00207	0.00207
5-METHYLUNDECANE	0	0	0	0.000516	0.000516
6-ETHYL-2-METHYLOCTANE	0	0	0	0.000645	0.000645
6-METHYLUNDECANE	0	0	0	0.000645	0.000645
ACETONE	0	0	0	0.0444	0.0444
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	0	0	0.0398	0.0398
BUTYLCYCLOHEXANE	0	0	0	0.00232	0.00232
C5 KETONES	0	0	0	0.00568	0.00568
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0	0	0	0.00155	0.00155
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	0.000516	0.000516
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0	0	0	0.000387	0.000387
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	0.00103	0.00103
CIS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.000387	0.000387
CIS-1,3-DIMETHYLCYCLOHEXANE	0	0	0	0.00982	0.00982
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.00155	0.00155
CIS-1,4-DIMETHYLCYCLOHEXANE	0	0	0	0.000516	0.000516
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.00129	0.00129
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0	0	0	0.00271	0.00271
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.00129	0.00129
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0	0	0	0.000129	0.000129
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0.000129	0.000129
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0	0	0	0.00168	0.00168
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0	0	0	0.000387	0.000387
CIS-BICYCLO[3.3.0]OCTANE	0	0	0	0.000129	0.000129
CIS-BICYCLO[4.3.0]NONANE	0	0	0	0.000516	0.000516
CIS-DECALIN	0	0	0	0.000129	0.000129
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.000904	0.000904
CYCLOHEXANE	0	0	0	0.000516	0.000516
DI(PROPYLENE GLYCOL) METHYL ETHER	0	0	0	0.00387	0.00387
DIACETONE ALCOHOL (4-HYDROXY-	0	0	0	0.038	0.038

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYL-2-PENTANONE)					
ETHYL ACETATE	0	0	0	0.0194	0.0194
ETHYL ALCOHOL	0	0	0	0.0313	0.0313
ETHYLBENZENE	0	0	0	0.00168	0.00168
ETHYLCYCLOHEXANE	0	0	0	0.004	0.004
ETHYLCYCLOPENTANE	0	0	0	0.0022	0.0022
ETHYLENE GLYCOL	0	0	0	0.0433	0.0433
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXYLCYCLOHEXANE	0	0	0	0.000258	0.000258
HEXYLCYCLOPENTANE	0	0	0	0.000387	0.000387
INDAN	0	0	0	0.000774	0.000774
ISOBUTYL ALCOHOL	0	0	0	0.0266	0.0266
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0	0	0	0.00116	0.00116
ISOMERS OF XYLENE	0	0	0	0.226	0.226
ISOPROPYL ALCOHOL	0	0	0	0.0194	0.0194
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0	0	0	0.00116	0.00116
METHYL ALCOHOL	0	0	0	0.00142	0.00142
METHYL AMYL KETONE	0	0	0	0.00336	0.00336
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	0	0	0	0.00155	0.00155
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	0.0537	0.0537
METHYL ISOBUTYL KETONE	0	0	0	0.0407	0.0407
METHYLCYCLOHEXANE	0	0	0	0.0393	0.0393
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	0	0	0	0.00129	0.00129
NAPHTHALENE	0	0	0	0.000904	0.000904
N-BUTYL ACETATE	0	0	0	0.0549	0.0549
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	0	0	0	0.0173	0.0173
N-DODECANE	0	0	0	0.0022	0.0022
N-HEPTANE	0	0	0	0.0204	0.0204
N-NONANE	0	0	0	0.00465	0.00465
N-OCTANE	0	0	0	0.0154	0.0154
N-PENTYLCYCLOHEXANE	0	0	0	0.000774	0.000774
N-PROPYLBENZENE	0	0	0	0.000129	0.000129
N-TRIDECANE	0	0	0	0.000129	0.000129
N-UNDECANE	0	0	0	0.0178	0.0178
O-ETHYLTOLUENE	0	0	0	0.00142	0.00142
PENTYLCYCLOPENTANE	0	0	0	0.00116	0.00116
P-ETHYLTOLUENE	0	0	0	0.00168	0.00168
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.06	0.06
PROPYL ACETATE	0	0	0	0.00775	0.00775

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPYLCYCLOHEXANE	0	0	0	0.00168	0.00168
PROPYLCYCLOPENTANE	0	0	0	0.000258	0.000258
PROPYLENE GLYCOL	0	0	0	0.016	0.016
PROPYLENE GLYCOL METHYL ETHER	0	0	0	0.00387	0.00387
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	0	0	0	0.00775	0.00775
SEC-BUTYL ALCOHOL	0	0	0	0.0377	0.0377
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
TOLUENE	0	0	0	0.176	0.176
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	1.26	1.26
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0	0	0	0.00323	0.00323
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0	0.00116	0.00116
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	0.00258	0.00258
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	0.00478	0.00478
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0	0	0	0.00245	0.00245
TRANS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.000258	0.000258
TRANS-1,3-DIMETHYLCYCLOHEXANE	0	0	0	0.00323	0.00323
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.00207	0.00207
TRANS-1,4-DIMETHYLCYCLOHEXANE	0	0	0	0.00336	0.00336
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0	0	0	0.000516	0.000516
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0	0	0	0.000904	0.000904
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0	0	0	0.000387	0.000387
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0.000645	0.000645

A.62 RAILWAY EQUIPMENT MANUFACTURING

Table A-62: Annual emissions from railway equipment manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.0183	0	0	0	0.0183
(2-METHYLBUTYL)CYCLOHEXANE	0.0244	0	0	0	0.0244
1,1,1-TRICHLOROETHANE	14.4	0	0	0	14.4
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.0061	0	0	0	0.0061
1,1,2-TRIMETHYLCYCLOHEXANE	0.0122	0	0	0	0.0122
1,1,2-TRIMETHYLCYCLOPENTANE	0.0427	0	0	0	0.0427
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.0305	0	0	0	0.0305

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.128	0	0	0	0.128
1,1,3-TRIMETHYLCYCLOPENTANE	0.128	0	0	0	0.128
1,1,4-TRIMETHYLCYCLOHEXANE	0.0244	0	0	0	0.0244
1,1-DIMETHYL-2- PROPYLCYCLOHEXANE	0.0122	0	0	0	0.0122
1,1-DIMETHYLCYCLOHEXANE	0.0488	0	0	0	0.0488
1,1-DIMETHYLCYCLOPENTANE	0.0183	0	0	0	0.0183
1,1-METHYLETHYLCYCLOPENTANE	0.0122	0	0	0	0.0122
1,2,3,5-TETRAMETHYLBENZENE	0.0549	0	0	0	0.0549
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.142	0	0	0	0.142
1,2,3-TRIMETHYLCYCLOHEXANE	0.0792	0	0	0	0.0792
1,2,4,5-TETRAMETHYLBENZENE	0.0427	0	0	0	0.0427
1,2,4-TRIMETHYLBENZENE	0.285	0	0	0	0.285
1,2,4-TRIMETHYLCYCLOPENTENE	0.262	0	0	0	0.262
1,2-DIETHYL-1- METHYLCYCLOHEXANE	0.0244	0	0	0	0.0244
1,2-DIMETHYL-3- ETHYLCYCLOHEXANE	0.0305	0	0	0	0.0305
1,2-DIMETHYL-4-ETHYLBENZENE	0.0671	0	0	0	0.0671
1,2-DIMETHYLCYCLOPENTANE	0.226	0	0	0	0.226
1,3,5-TRIETHYL CYCLOHEXANE	0.0122	0	0	0	0.0122
1,3,5-TRIMETHYLBENZENE	0.0331	0	0	0	0.0331
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0.0183	0	0	0	0.0183
1,3-DIMETHYL-2-ETHYLBENZENE	0.0488	0	0	0	0.0488
1,3-DIMETHYL-4-ETHYLBENZENE	0.0244	0	0	0	0.0244
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.0061	0	0	0	0.0061
1,3-DIMETHYL-5-ETHYLBENZENE	0.0488	0	0	0	0.0488
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.0244	0	0	0	0.0244
1,4-DIMETHYL-2-ETHYLBENZENE	0.0366	0	0	0	0.0366
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.0122	0	0	0	0.0122
1-ETHYL-2,2,6- TRIMETHYLCYCLOHEXANE	0.0122	0	0	0	0.0122
1-ETHYL-2,4- DIMETHYLCYCLOHEXANE	0.0061	0	0	0	0.0061
1-ETHYL-2-PROPYL CYCLOHEXANE	0.213	0	0	0	0.213
1-ETHYL-4-ISOPROPYLBENZENE	0.0244	0	0	0	0.0244
1-METHYL INDAN	0.0792	0	0	0	0.0792
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2- ISOPROPYLCYCLOHEXANE	0.061	0	0	0	0.061
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL	0	0	0	0	0

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE					
1-METHYL-3-ISOPROPYLBENZENE	0.0792	0	0	0	0.0792
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.0671	0	0	0	0.0671
1-METHYL-4-ISOBUTYLBENZENE	0.0061	0	0	0	0.0061
1-METHYL-4-ISOPROPYLBENZENE	0.0061	0	0	0	0.0061
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4-N-PROPYLBENZENE	0.0975	0	0	0	0.0975
1-METHYL-4-PENTYL CYCLOHEXANE	0.0122	0	0	0	0.0122
2,2,3,3-TETRAMETHYLPENTANE	0.0061	0	0	0	0.0061
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.0183	0	0	0	0.0183
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.0122	0	0	0	0.0122
2,3,5-TRIMETHYLHEPTANE	0.0061	0	0	0	0.0061
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.061	0	0	0	0.061
2,3-DIMETHYLOCTANE	0.0914	0	0	0	0.0914
2,3-DIMETHYLPENTANE	0.0305	0	0	0	0.0305
2,4-DIMETHYLHEPTANE	0.0549	0	0	0	0.0549
2,4-DIMETHYLHEXANE	0.0853	0	0	0	0.0853
2,4-DIMETHYLNONANE	0.0061	0	0	0	0.0061
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0.0122	0	0	0	0.0122
2,5-DIMETHYLHEPTANE	0.0853	0	0	0	0.0853
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0.0731	0	0	0	0.0731
2,5-DIMETHYLOCTANE	0.0061	0	0	0	0.0061
2,6-DIMETHYLDECANE	0.0488	0	0	0	0.0488
2,6-DIMETHYLHEPTANE	0.146	0	0	0	0.146
2,6-DIMETHYLNONANE	0.28	0	0	0	0.28
2,6-DIMETHYLOCTANE	0.11	0	0	0	0.11
2,6-DIMETHYLUDECANE	0.0183	0	0	0	0.0183
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.0122	0	0	0	0.0122
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0.25	0	0	0	0.25
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	0.0183	0	0	0	0.0183
2-METHYL-3-ETHYLPENTANE	0.0122	0	0	0	0.0122
2-METHYLDECALIN	0.0244	0	0	0	0.0244
2-METHYLDECANE	0.165	0	0	0	0.165
2-METHYLHEPTANE	0.433	0	0	0	0.433
2-METHYLHEXANE	0.256	0	0	0	0.256
2-METHYLNAPHTHALENE	0.0061	0	0	0	0.0061
2-METHYLNONANE	0.11	0	0	0	0.11
2-METHYLOCTANE	0.0671	0	0	0	0.0671

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLUNDECANE {ISODODECANE}	0.0549	0	0	0	0.0549
3,3,5-TRIMETHYLHEPTANE	0.0061	0	0	0	0.0061
3,4-DIMETHYLHEXANE	0.0244	0	0	0	0.0244
3,4-DIMETHYLOCTANE	0.0183	0	0	0	0.0183
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.0183	0	0	0	0.0183
3,6-DIMETHYL DECANE	0.0183	0	0	0	0.0183
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.0244	0	0	0	0.0244
3,7-DIMETHYLNONANE	0.0853	0	0	0	0.0853
3-ETHYL-2-METHYLHEPTANE	0.0366	0	0	0	0.0366
3-ETHYL-3-METHYLOCTANE	0.0244	0	0	0	0.0244
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.0061	0	0	0	0.0061
3-ETHYLHEPTANE	0.0305	0	0	0	0.0305
3-ETHYLHEXANE	0.061	0	0	0	0.061
3-ETHYLOCTANE	0.0183	0	0	0	0.0183
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.152	0	0	0	0.152
3-METHYLHEPTANE	0.274	0	0	0	0.274
3-METHYLHEXANE	0.0244	0	0	0	0.0244
3-METHYLNONANE	0.061	0	0	0	0.061
3-METHYLOCTANE	0.0792	0	0	0	0.0792
3-METHYLUNDECANE	0.0305	0	0	0	0.0305
3-PHENYLPENTANE	0.0305	0	0	0	0.0305
4,5-DIMETHYLDECANE	0.0061	0	0	0	0.0061
4,5-DIMETHYLOCTANE	0.0366	0	0	0	0.0366
4-ETHYLDECANE	0.0305	0	0	0	0.0305
4-METHYLDECANE	0.128	0	0	0	0.128
4-METHYLHEPTANE	0.116	0	0	0	0.116
4-METHYLINDAN	0.0122	0	0	0	0.0122
4-METHYLNONANE	0.183	0	0	0	0.183
4-METHYLOCTANE	0.0914	0	0	0	0.0914
4-METHYLUNDECANE	0.0183	0	0	0	0.0183
5-ISOPROPYLNONANE	0.0183	0	0	0	0.0183
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.122	0	0	0	0.122
5-METHYLINDAN	0.0975	0	0	0	0.0975
5-METHYLUNDECANE	0.0305	0	0	0	0.0305
6-ETHYL-2-METHYLOCTANE	0.0305	0	0	0	0.0305
6-METHYLUNDECANE	0.0305	0	0	0	0.0305
ACETONE	0.689	0	0	0	0.689
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0.0914	0	0	0	0.0914
BUTYLCYCLOHEXANE	0.116	0	0	0	0.116
CIS,CIS-1,2,4-	0.0244	0	0	0	0.0244

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRIMETHYLCYCLOHEXANE					
CIS,TRANS-1,2,3- TRIMETHYLCYCLOHEXANE	0.0183	0	0	0	0.0183
CIS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	0.0549	0	0	0	0.0549
CIS-1,2-DIMETHYLCYCLOHEXANE	0.0183	0	0	0	0.0183
CIS-1,3-DIMETHYLCYCLOHEXANE	0.488	0	0	0	0.488
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0792	0	0	0	0.0792
CIS-1,4-DIMETHYLCYCLOHEXANE	0.0305	0	0	0	0.0305
CIS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0.0671	0	0	0	0.0671
CIS-1,CIS-3,5- TRIMETHYLCYCLOHEXANE	0.134	0	0	0	0.134
CIS-1,TRANS-2,3- TRIMETHYLCYCLOPENTANE	0.0671	0	0	0	0.0671
CIS-1-ETHYL-2- METHYLCYCLOHEXANE	0.0061	0	0	0	0.0061
CIS-1-ETHYL-2- METHYLCYCLOPENTANE	0.0061	0	0	0	0.0061
CIS-1-ETHYL-3- METHYLCYCLOHEXANE	0.0853	0	0	0	0.0853
CIS-1-METHYL-3- ETHYLCYCLOPENTANE	0.0183	0	0	0	0.0183
CIS-BICYCLO[3.3.0]OCTANE	0.0061	0	0	0	0.0061
CIS-BICYCLO[4.3.0]NONANE	0.0244	0	0	0	0.0244
CIS-DECALIN	0.0061	0	0	0	0.0061
CUMENE (1-METHYLETHYLBENZENE)	0.0497	0	0	0	0.0497
CYCLOHEXANE	0.0305	0	0	0	0.0305
DICHLOROMETHANE {METHYLENE CHLORIDE}	2.61	0	0	0	2.61
DIMETHYLAMINE	6	0	0	0	6
ETHYL ALCOHOL	0.469	0	0	0	0.469
ETHYLBENZENE	0.0862	0	0	0	0.0862
ETHYLCYCLOHEXANE	0.195	0	0	0	0.195
ETHYLCYCLOPENTANE	0.11	0	0	0	0.11
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0.000042	0	0	0	0.000042
HEXYLCYCLOHEXANE	0.0122	0	0	0	0.0122
HEXYLCYCLOPENTANE	0.0244	0	0	0	0.0244
INDAN	0.0366	0	0	0	0.0366
ISOBUTYLCYCLOHEXANE (2- METHYLPROPYL CYCLOHEXANE)	0.0549	0	0	0	0.0549
ISOMERS OF XYLENE	0.36	0	0	0	0.36
ISOPROPYLCYCLOHEXANE (2- METHYLETHYL CYCLOHEXANE)	0.061	0	0	0	0.061
METHYL ALCOHOL	0.0731	0	0	0	0.0731
METHYL AMYL KETONE	0.171	0	0	0	0.171
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	0	0	0	0	0

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYL ISOBUTYL KETONE	0	0	0	0	0
METHYLCYCLOHEXANE	1.94	0	0	0	1.94
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	0.0778	0	0	0	0.0778
NAPHTHALENE	0.0488	0	0	0	0.0488
N-BUTYL ACETATE	0.226	0	0	0	0.226
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	0.859	0	0	0	0.859
N-DODECANE	0.111	0	0	0	0.111
N-HEPTADECANE	0.000014	0	0	0	0.000014
N-HEPTANE	1.01	0	0	0	1.01
N-NONANE	0.232	0	0	0	0.232
N-OCTANE	0.762	0	0	0	0.762
N-PENTADECANE	0.000196	0	0	0	0.000196
N-PENTYLCYCLOHEXANE	0.0427	0	0	0	0.0427
N-PROPYLBENZENE	0.0147	0	0	0	0.0147
N-TETRADECANE	0.00056	0	0	0	0.00056
N-TRIDECANE	0.00687	0	0	0	0.00687
N-UNDECANE	0.884	0	0	0	0.884
O-ETHYLTOLUENE	0.0876	0	0	0	0.0876
PENTYLCYCLOPENTANE	0.061	0	0	0	0.061
PERCHLOROETHYLENE	1.41	0	0	0	1.41
P-ETHYLTOLUENE	0.113	0	0	0	0.113
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0	0
PROPYLCYCLOHEXANE	0.0853	0	0	0	0.0853
PROPYLCYCLOPENTANE	0.0122	0	0	0	0.0122
PROPYLENE GLYCOL METHYL ETHER	1.69	0	0	0	1.69
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
TOLUENE	0.827	0	0	0	0.827
TOTAL VOLATILE ORGANIC COMPOUNDS	58	0	0	0	58
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.158	0	0	0	0.158
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0.0549	0	0	0	0.0549
TRANS,CIS-1,2,4- TRIMETHYLCYCLOHEXANE	0.128	0	0	0	0.128
TRANS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	0.238	0	0	0	0.238
TRANS,TRANS-1,3,5- TRIMETHYLCYCLOHEXANE	0.122	0	0	0	0.122
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.0122	0	0	0	0.0122
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.165	0	0	0	0.165
TRANS-1,3- DIMETHYLCYCLOPENTANE	0.104	0	0	0	0.104
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.165	0	0	0	0.165

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.0244	0	0	0	0.0244
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0427	0	0	0	0.0427
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.0183	0	0	0	0.0183
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0305	0	0	0	0.0305
TRICHLOROETHYLENE (TCE)	5.05	0	0	0	5.05
TRICHLOROTRIFLUOROETHANE-F113	7.2	0	0	0	7.2

A.63 ROAD AND BRIDGE CONSTRUCTION

Table A-63: Annual emissions from road and bridge construction

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0	0	0.00912	0.00912
1,2,4-TRIMETHYLBENZENE	0	0.00218	0	0.0073	0.00948
1,3,5-TRIMETHYLBENZENE	0	0	0	0.00687	0.00687
1,4-PENTADIENE	0	0.00726	0	0.00804	0.0153
1-BUTENE	0	0.0334	0	0.037	0.0704
1-PENTENE	0	0.0399	0	0.0442	0.0841
2,2,3,TRIMETHYLHEXANE	0	0.000726	0	0.000803	0.00153
2,2,3-TRIMETHYLBUTANE	0	0.00145	0	0.00161	0.00306
2,2,4-TRIMETHYLPENTANE	0	0.0356	0	0.0394	0.075
2,2-DIMETHYLBUTANE	0	0.0109	0	0.0121	0.0229
2,2-DIMETHYLHEXANE	0	0.00145	0	0.00161	0.00306
2,2-DIMETHYLPENTANE	0	0.00363	0	0.00402	0.00765
2,3,3-TRIMETHYLPENTANE	0	0.00363	0	0.00402	0.00765
2,3,4-TRIMETHYLPENTANE	0	0.00363	0	0.00402	0.00765
2,3-DIMETHYLBUTANE	0	0.0588	0	0.0651	0.124
2,3-DIMETHYLHEXANE	0	0.00581	0	0.00643	0.0122
2,3-DIMETHYLPENTANE	0	0.0131	0	0.0145	0.0275
2,4-DIMETHYLHEXANE	0	0.0102	0	0.0113	0.0214
2,4-DIMETHYLPENTANE	0	0.0116	0	0.0129	0.0245
2,5-DIMETHYLHEXANE	0	0.00508	0	0.00563	0.0107
2-METHYL-1-BUTENE	0	0.0821	0	0.0908	0.173
2-METHYL-2-BUTENE	0	0.322	0	0.356	0.678
2-METHYLHEPTANE	0	0.0109	0	0.0121	0.0229
2-METHYLHEXANE	0	0.037	0	0.041	0.078
2-METHYLNONANE	0	0.000726	0	0.000803	0.00153
2-METHYLOCTANE	0	0.000726	0	0.000803	0.00153
2-METHYLPENTANE	0	0.347	0	0.384	0.731
2-METHYLPROPANE; ISOBUTANE	0	0.221	0	0.245	0.467
3,3-DIMETHYLPENTANE	0	0.00436	0	0.00482	0.00918
3-ETHYLPENTANE	0	0.00726	0	0.00804	0.0153
3-METHYL-1-BUTENE	0	0.00218	0	0.00241	0.00459

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYLHEPTANE	0	0.0102	0	0.0113	0.0214
3-METHYLHEXANE	0	0.0457	0	0.0506	0.0964
3-METHYLOCTANE	0	0.00145	0	0.00161	0.00306
3-METHYLPENTANE	0	0.17	0	0.188	0.358
4-METHYLHEPTANE	0	0.00581	0	0.00643	0.0122
4-METHYLOCTANE	0	0.000726	0	0.000803	0.00153
ANTIMONY & COMPOUNDS	0.994	4.35x10 ⁻⁰⁸	0	0.000000448	0.994
ARSENIC & COMPOUNDS	0.185	0.000000261	0	0.00000269	0.185
BENZENE	0	0.0566	0	0.0627	0.119
BERYLLIUM & COMPOUNDS	0	0.000000013	0	0.000000135	0.000000148
BORON & COMPOUNDS	0	0.000000869	0	0.00000897	0.00000984
CADMIUM & COMPOUNDS	0.146	1.52x10 ⁻⁰⁸	0	0.000000157	0.146
CHROMIUM (III) COMPOUNDS	0.149	0.00000304	0	0.0000314	0.149
CHROMIUM (VI) COMPOUNDS	0.064	0	0	0	0.064
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0.016	0	0.0177	0.0337
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0.0102	0	0.0113	0.0214
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0.0102	0	0.0113	0.0214
CIS-2-BUTENE	0	0.0218	0	0.0241	0.0459
CIS-2-PENTENE	0	0.118	0	0.13	0.248
COBALT & COMPOUNDS	0.0943	0.000000348	0	0.00000359	0.0943
COPPER & COMPOUNDS	1.97	0.00000013	0	0.0000135	1.97
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.00328	0.00328
CYCLOHEXANE	0	0.00363	0	0.00402	0.00765
CYCLOPENTENE	0	0.00218	0	0.00241	0.00459
ETHYLBENZENE	0	0.00726	0	0.00842	0.0157
ETHYLCYCLOPENTANE	0	0.00218	0	0.00241	0.00459
FLUORIDE COMPOUNDS	0	0.00000869	0	0.0000897	0.0000984
HEXADECANE	0	0	0	0.000019	0.000019
ISOMERS OF PENTANE	0	3.6	0	3.98	7.58
ISOMERS OF XYLENE	0	0.0399	0	0.0501	0.09
LEAD & COMPOUNDS	1.62	0.00000152	0	0.0000157	1.62
MANGANESE & COMPOUNDS	11.3	0.0000435	0	0.000448	11.3
MERCURY & COMPOUNDS	0.167	2.61x10 ⁻⁰⁹	0	2.69x10 ⁻⁰⁸	0.167
METHYLCYCLOPENTANE	0	0.0211	0	0.0233	0.0444
M-ETHYLTOLUENE	0	0.00436	0	0.0126	0.017
MOLYBDENUM	0.117	0	0	0	0.117
N-BUTANE	0	0.968	0	1.07	2.04
N-DECANE	0	0.000726	0	0.000803	0.00153
N-DODECANE	0	0	0	0.000533	0.000533
N-HEPTADECANE	0	0	0	0.000006	0.000006
N-HEPTANE	0	0.0283	0	0.0313	0.0597
N-HEXANE	0	0.016	0	0.0177	0.0337
NICKEL & COMPOUNDS	0.42	0.00000217	0	0.0000224	0.421
N-NONANE	0	0.000726	0	0.000803	0.00153

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTADECANE	0	0	0	0.000091	0.000091
N-PROPYLBENZENE	0	0.00145	0	0.00559	0.00705
N-TETRADECANE	0	0	0	0.00026	0.00026
N-TRIDECANE	0	0	0	0.000357	0.000357
N-UNDECANE	0	0	0	0.000175	0.000175
O-ETHYLTOLUENE	0	0	0	0.00671	0.00671
PARTICULATE MATTER ≤ 10 µm	3440	32.6	0	32.5	3500
PARTICULATE MATTER ≤ 2.5 µm	394	6.56	0	6.51	407
P-ETHYLTOLUENE	0	0.00218	0	0.0153	0.0174
SELENIUM & COMPOUNDS	0.0359	0.000000304	0	0.00000314	0.0359
TOLUENE	0	0.138	0	0.155	0.292
TOTAL SUSPENDED PARTICULATE	12600	65.2	0	65	12700
TOTAL VOLATILE ORGANIC COMPOUNDS	0	7.02	0	7.84	14.9
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0.000726	0	0.000803	0.00153
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0.00218	0	0.00241	0.00459
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0.00508	0	0.00563	0.0107
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0.0029	0	0.00321	0.00612
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0.00363	0	0.00402	0.00765
TRANS-2-BUTENE	0	0.206	0	0.227	0.433
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0.00218	0	0.00241	0.00459
TRANS-2-PENTENE	0	0.213	0	0.236	0.45
VANADIUM & COMPOUNDS	0.956	0	0	0	0.956
ZINC & COMPOUNDS	5.77	0.00000391	0	0.0000404	5.77

A.64 RUBBER PRODUCT MANUFACTURING N.E.C.

Table A-64: Annual emissions from rubber product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,4-TRIMETHYLBENZENE	0	0	0.029	0	0.029
1,3,5-TRIMETHYLBENZENE	0	0	0.0407	0	0.0407
1,3-BUTADIENE	0.000006	0	0	0	0.000006
1,4-DIETHYL-CYCLOHEXANE	0.366	0	0	0	0.366
2-METHYLPROPANE; ISOBUTANE	0	0	0.0197	0	0.0197
ACETONE	0.195	0	0	0	0.195
AMMONIA (TOTAL)	0	0	1.15	0	1.15
ANTIMONY & COMPOUNDS	0	0	0.0211	0	0.0211
ARSENIC & COMPOUNDS	0	0	0.00474	0	0.00474
BENZENE	0	0	0	0	0

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0	0	0.000602	0	0.000602
C10H12	0.359	0	0	0	0.359
C7 CYCLOPARAFFINS	0.000004	0	0	0	0.000004
C8 CYCLOPARAFFINS	0	0	0	0	0
C9 CYCLOPARAFFINS	0.151	0	0	0	0.151
CADMIUM & COMPOUNDS	0.0000448	0	0.00323	0	0.00327
CARBON DIOXIDE	0	0	32100	0	32100
CARBON MONOXIDE	0	0	7.2	0	7.2
CHROMIUM (III) COMPOUNDS	0	0	0.00371	0	0.00371
CHROMIUM (VI) COMPOUNDS	0	0	0.00159	0	0.00159
COBALT & COMPOUNDS	0	0	0.00312	0	0.00312
COPPER & COMPOUNDS	0	0	0.0439	0	0.0439
CUMENE (1-METHYLETHYLBENZENE)	0	0	0.0194	0	0.0194
CYCLOHEXANE	0.000001	0	0	0	0.000001
CYCLOPENTANE	0	0	0	0	0
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0.416	0	0	0	0.416
ETHYL ACETATE	0.126	0	0	0	0.126
ETHYL ALCOHOL	0.17	0	0	0	0.17
ETHYLBENZENE	0	0	0.00228	0	0.00228
FORMALDEHYDE	0	0	0.234	0	0.234
HEXADECANE	0	0	0.000115	0	0.000115
ISOMERS OF HEPTANE	0	0	0.0125	0	0.0125
ISOMERS OF HEXANE	0.000002	0	0.025	0	0.025
ISOMERS OF NONANE (C9 PARAFFIN)	0.113	0	0	0	0.113
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0.0226	0	0.0226
ISOMERS OF PENTANE	0	0	0.0264	0	0.0264
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.126	0	0	0	0.126
ISOMERS OF UNDECANE (C11 PARAFFINS)	0.252	0	0	0	0.252
ISOMERS OF XYLENE	0.996	0	0.0348	0	1.03
ISOPROPYL ALCOHOL	0.221	0	0	0	0.221
LEAD & COMPOUNDS	0.000105	0	0.0371	0	0.0372
MANGANESE & COMPOUNDS	0	0	0.243	0	0.243
MERCURY & COMPOUNDS	0	0	0.00398	0	0.00398
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0.511	0	0	0	0.511
METHYL ISOBUTYL KETONE	0.372	0	0	0	0.372
METHYLCYCLOPENTANE	0.000005	0	0	0	0.000005
M-ETHYLTOLUENE	0	0	0.0463	0	0.0463
MOLYBDENUM	0	0	0.00228	0	0.00228
N-BUTANE	0	0	0.0586	0	0.0586
N-BUTYL ACETATE	0.195	0	0	0	0.195
N-BUTYL ALCOHOL	0.403	0	0	0	0.403
N-DODECANE	0	0	0.00316	0	0.00316

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEPTADECANE	0	0	0.000038	0	0.000038
N-HEPTANE	0	0	0.00144	0	0.00144
N-HEXANE	0.000004	0	0.0518	0	0.0518
NICKEL & COMPOUNDS	0.000653	0	0.0084	0	0.00906
NITRIC OXIDE	0	0	17.9	0	17.9
NITROGEN DIOXIDE	0	0	1.44	0	1.44
NITROUS OXIDE	0	0	0.3	0	0.3
N-OCTANE	0	0	0	0	0
N-PENTADECANE	0	0	0.00054	0	0.00054
N-PENTANE	0	0	0.0226	0	0.0226
N-PROPYLBENZENE	0	0	0.0237	0	0.0237
N-TETRADECANE	0	0	0.00154	0	0.00154
N-TRIDECANE	0	0	0.00212	0	0.00212
N-UNDECANE	0	0	0.00104	0	0.00104
O-ETHYLTOLUENE	0	0	0.0398	0	0.0398
OXIDES OF NITROGEN	0	0	28.8	0	28.8
PARTICULATE MATTER ≤ 10 µm	5.78	0	71.1	0	76.9
PARTICULATE MATTER ≤ 2.5 µm	0	0	11.1	0	11.1
P-ETHYLTOLUENE	0	0	0.0762	0	0.0762
POLYCHLORINATED DIOXINS AND FURANS	0	0	2.16x10 ⁻¹⁰	0	2.16x10 ⁻¹⁰
PROPANE	0	0	0.00576	0	0.00576
PROPYL ACETATE	0.101	0	0	0	0.101
SELENIUM & COMPOUNDS	0	0	0.00374	0	0.00374
STYRENE (ETHENYLBENZENE)	0.000004	0	0	0	0.000004
SULFUR DIOXIDE	0	0	10.2	0	10.2
SULFUR TRIOXIDE	0	0	0.144	0	0.144
TOLUENE	0.926	0	0.0107	0	0.937
TOTAL SUSPENDED PARTICULATE	1.91	0	278	0	280
TOTAL VOLATILE ORGANIC COMPOUNDS	6	0	0.866	0	6.87
VANADIUM & COMPOUNDS	0	0	0.0207	0	0.0207
ZINC & COMPOUNDS	0	0	0.164	0	0.164

A.65 SCIENTIFIC RESEARCH

Table A-65: Annual emissions from scientific research

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	5.42	0	0	0	5.42
ARSENIC & COMPOUNDS	0.00221	0	0	0	0.00221
BENZENE	5.52	0	0	0	5.52
BERYLLIUM & COMPOUNDS	0.000131	0	0	0	0.000131
CADMIUM & COMPOUNDS	0.0124	0	0	0	0.0124
CARBON DIOXIDE	1350000	0	0	0	1350000
CARBON MONOXIDE	927	0	0	0	927

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (III) COMPOUNDS	0.0144	0	0	0	0.0144
CHROMIUM (VI) COMPOUNDS	0.000759	0	0	0	0.000759
COBALT & COMPOUNDS	0.000897	0	0	0	0.000897
COPPER & COMPOUNDS	0.00966	0	0	0	0.00966
CYCLOHEXANE	1.38	0	0	0	1.38
FORMALDEHYDE	11	0	0	0	11
ISOMERS OF HEXANE	1.38	0	0	0	1.38
ISOMERS OF PENTANE	12.4	0	0	0	12.4
LEAD & COMPOUNDS	0.00552	0	0	0	0.00552
MANGANESE & COMPOUNDS	0.00421	0	0	0	0.00421
MERCURY & COMPOUNDS	0.0029	0	0	0	0.0029
METHANE	77.3	0	0	0	77.3
N-BUTANE	12.4	0	0	0	12.4
NICKEL & COMPOUNDS	0.0235	0	0	0	0.0235
NITRIC OXIDE	342	0	0	0	342
NITROGEN DIOXIDE	27.6	0	0	0	27.6
NITROUS OXIDE	2.56	0	0	0	2.56
N-PENTANE	8.28	0	0	0	8.28
OXIDES OF NITROGEN	552	0	0	0	552
PARTICULATE MATTER ≤ 10 µm	83.9	0	0	0	83.9
PARTICULATE MATTER ≤ 2.5 µm	83.9	0	0	0	83.9
POLYCHLORINATED DIOXINS AND FURANS	1.31x10 ⁻⁰⁸	0	0	0	1.31x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00759	0	0	0	0.00759
PROPANE	5.52	0	0	0	5.52
SELENIUM & COMPOUNDS	0.000262	0	0	0	0.000262
SULFUR DIOXIDE	5.77	0	0	0	5.77
TOLUENE	2.76	0	0	0	2.76
TOTAL SUSPENDED PARTICULATE	83.9	0	0	0	83.9
TOTAL VOLATILE ORGANIC COMPOUNDS	60.7	0	0	0	60.7
ZINC & COMPOUNDS	0.317	0	0	0	0.317

A.66 SERVICES TO AIR TRANSPORT

Table A-66: Annual emissions from services to air transport

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	21.9	0	0	0	21.9
(2-METHYLBUTYL)CYCLOHEXANE	29.2	0	0	0	29.2
1,1,1-TRICHLOROETHANE	738	0	0	0	738
1,1,2,3-TETRAMETHYLCYCLOHEXANE	7.31	0	0	0	7.31
1,1,2-TRIMETHYLCYCLOHEXANE	14.6	0	0	0	14.6
1,1,2-TRIMETHYLCYCLOPENTANE	43.8	0	0	0	43.8
1,1,3,4-TETRAMETHYLCYCLOHEXANE	36.5	0	0	0	36.5
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,3-TRIMETHYLCYCLOHEXANE	146	0	0	0	146
1,1,3-TRIMETHYLCYCLOPENTANE	146	0	0	0	146
1,1,4-TRIMETHYLCYCLOHEXANE	29.2	0	0	0	29.2
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	14.6	0	0	0	14.6
1,1-DIMETHYLCYCLOHEXANE	58.4	0	0	0	58.4
1,1-DIMETHYLCYCLOPENTANE	21.9	0	0	0	21.9
1,1-METHYLETHYLCYCLOPENTANE	14.6	0	0	0	14.6
1,2,3,5-TETRAMETHYLBENZENE	65.7	0	0	0	65.7
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	139	0	0	0	139
1,2,3-TRIMETHYLCYCLOHEXANE	87.7	0	0	0	87.7
1,2,4,5-TETRAMETHYLBENZENE	43.8	0	0	0	43.8
1,2,4-TRIMETHYLBENZENE	307	0	0	0	307
1,2,4-TRIMETHYLCYCLOPENTENE	300	0	0	0	300
1,2-DIETHYL-1-METHYLCYCLOHEXANE	29.2	0	0	0	29.2
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	36.5	0	0	0	36.5
1,2-DIMETHYL-4-ETHYLBENZENE	73.1	0	0	0	73.1
1,2-DIMETHYLCYCLOPENTANE	256	0	0	0	256
1,3,5-TRIETHYL CYCLOHEXANE	14.6	0	0	0	14.6
1,3,5-TRIMETHYLBENZENE	21.9	0	0	0	21.9
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	21.9	0	0	0	21.9
1,3-DIMETHYL-2-ETHYLBENZENE	58.4	0	0	0	58.4
1,3-DIMETHYL-4-ETHYLBENZENE	29.2	0	0	0	29.2
1,3-DIMETHYL-4-ISOPROPYLBENZENE	7.31	0	0	0	7.31
1,3-DIMETHYL-5-ETHYLBENZENE	58.4	0	0	0	58.4
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	29.2	0	0	0	29.2
1,4-DIMETHYL-2-ETHYLBENZENE	43.8	0	0	0	43.8
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	14.6	0	0	0	14.6
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	14.6	0	0	0	14.6
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	7.31	0	0	0	7.31
1-ETHYL-2-PROPYL CYCLOHEXANE	248	0	0	0	248
1-ETHYL-4-ISOPROPYLBENZENE	29.2	0	0	0	29.2
1-METHYL INDAN	87.7	0	0	0	87.7
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	65.7	0	0	0	65.7
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	87.7	0	0	0	87.7
1-METHYL-3-ISOPROPYLCYCLOHEXANE	73.1	0	0	0	73.1
1-METHYL-4-ISOBUTYLBENZENE	7.31	0	0	0	7.31
1-METHYL-4-ISOPROPYLBENZENE	7.31	0	0	0	7.31
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	110	0	0	0	110
1-METHYL-4-PENTYL CYCLOHEXANE	14.6	0	0	0	14.6
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	394	0	0	0	394
2,2,3,3-TETRAMETHYLPENTANE	7.31	0	0	0	7.31

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	21.9	0	0	0	21.9
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	14.6	0	0	0	14.6
2,3,5-TRIMETHYLHEPTANE	7.31	0	0	0	7.31
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	65.7	0	0	0	65.7
2,3-DIMETHYLOCTANE	110	0	0	0	110
2,3-DIMETHYLPENTANE	36.5	0	0	0	36.5
2,4-DIMETHYLHEPTANE	65.7	0	0	0	65.7
2,4-DIMETHYLHEXANE	102	0	0	0	102
2,4-DIMETHYLNONANE	7.31	0	0	0	7.31
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	14.6	0	0	0	14.6
2,5-DIMETHYLHEPTANE	95	0	0	0	95
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	80.4	0	0	0	80.4
2,5-DIMETHYLOCTANE	7.31	0	0	0	7.31
2,6-DIMETHYLDECANE	58.4	0	0	0	58.4
2,6-DIMETHYLHEPTANE	168	0	0	0	168
2,6-DIMETHYLNONANE	321	0	0	0	321
2,6-DIMETHYLOCTANE	124	0	0	0	124
2,6-DIMETHYLUDECANE	14.6	0	0	0	14.6
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	14.6	0	0	0	14.6
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	175	0	0	0	175
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	263	0	0	0	263
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	21.9	0	0	0	21.9
2-METHYL-3-ETHYLPENTANE	14.6	0	0	0	14.6
2-METHYLDECALIN	29.2	0	0	0	29.2
2-METHYLDECANE	183	0	0	0	183
2-METHYLHEPTANE	489	0	0	0	489
2-METHYLHEXANE	292	0	0	0	292
2-METHYLNAPHTHALENE	7.31	0	0	0	7.31
2-METHYLNONANE	124	0	0	0	124
2-METHYLOCTANE	73.1	0	0	0	73.1
2-METHYLUDECANE {ISODODECANE}	65.7	0	0	0	65.7
3,3,5-TRIMETHYLHEPTANE	7.31	0	0	0	7.31
3,4-DIMETHYLHEXANE	29.2	0	0	0	29.2
3,4-DIMETHYLOCTANE	21.9	0	0	0	21.9
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	21.9	0	0	0	21.9
3,6-DIMETHYL DECANE	21.9	0	0	0	21.9
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	29.2	0	0	0	29.2
3,7-DIMETHYLNONANE	95	0	0	0	95
3-ETHYL-2-METHYLHEPTANE	36.5	0	0	0	36.5
3-ETHYL-3-METHYLOCTANE	29.2	0	0	0	29.2

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	7.31	0	0	0	7.31
3-ETHYLHEPTANE	29.2	0	0	0	29.2
3-ETHYLHEXANE	65.7	0	0	0	65.7
3-ETHYLOCTANE	21.9	0	0	0	21.9
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	168	0	0	0	168
3-METHYLHEPTANE	307	0	0	0	307
3-METHYLHEXANE	29.2	0	0	0	29.2
3-METHYLNONANE	73.1	0	0	0	73.1
3-METHYLOCTANE	87.7	0	0	0	87.7
3-METHYLUNDECANE	36.5	0	0	0	36.5
3-PHENYLPENTANE	36.5	0	0	0	36.5
4,5-DIMETHYLDECANE	7.31	0	0	0	7.31
4,5-DIMETHYLOCTANE	36.5	0	0	0	36.5
4-ETHYLDECANE	29.2	0	0	0	29.2
4-METHYLDECANE	146	0	0	0	146
4-METHYLHEPTANE	131	0	0	0	131
4-METHYLINDAN	14.6	0	0	0	14.6
4-METHYLNONANE	212	0	0	0	212
4-METHYLOCTANE	110	0	0	0	110
4-METHYLUNDECANE	21.9	0	0	0	21.9
5-ISOPROPYLNONANE	21.9	0	0	0	21.9
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	139	0	0	0	139
5-METHYLINDAN	117	0	0	0	117
5-METHYLUNDECANE	29.2	0	0	0	29.2
6-ETHYL-2-METHYLOCTANE	36.5	0	0	0	36.5
6-METHYLUNDECANE	36.5	0	0	0	36.5
ACETONE	2510	0	0	0	2510
AMMONIA (TOTAL)	13.1	0	0	0	13.1
ARSENIC & COMPOUNDS	0.00534	0	0	0	0.00534
BENZENE	13.4	0	0	0	13.4
BERYLLIUM & COMPOUNDS	0.000317	0	0	0	0.000317
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	2250	0	0	0	2250
BUTYLCYCLOHEXANE	131	0	0	0	131
C5 KETONES	321	0	0	0	321
CADMIUM & COMPOUNDS	0.0301	0	0	0	0.0301
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	87.7	0	0	0	87.7
CARBON DIOXIDE	3270000	0	0	0	3270000
CARBON MONOXIDE	2240	0	0	0	2240
CHROMIUM (III) COMPOUNDS	0.0349	0	0	0	0.0349
CHROMIUM (VI) COMPOUNDS	0.00184	0	0	0	0.00184
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	29.2	0	0	0	29.2
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	21.9	0	0	0	21.9
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	58.4	0	0	0	58.4
CIS-1,2-DIMETHYLCYCLOHEXANE	21.9	0	0	0	21.9

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-1,3-DIMETHYLCYCLOHEXANE	555	0	0	0	555
CIS-1,3-DIMETHYLCYCLOPENTANE	87.7	0	0	0	87.7
CIS-1,4-DIMETHYLCYCLOHEXANE	29.2	0	0	0	29.2
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	73.1	0	0	0	73.1
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	153	0	0	0	153
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	73.1	0	0	0	73.1
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	7.31	0	0	0	7.31
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	7.31	0	0	0	7.31
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	95	0	0	0	95
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	21.9	0	0	0	21.9
CIS-BICYCLO[3.3.0]OCTANE	7.31	0	0	0	7.31
CIS-BICYCLO[4.3.0]NONANE	29.2	0	0	0	29.2
CIS-DECALIN	7.31	0	0	0	7.31
COBALT & COMPOUNDS	0.00217	0	0	0	0.00217
COPPER & COMPOUNDS	0.0234	0	0	0	0.0234
CUMENE (1-METHYLETHYLBENZENE)	51.1	0	0	0	51.1
CYCLOHEXANE	32.6	0	0	0	32.6
DI(PROPYLENE GLYCOL) METHYL ETHER	219	0	0	0	219
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	2150	0	0	0	2150
ETHYL ACETATE	1100	0	0	0	1100
ETHYL ALCOHOL	1770	0	0	0	1770
ETHYLBENZENE	95	0	0	0	95
ETHYLCYCLOHEXANE	226	0	0	0	226
ETHYLCYCLOPENTANE	124	0	0	0	124
ETHYLENE GLYCOL	2450	0	0	0	2450
FORMALDEHYDE	26.7	0	0	0	26.7
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXYLCYCLOHEXANE	14.6	0	0	0	14.6
HEXYLCYCLOPENTANE	21.9	0	0	0	21.9
INDAN	43.8	0	0	0	43.8
ISOBUTYL ALCOHOL	1500	0	0	0	1500
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	65.7	0	0	0	65.7
ISOMERS OF HEXANE	3.34	0	0	0	3.34
ISOMERS OF PENTANE	30.1	0	0	0	30.1
ISOMERS OF XYLENE	12800	0	0	0	12800
ISOPROPYL ALCOHOL	1100	0	0	0	1100
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	65.7	0	0	0	65.7
LEAD & COMPOUNDS	0.0134	0	0	0	0.0134
MANGANESE & COMPOUNDS	0.0102	0	0	0	0.0102
MERCURY & COMPOUNDS	0.00701	0	0	0	0.00701
METHANE	187	0	0	0	187
METHYL ALCOHOL	80.4	0	0	0	80.4
METHYL AMYL KETONE	190	0	0	0	190
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	87.7	0	0	0	87.7

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	3040	0	0	0	3040
METHYL ISOBUTYL KETONE	2300	0	0	0	2300
METHYLCYCLOHEXANE	2220	0	0	0	2220
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
M-ETHYLTOLUENE	73.1	0	0	0	73.1
NAPHTHALENE	51.1	0	0	0	51.1
N-BUTANE	30.1	0	0	0	30.1
N-BUTYL ACETATE	3100	0	0	0	3100
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	979	0	0	0	979
N-DODECANE	124	0	0	0	124
N-HEPTANE	1150	0	0	0	1150
NICKEL & COMPOUNDS	0.0568	0	0	0	0.0568
NITRIC OXIDE	1660	0	0	0	1660
NITROGEN DIOXIDE	134	0	0	0	134
NITROUS OXIDE	6.2	0	0	0	6.2
N-NONANE	263	0	0	0	263
N-OCTANE	869	0	0	0	869
N-PENTANE	20	0	0	0	20
N-PENTYLCYCLOHEXANE	43.8	0	0	0	43.8
N-PROPYLBENZENE	7.31	0	0	0	7.31
N-TRIDECANE	7.31	0	0	0	7.31
N-UNDECANE	1010	0	0	0	1010
O-ETHYLTOLUENE	80.4	0	0	0	80.4
OXIDES OF NITROGEN	2670	0	0	0	2670
PARTICULATE MATTER ≤ 10 µm	203	0	0	0	203
PARTICULATE MATTER ≤ 2.5 µm	203	0	0	0	203
PENTYLCYCLOPENTANE	65.7	0	0	0	65.7
P-ETHYLTOLUENE	95	0	0	0	95
POLYCHLORINATED DIOXINS AND FURANS	3.17x10 ⁻⁰⁸	0	0	0	3.17x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0184	0	0	0	0.0184
PROPANE	13.4	0	0	0	13.4
PROPYL ACETATE	438	0	0	0	438
PROPYLCYCLOHEXANE	95	0	0	0	95
PROPYLCYCLOPENTANE	14.6	0	0	0	14.6
PROPYLENE GLYCOL	906	0	0	0	906
PROPYLENE GLYCOL METHYL ETHER	219	0	0	0	219
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	438	0	0	0	438
SEC-BUTYL ALCOHOL	2130	0	0	0	2130
SELENIUM & COMPOUNDS	0.000635	0	0	0	0.000635
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	14	0	0	0	14
TOLUENE	9960	0	0	0	9960
TOTAL SUSPENDED PARTICULATE	203	0	0	0	203
TOTAL VOLATILE ORGANIC COMPOUNDS	71400	0	0	0	71400

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	183	0	0	0	183
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	65.7	0	0	0	65.7
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	146	0	0	0	146
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	270	0	0	0	270
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	139	0	0	0	139
TRANS-1,2-DIMETHYLCYCLOHEXANE	14.6	0	0	0	14.6
TRANS-1,3-DIMETHYLCYCLOHEXANE	183	0	0	0	183
TRANS-1,3-DIMETHYLCYCLOPENTANE	117	0	0	0	117
TRANS-1,4-DIMETHYLCYCLOHEXANE	190	0	0	0	190
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	29.2	0	0	0	29.2
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	51.1	0	0	0	51.1
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	21.9	0	0	0	21.9
TRANS-2-ETHYLMETHYLCYCLOPENTANE	36.5	0	0	0	36.5
ZINC & COMPOUNDS	0.768	0	0	0	0.768

A.67 SMASH REPAIRING

Table A-67: Annual emissions from smash repairing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYL CYCLOHEXANE	1400	94.4	68.7	221	1780
1,4-BUTANEDIOL	2530	169	123	397	3220
1,4-DIETHYL-CYCLOHEXANE	4430	300	218	703	5650
2,4-DIMETHYLHEXANE	8390	567	413	1330	10700
2,4-DIMETHYLPENTANE	1960	133	96.4	311	2500
2-METHYL-3-HEXANONE	5970	404	294	946	7610
ACETONE	5030	338	246	792	6410
BENZALDEHYDE	1170	78.9	57.4	185	1490
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	7470	505	367	1180	9530
C10 OLEFINS	11000	745	542	1750	14000
C8 INTERNAL ALKENES	308	20.8	15.1	48.8	393
CYCLOHEXANE	826	55.9	40.6	131	1050
DIBROMOETHANE	1400	94.4	68.7	221	1780
DICHLOROMETHANE {METHYLENE CHLORIDE}	1870	127	92.1	297	2390
DIETHYLCYCLOHEXANE	12200	826	601	1940	15600
DIMETHYLCYCLOHEXANES	7680	519	377	1220	9790
DIMETHYLHEPTANES	771	52.1	37.9	122	984
ETHYL ACETATE	3250	220	160	515	4150
ETHYLBENZENE	2290	155	112	362	2910
ETHYLCYCLOHEXANE	1740	118	85.7	276	2220
ETHYLCYCLOPENTANE	453	30.6	22.3	71.8	578
ETHYLHEPTENE	3470	235	171	550	4420
ETHYLTOLUENES {METHYLETHYLBENZENES}	319	21.6	15.7	50.5	407

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF C10H18	6830	462	336	1080	8710
ISOMERS OF DECANE (C10 PARAFFINS)	9930	671	488	1570	12700
ISOMERS OF NONANE (C9 PARAFFIN)	11800	797	580	1870	15000
ISOMERS OF PENTANE	12700	850	618	1990	16100
ISOMERS OF UNDECANE (C11 PARAFFINS)	2500	169	123	396	3190
ISOMERS OF XYLENE	16400	1110	807	2600	20900
ISOPROPYL ALCOHOL	7530	509	371	1190	9610
METHYL AMYL KETONE	1320	89.1	64.8	209	1680
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	9620	649	472	1520	12300
METHYL ISOBUTYL KETONE	753	50.8	36.9	119	960
METHYLCYCLOHEXANE	20700	1400	1020	3280	26400
METHYLCYCLOPENTANE	729	48.8	35.5	114	928
N-BUTYL ACETATE	27900	1890	1370	4420	35600
N-HEPTANE	9460	640	465	1500	12100
N-HEXANE	204	13.6	9.93	32	259
N-UNDECANE	3850	260	189	610	4910
PHTHALIC ANHYDRIDE	1170	78.9	57.4	185	1490
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	1610	109	79.3	255	2050
TOLUENE	74700	5050	3670	11800	95300
TOTAL VOLATILE ORGANIC COMPOUNDS	308000	20800	15100	48800	393000
TRIMETHYLBENZENES	178	12	8.75	28.2	227
TRIMETHYLCYCLOHEXANES	2010	136	98.8	319	2560
TRIMETHYLCYCLOPENTANE	349	23.6	17.1	55.3	445

A.68 SOAP AND OTHER DETERGENT MANUFACTURING

Table A-68: Annual emissions from soap and other detergent manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.00519	0	0	0	0.00519
AMMONIA (TOTAL)	0.00628	0	0	0	0.00628
ANTIMONY & COMPOUNDS	0.19	0	0	0	0.19
ARSENIC & COMPOUNDS	0.0352	0	0	0	0.0352
CADMIUM & COMPOUNDS	0.0302	0	0	0	0.0302
CHLOROFORM (TRICHLOROMETHANE)	0.00389	0	0	0	0.00389
CHROMIUM (III) COMPOUNDS	0.028	0	0	0	0.028
CHROMIUM (VI) COMPOUNDS	0.012	0	0	0	0.012
COBALT & COMPOUNDS	0.0124	0	0	0	0.0124
COPPER & COMPOUNDS	0.371	0	0	0	0.371
DICHLOROMETHANE (METHYLENE CHLORIDE)	0.00584	0	0	0	0.00584

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
FORMALDEHYDE	0.000648	0	0	0	0.000648
ISOMERS OF XYLENE	0.00389	0	0	0	0.00389
LEAD & COMPOUNDS	0.305	0	0	0	0.305
MANGANESE & COMPOUNDS	2.15	0	0	0	2.15
MERCURY & COMPOUNDS	0.0327	0	0	0	0.0327
METHANE	6.46	0	0	0	6.46
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	26.6	0	0	0	26.6
MOLYBDENUM	0.0233	0	0	0	0.0233
N-HEPTANE	2.23	0	0	0	2.23
NICKEL & COMPOUNDS	0.0861	0	0	0	0.0861
PARTICULATE MATTER ≤ 10 µm	665	0	0	0	665
PARTICULATE MATTER ≤ 2.5 µm	67.4	0	0	0	67.4
P-DICHLOROBENZENE	0.000648	0	0	0	0.000648
PERCHLOROETHYLENE	0.00454	0	0	0	0.00454
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0	0
SELENIUM & COMPOUNDS	0.00701	0	0	0	0.00701
TOLUENE	0.0026	0	0	0	0.0026
TOTAL SUSPENDED PARTICULATE	2350	0	0	0	2350
TOTAL VOLATILE ORGANIC COMPOUNDS	28.9	0	0	0	28.9
TRICHLOROETHYLENE (TCE)	0.000648	0	0	0	0.000648
VANADIUM & COMPOUNDS	0.181	0	0	0	0.181
ZINC & COMPOUNDS	0.9	0	0	0	0.9

A.69 SOFT DRINK, CORDIAL AND SYRUP MANUFACTURING

Table A-69: Annual emissions from soft drink, cordial and syrup manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	375	0	0	0	375
AMMONIA (TOTAL)	474	0	0	0	474
ARSENIC & COMPOUNDS	0.00823	0	0	0	0.00823
BENZENE	20.6	0	0	0	20.6
BERYLLIUM & COMPOUNDS	0.000489	0	0	0	0.000489
CADMIUM & COMPOUNDS	0.0463	0	0	0	0.0463
CARBON DIOXIDE	5050000	0	0	0	5050000
CARBON MONOXIDE	3460	0	0	0	3460
CHLOROFORM (TRICHLOROMETHANE)	281	0	0	0	281
CHROMIUM (III) COMPOUNDS	0.0538	0	0	0	0.0538
CHROMIUM (VI) COMPOUNDS	0.00283	0	0	0	0.00283
COBALT & COMPOUNDS	0.00334	0	0	0	0.00334
COPPER & COMPOUNDS	0.036	0	0	0	0.036
CYCLOHEXANE	5.15	0	0	0	5.15

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DICHLOROMETHANE {METHYLENE CHLORIDE}	422	0	0	0	422
FORMALDEHYDE	88.1	0	0	0	88.1
ISOMERS OF HEXANE	5.15	0	0	0	5.15
ISOMERS OF PENTANE	46.3	0	0	0	46.3
ISOMERS OF XYLENE	281	0	0	0	281
LEAD & COMPOUNDS	0.0206	0	0	0	0.0206
MANGANESE & COMPOUNDS	0.0157	0	0	0	0.0157
MERCURY & COMPOUNDS	0.0108	0	0	0	0.0108
METHANE	467000	0	0	0	467000
N-BUTANE	46.3	0	0	0	46.3
NICKEL & COMPOUNDS	0.0875	0	0	0	0.0875
NITRIC OXIDE	2550	0	0	0	2550
NITROGEN DIOXIDE	206	0	0	0	206
NITROUS OXIDE	9.55	0	0	0	9.55
N-PENTANE	30.9	0	0	0	30.9
OXIDES OF NITROGEN	4120	0	0	0	4120
PARTICULATE MATTER ≤ 10 µm	313	0	0	0	313
PARTICULATE MATTER ≤ 2.5 µm	313	0	0	0	313
P-DICHLOROBENZENE	46.9	0	0	0	46.9
PERCHLOROETHYLENE	328	0	0	0	328
POLYCHLORINATED DIOXINS AND FURANS	4.89x10 ⁻⁰⁸	0	0	0	4.89x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0283	0	0	0	0.0283
PROPANE	20.6	0	0	0	20.6
SELENIUM & COMPOUNDS	0.000978	0	0	0	0.000978
SULFUR DIOXIDE	21.5	0	0	0	21.5
TOLUENE	198	0	0	0	198
TOTAL SUSPENDED PARTICULATE	313	0	0	0	313
TOTAL VOLATILE ORGANIC COMPOUNDS	2240	0	0	0	2240
TRICHLOROETHYLENE (TCE)	46.9	0	0	0	46.9
ZINC & COMPOUNDS	1.18	0	0	0	1.18

A.70 SOLID PAPERBOARD CONTAINER MANUFACTURING

Table A-70: Annual emissions from solid paperboard container manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,4-BUTANEDIOL	1710	0	0	0	1710
ACETONE	2030	0	0	0	2030
ISOMERS OF PENTANE	8580	0	0	0	8580
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1710	0	0	0	1710
METHYL ISOBUTYL KETONE	122	0	0	0	122
METHYLCYCLOPENTANE	493	0	0	0	493

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEXANE	138	0	0	0	138
TOLUENE	524	0	0	0	524
TOTAL VOLATILE ORGANIC COMPOUNDS	15300	0	0	0	15300

A.71 SPIRIT MANUFACTURING

Table A-71: Annual emissions from spirit manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ALCOHOL	66800	0	0	0	66800
TOTAL VOLATILE ORGANIC COMPOUNDS	66800	0	0	0	66800

A.72 SPRING AND WIRE PRODUCT MANUFACTURING

Table A-72: Annual emissions from spring and wire product manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.0391	0	0	0	0.0391
2,4-DIMETHYLHEXANE	0	0	0	42.2	42.2
2,4-DIMETHYLPENTANE	0	0	0	10.1	10.1
AMMONIA (TOTAL)	0.0737	0	0.0131	0	0.0867
ANTIMONY & COMPOUNDS	0.0165	0	0	0.347	0.363
ARSENIC & COMPOUNDS	0.00316	0	0.00000533	0.0663	0.0695
BENZENE	0.0269	0	0.0263	0	0.0532
BERYLLIUM & COMPOUNDS	0.000000638	0	0.00000032	0	0.000000958
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	0	0	38.5	38.5
CADMIUM & COMPOUNDS	0.000786	0	0.0000293	0.0153	0.0161
CARBON DIOXIDE	6590	0	3800	0	10400
CARBON MONOXIDE	4.52	0	0.6	0	5.12
CHLOROFORM (TRICHLOROMETHANE)	0.0293	0	0	0	0.0293
CHROMIUM (III) COMPOUNDS	0.00295	0	0.000031	2.26	2.26
CHROMIUM (VI) COMPOUNDS	0.00124	0	0.00000635	0.026	0.0273
COBALT & COMPOUNDS	0.00557	0	0.00000224	0.117	0.123
COPPER & COMPOUNDS	0.0359	0	0.0000227	0.755	0.791
CYCLOHEXANE	0.00672	0	0.00652	0	0.0132
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.044	0	0	0	0.044
DIMETHYLCYCLOHEXANES	0	0	0	23.8	23.8
DIMETHYLHEPTANES	0	0	0	3.95	3.95
ETHYLCYCLOHEXANE	0	0	0	7.91	7.91
FORMALDEHYDE	0.0586	0	0.0526	0	0.111
ISOMERS OF HEXANE	0.00672	0	0	0	0.00672
ISOMERS OF NONANE (C9)	0	0	0	13.1	13.1

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARAFFIN)					
ISOMERS OF PENTANE	0.0605	0	0	0	0.0605
ISOMERS OF XYLENE	0.0293	0	0	14	14
LEAD & COMPOUNDS	0.03	0	0.0000133	0.632	0.662
MAGNESIUM OXIDE FUME	0	0	0	161	161
MANGANESE & COMPOUNDS	0.194	5	0.0000101	40.8	46
MERCURY & COMPOUNDS	0.00219	0	0.00000693	0.0459	0.0481
METHANE	49	0	0.233	0	49.2
METHYLCYCLOHEXANE	0	0	0	9.5	9.5
MOLYBDENUM	0.00121	0	0.0000293	0.0255	0.0267
N-BUTANE	0.0605	0	0	0	0.0605
N-BUTYL ACETATE	0	0	0	32	32
N-HEPTANE	0	0	0	7.38	7.38
N-HEXANE	0	0	0.00652	0	0.00652
NICKEL & COMPOUNDS	0.00302	0	0.000056	2.77	2.77
NITRIC OXIDE	3.33	0	2.7	478	484
NITROGEN DIOXIDE	0.269	0	0.218	38.6	39.1
NITROUS OXIDE	0.0125	0	0.0413	0	0.0537
N-PENTANE	0.0403	0	0	0	0.0403
OXIDES OF NITROGEN	5.38	0	4.35	772	781
PARTICULATE MATTER ≤ 10 µm	46.8	5	0.135	1110	1160
PARTICULATE MATTER ≤ 2.5 µm	11.6	5	0.134	366	383
P-DICHLOROBENZENE	0.00488	0	0	0	0.00488
PERCHLOROETHYLENE	0.0342	0	0	0	0.0342
POLYCHLORINATED DIOXINS AND FURANS	6.38x10 ⁻¹¹	0	8.3x10 ⁻¹²	0	7.21x10 ⁻¹¹
POLYCYCLIC AROMATIC HYDROCARBONS	0.000037	0	0.0000186	0	0.0000556
PROPANE	0.0269	0	0	0	0.0269
SELENIUM & COMPOUNDS	0.000485	0	0.00000064	0.0102	0.0107
SULFUR DIOXIDE	0.0281	0	0.0000225	0	0.0281
TOLUENE	0.033	0	0.0131	168	169
TOTAL SUSPENDED PARTICULATE	242	5	0.138	5230	5480
TOTAL VOLATILE ORGANIC COMPOUNDS	0.506	0	0.105	380	381
TRICHLOROETHYLENE (TCE)	0.00488	0	0	0	0.00488
TRIMETHYLCYCLOHEXANES	0	0	0	9.24	9.24
VANADIUM & COMPOUNDS	0.0172	0	0.0000613	0.362	0.379
ZINC & COMPOUNDS	0.241	0	0.000773	5.05	5.3

A.73 STEEL PIPE AND TUBE MANUFACTURING

Table A-73: Annual emissions from steel pipe and tube manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.229	0	0	0	0.229

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	0.276	0	0	0	0.276
ANTIMONY & COMPOUNDS	0.071	0	0	0	0.071
ARSENIC & COMPOUNDS	0.0132	0	0	0	0.0132
CADMIUM & COMPOUNDS	0.011	0	0	0	0.011
CHLOROFORM (TRICHLOROMETHANE)	0.171	0	0	0	0.171
CHROMIUM (III) COMPOUNDS	16.7	0	0	0	16.7
CHROMIUM (VI) COMPOUNDS	0.00451	0	0	0	0.00451
COBALT & COMPOUNDS	0.00522	0	0	0	0.00522
COPPER & COMPOUNDS	0.139	0	0	0	0.139
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.257	0	0	0	0.257
FORMALDEHYDE	0.0286	0	0	0	0.0286
ISOMERS OF XYLENE	0.171	0	0	0	0.171
LEAD & COMPOUNDS	0.115	0	0	0	0.115
MAGNESIUM OXIDE FUME	155	0	0	0	155
MANGANESE & COMPOUNDS	279	0	0	0	279
MERCURY & COMPOUNDS	0.0122	0	0	0	0.0122
METHANE	285	0	0	0	285
MOLYBDENUM	0.00862	0	0	0	0.00862
NICKEL & COMPOUNDS	20.6	0	0	0	20.6
NITRIC OXIDE	461	0	0	0	461
NITROGEN DIOXIDE	37.2	0	0	0	37.2
OXIDES OF NITROGEN	744	0	0	0	744
PARTICULATE MATTER ≤ 10 µm	1270	0	3510	0	4780
PARTICULATE MATTER ≤ 2.5 µm	1050	0	3510	0	4560
P-DICHLOROBENZENE	0.0286	0	0	0	0.0286
PERCHLOROETHYLENE	0.2	0	0	0	0.2
POLYCHLORINATED DIOXINS AND FURANS	0.0000027	0	0.000234	0	0.000237
SELENIUM & COMPOUNDS	0.00261	0	0	0	0.00261
TOLUENE	0.114	0	0	0	0.114
TOTAL SUSPENDED PARTICULATE	1910	0	3900	0	5810
TOTAL VOLATILE ORGANIC COMPOUNDS	1.23	0	0	0	1.23
TRICHLOROETHYLENE (TCE)	0.0286	0	0	0	0.0286
VANADIUM & COMPOUNDS	0.0678	0	0	0	0.0678
ZINC & COMPOUNDS	0.358	0	0	0	0.358

A.74 STRUCTURAL METAL PRODUCT MANUFACTURING N.E.C.

Table A-74: Annual emissions from structural metal product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	9.21	0	0	0	9.21
1,3-DIETHYL-5-METHYL	7.71	0	0	0	7.71

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE					
1,4-DIETHYL-CYCLOHEXANE	129	0	0	0	129
2,4-DIMETHYLHEXANE	84.1	0	0	0	84.1
2,4-DIMETHYLPENTANE	20	0	0	0	20
2-METHYL-3-HEXANONE	16.3	0	0	0	16.3
ACETONE	24.9	0	0	0	24.9
ARSENIC & COMPOUNDS	0.015	0	0	0	0.015
BENZALDEHYDE	6.44	0	0	0	6.44
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	76.4	0	0	0	76.4
C10 OLEFINS	60.8	0	0	0	60.8
C10H12	103	0	0	0	103
C8 INTERNAL ALKENES	0.653	0	0	0	0.653
C9 CYCLOPARAFFINS	44.5	0	0	0	44.5
CHROMIUM (III) COMPOUNDS	0.18	0	0	0	0.18
COPPER & COMPOUNDS	0.073	0	0	0	0.073
CYCLOHEXANE	2.26	0	0	0	2.26
DIBROMOETHANE	7.71	0	0	0	7.71
DICHLOROMETHANE {METHYLENE CHLORIDE}	10.3	0	0	0	10.3
DIETHYLCYCLOHEXANE	67.4	0	0	0	67.4
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	17.5	0	0	0	17.5
DIMETHYLCYCLOHEXANES	64.1	0	0	0	64.1
DIMETHYLHEPTANES	7.86	0	0	0	7.86
ETHYL ACETATE	18.1	0	0	0	18.1
ETHYL ALCOHOL	19.9	0	0	0	19.9
ETHYLBENZENE	10.2	0	0	0	10.2
ETHYLCYCLOHEXANE	16.1	0	0	0	16.1
ETHYLCYCLOPENTANE	0.958	0	0	0	0.958
ETHYLHEPTENE	19.1	0	0	0	19.1
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.871	0	0	0	0.871
ISOMERS OF C10H18	37.7	0	0	0	37.7
ISOMERS OF DECANE (C10 PARAFFINS)	54.8	0	0	0	54.8
ISOMERS OF NONANE (C9 PARAFFIN)	106	0	0	0	106
ISOMERS OF TETRADECANE (C14 PARAFFINS)	40.3	0	0	0	40.3
ISOMERS OF UNDECANE (C11 PARAFFINS)	89.5	0	0	0	89.5
ISOMERS OF XYLENE	134	0	0	0	134
ISOPROPYL ALCOHOL	65.7	0	0	0	65.7
LEAD & COMPOUNDS	0.085	0	0	0	0.085
MANGANESE & COMPOUNDS	6.3	0	0	0	6.3
METHYL ALCOHOL	0.419	0	0	0	0.419
METHYL AMYL KETONE	3.62	0	0	0	3.62
METHYL ETHYL KETONE (MEK)	79.9	0	0	0	79.9

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(2-BUTANONE)					
METHYL ISOBUTYL KETONE	24.5	0	0	0	24.5
METHYLCYCLOHEXANE	109	0	0	0	109
N-BUTYL ACETATE	182	0	0	0	182
N-BUTYL ALCOHOL	26.5	0	0	0	26.5
N-HEPTANE	48	0	0	0	48
NICKEL & COMPOUNDS	0.13	0	0	0	0.13
N-UNDECANE	21.3	0	0	0	21.3
PARTICULATE MATTER ≤ 10 µm	7	0	0	0	7
PARTICULATE MATTER ≤ 2.5 µm	7	0	0	0	7
PHTHALIC ANHYDRIDE	6.44	0	0	0	6.44
PROPYL ACETATE	5.18	0	0	0	5.18
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	8.89	0	0	0	8.89
TOLUENE	579	0	0	0	579
TOTAL SUSPENDED PARTICULATE	7	0	0	0	7
TOTAL VOLATILE ORGANIC COMPOUNDS	2490	0	0	0	2490
TRIMETHYLBENZENES	0.479	0	0	0	0.479
TRIMETHYLCYCLOHEXANES	18.8	0	0	0	18.8
TRIMETHYLCYCLOPENTANE	0.74	0	0	0	0.74
ZINC & COMPOUNDS	0.013	0	0	0	0.013

A.75 STRUCTURAL STEEL FABRICATING

Table A-75: Annual emissions from structural steel fabricating

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	0.138	0	0	0	0.138
ARSENIC & COMPOUNDS	0.0264	0	0	0	0.0264
CADMIUM & COMPOUNDS	0.0061	0	0	0	0.0061
CHROMIUM (III) COMPOUNDS	0.191	0	0	0	0.191
CHROMIUM (VI) COMPOUNDS	0.0104	0	0	0	0.0104
COBALT & COMPOUNDS	0.0468	0	0	0	0.0468
COPPER & COMPOUNDS	0.301	0	0	0	0.301
LEAD & COMPOUNDS	0.252	0	0	0	0.252
MANGANESE & COMPOUNDS	4.41	0	0	0	4.41
MERCURY & COMPOUNDS	0.0183	0	0	0	0.0183
MOLYBDENUM	0.0102	0	0	0	0.0102
NICKEL & COMPOUNDS	0.23	0	0	0	0.23
PARTICULATE MATTER ≤ 10 µm	400	0	0	0	400
PARTICULATE MATTER ≤ 2.5 µm	104	0	0	0	104
SELENIUM & COMPOUNDS	0.00407	0	0	0	0.00407
TOTAL SUSPENDED PARTICULATE	2040	0	0	0	2040
VANADIUM & COMPOUNDS	0.144	0	0	0	0.144

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ZINC & COMPOUNDS	2.02	0	0	0	2.02

A.76 SYNTHETIC RESIN MANUFACTURING

Table A-76: Annual emissions from synthetic resin manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	89	0	0	0	89
1,2-DICHLOROETHANE	3200	0	0	0	3200
1,2-DICHLOROPROPANE	102	0	0	0	102
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	12.7	0	0	0	12.7
1,4-DIETHYL-CYCLOHEXANE	3450	0	0	0	3450
1-BUTENE	470	0	0	0	470
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.036	0	0	0	0.036
1-HEXENE	102	0	0	0	102
1-PENTENE	25.4	0	0	0	25.4
2-METHYL-BUTANE	63.5	0	0	0	63.5
2-METHYLPROPANE; ISOBUTANE	89	0	0	0	89
ACETALDEHYDE	2360	0	0	0	2360
ACETIC ACID	1870	0	0	0	1870
ACETIC ANHYDRIDE	114	0	0	0	114
ACETONE	4780	0	0	0	4780
ACETYLENE	2720	0	0	0	2720
ACROLEIN (2-PROPENAL)	2270	0	0	0	2270
ACRYLONITRILE	1210	0	0	0	1210
AMMONIA (TOTAL)	5.26	0	0.00865	1390	1390
ARSENIC & COMPOUNDS	0.00214	0	0.00000352	0.00132	0.00347
BENZALDEHYDE	89	0	0	0	89
BENZENE	10800	0	0.0088	3.3	10800
BENZOIC ACID	191	0	0	0	191
BERYLLIUM & COMPOUNDS	0.000127	0	0.000000209	0.0000784	0.000206
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.108	0	0	0	0.108
BUTYLBENZENE ISOMERS	1.2	0	0	0	1.2
BUTYLCYCLOHEXANE	0.477	0	0	0	0.477
BUTYRALDEHYDE	12.7	0	0	0	12.7
C10 OLEFINS	1.04	0	0	0	1.04
C10H12	3390	0	0	0	3390
C11 OLEFINS	0.261	0	0	0	0.261
C12 OLEFINS	0.063	0	0	0	0.063
C7 CYCLOPARAFFINS	2220	0	0	0	2220
C8 CYCLOPARAFFINS	38.1	0	0	0	38.1
C8 OLEFINS	0.9	0	0	0	0.9
C9 CYCLOPARAFFINS	1430	0	0	0	1430

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.012	0	0.0000198	0.00742	0.0195
CARBON DIOXIDE	1310000	0	2160	809000	2120000
CARBON DISULFIDE	508	0	0	0	508
CARBON MONOXIDE	900	0	1.48	554	1460
CARBON TETRACHLORIDE	381	0	0	0	381
CARBONYL SULFIDE	165	0	0	0	165
CHLOROBENZENE	3840	0	0	0	3840
CHLORODIFLUOROMETHANE (F-22)	915	0	0	0	915
CHLOROETHANE (ETHYL CHLORIDE)	1630	0	0	0	1630
CHLOROFORM (TRICHLOROMETHANE)	50.8	0	0	0	50.8
CHLOROPENTAFLUOROETHANE (F115)	89	0	0	0	89
CHLOROPRENE (2-CHLORO-1,3- BUTADIENE)	1930	0	0	0	1930
CHLOROTRIFLUOROMETHANE (F-13)	305	0	0	0	305
CHROMIUM (III) COMPOUNDS	0.014	0	0.000023	0.00862	0.0226
CHROMIUM (VI) COMPOUNDS	0.000736	0	0.00000121	0.000454	0.00119
COBALT & COMPOUNDS	0.00087	0	0.00000143	0.000536	0.00141
COPPER & COMPOUNDS	0.00937	0	0.0000154	0.00577	0.0152
CUMENE (1-METHYLETHYLBENZENE)	0.099	0	0	0	0.099
CYCLOHEXANE	1090	0	0.0022	0.825	1090
CYCLOHEXANOL	203	0	0	0	203
CYCLOHEXANONE	203	0	0	0	203
DECALINS (MIXED CIS,TRANS)	0.171	0	0	0	0.171
DICHLOROBENZENES	114	0	0	0	114
DICHLORODIFLUOROMETHANE (F-12)	2020	0	0	0	2020
DIETHYLBENZENES	63.5	0	0	0	63.5
DIETHYLCYCLOHEXANE	0.225	0	0	0	0.225
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	3990	0	0	0	3990
DIMETHOXYMETHANE (METHYLAL)	483	0	0	0	483
DIMETHYL ETHER	5360	0	0	0	5360
DIMETHYLBENZYLALCOHOL	0.045	0	0	0	0.045
DIMETHYLCYCLOBUTANONE	0.171	0	0	0	0.171
DIMETHYLCYCLOHEXANES	0.315	0	0	0	0.315
DIMETHYLCYCLOPENTANE	2.08	0	0	0	2.08
DIMETHYLHEPTANES	0.045	0	0	0	0.045
DIMETHYLHEXANES	0.981	0	0	0	0.981
DIMETHYLNONANES	0.63	0	0	0	0.63
DIMETHYLOCTANES	0.882	0	0	0	0.882
ETHANE	1750	0	0	0	1750
ETHYL ACETATE	1190	0	0	0	1190
ETHYL ACRYLATE	686	0	0	0	686
ETHYL ALCOHOL	1830	0	0	0	1830
ETHYL ETHER	724	0	0	0	724
ETHYL PROPYLCYCLOHEXANES	0.18	0	0	0	0.18
ETHYLBENZENE	931	0	0	0	931

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOHEXANE	0.234	0	0	0	0.234
ETHYLDIMETHYLPHENOL	0.162	0	0	0	0.162
ETHYLENE	10500	0	0	0	10500
ETHYLENE OXIDE	89	0	0	0	89
ETHYLHEPTENE	0.09	0	0	0	0.09
ETHYLHEXANE	0.144	0	0	0	0.144
ETHYLMETHYLCYCLOHEXANES	2.02	0	0	0	2.02
ETHYLMETHYLOCTANE	0.198	0	0	0	0.198
ETHYLOCTANE	0.072	0	0	0	0.072
ETHYLOCTENES	0.126	0	0	0	0.126
FORMALDEHYDE	41.3	0	0.0176	6.6	48
FORMIC ACID	127	0	0	0	127
HEXAFLUOROETHANE {F-116}	2290	0	0	0	2290
HEXAMETHYLENEDIAMINE	1930	0	0	0	1930
ISOMERS OF BUTENE	165	0	0	0	165
ISOMERS OF C9H16	0.351	0	0	0	0.351
ISOMERS OF DECANE (C10 PARAFFINS)	3.92	0	0	0	3.92
ISOMERS OF DODECANE (C12 PARAFFINS)	0.819	0	0	0	0.819
ISOMERS OF HEXANE	153	0	0.0022	0.825	154
ISOMERS OF NONANE (C9 PARAFFIN)	1070	0	0	0	1070
ISOMERS OF PENTANE	67.2	0	0.0198	7.42	74.6
ISOMERS OF PROPYLBENZENE	0.819	0	0	0	0.819
ISOMERS OF TETRADECANE (C14 PARAFFINS)	1190	0	0	0	1190
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.027	0	0	0	0.027
ISOMERS OF UNDECANE (C11 PARAFFINS)	2380	0	0	0	2380
ISOMERS OF XYLENE	9980	0	0	0	9980
ISOPROPYL ALCOHOL	2860	0	0	0	2860
LEAD & COMPOUNDS	0.00536	0	0.0000088	3.65	3.66
MALEIC ANHYDRIDE	381	0	0	0	381
MANGANESE & COMPOUNDS	0.00408	0	0.00000671	0.00252	0.00661
MERCURY & COMPOUNDS	0.00281	0	0.00000462	0.00173	0.00455
METHANE	6470	0	0.123	46.2	6510
METHYL ACETATE	1750	0	0	0	1750
METHYL ALCOHOL	3710	0	0	0	3710
METHYL CHLORIDE	12.7	0	0	0	12.7
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	7240	0	0	0	7240
METHYL FORMATE	1260	0	0	0	1260
METHYL HEXANE	3.74	0	0	0	3.74
METHYL ISOBUTYL KETONE	3820	0	0	0	3820
METHYL METHACRYLATE	546	0	0	0	546
METHYL PROPYLCYCLOHEXANES	0.747	0	0	0	0.747
METHYLCYCLOHEXANE	5.37	0	0	0	5.37
METHYLDECALINS	0.072	0	0	0	0.072

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDECANES	1.31	0	0	0	1.31
METHYLDECENES	0.225	0	0	0	0.225
METHYLDODECANES	0.054	0	0	0	0.054
METHYLENE BROMIDE	191	0	0	0	191
METHYLHEXENES	0.36	0	0	0	0.36
METHYLINDANS	0.009	0	0	0	0.009
METHYLNONANE	2.21	0	0	0	2.21
METHYLNONENES	0.081	0	0	0	0.081
METHYLOCTANES	2.16	0	0	0	2.16
METHYLPROPYLNONANE	0.099	0	0	0	0.099
METHYLUNDECANE	0.09	0	0	0	0.09
NAPHTHALENE	0.09	0	0	0	0.09
N-BUTANE	1710	0	0.0198	7.42	1710
N-BUTYL ACETATE	1920	0	0	0	1920
N-BUTYL ACRYLATE	280	0	0	0	280
N-BUTYL ALCOHOL	5230	0	0	0	5230
N-HEPTANE	24.8	0	0	0	24.8
N-HEXANE	76.4	0	0	0	76.4
NICKEL & COMPOUNDS	0.0228	0	0.0000374	0.014	0.0368
NITRIC OXIDE	664	0	1.09	409	1070
NITROGEN DIOXIDE	53.6	0	0.088	33	86.6
NITROUS OXIDE	2.48	0	0.00408	1.53	4.02
N-NONANE	2.56	0	0	0	2.56
NONADIENE	0.063	0	0	0	0.063
N-PENTANE	307	0	0.0132	4.95	312
N-PENTYLCYCLOHEXANE	0.144	0	0	0	0.144
N-PROPYLBENZENE	0.135	0	0	0	0.135
O-DICHLOROBENZENE	203	0	0	0	203
OXIDES OF NITROGEN	1070	0	1.76	660	1730
PARTICULATE MATTER ≤ 10 µm	191000	0	0.134	53.8	191000
PARTICULATE MATTER ≤ 2.5 µm	189000	0	0.134	53.8	189000
P-DICHLOROBENZENE	4090	0	0	0	4090
PENTYLCYCLOPENTANE	0.018	0	0	0	0.018
PHENOL (CARBOLIC ACID)	1970	0	0	0	1970
PHTHALIC ANHYDRIDE	1160	0	0	0	1160
POLYCHLORINATED DIOXINS AND FURANS	2.18x10 ⁻⁰⁸	0	2.09x10 ⁻¹¹	7.84x10 ⁻⁰⁹	2.96x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00736	0	0.0000121	0.00454	0.0119
PROPANE	4390	0	0.0088	3.3	4390
PROPENYLCYCLOHEXANE	0.063	0	0	0	0.063
PROPYL ACETATE	951	0	0	0	951
PROPYLENE	3390	0	0	0	3390
PROPYLENE OXIDE	25.4	0	0	0	25.4
SEC-BUTYL ALCOHOL	1930	0	0	0	1930
SELENIUM & COMPOUNDS	0.000254	0	0.000000418	0.000157	0.000412
STYRENE (ETHENYLBENZENE)	5910	0	0	0	5910
SULFUR DIOXIDE	5.6	0	0.0092	3.45	9.05

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	25.4	0	0	0	25.4
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	191	0	0	0	191
TETRAMETHYLBENZENES	0.09	0	0	0	0.09
TETRAMETHYLCYCLOBUTENE	0.009	0	0	0	0.009
TETRAMETHYLCYCLOPENTANE	0.198	0	0	0	0.198
TETRAMETHYLTHIOUREA	0.018	0	0	0	0.018
TOLUENE	11000	0	0.0044	1.65	11000
TOTAL SUSPENDED PARTICULATE	212000	0	0.134	53.8	212000
TOTAL VOLATILE ORGANIC COMPOUNDS	268000	0	0.0968	1290	270000
TRICHLOROFLUOROMETHANE	1460	0	0	0	1460
TRICHLOROTRIFLUOROETHANE-F113	114	0	0	0	114
TRIFLUOROMETHANE (F-23)	1730	0	0	0	1730
TRIMETHYLBENZENES	0.9	0	0	0	0.9
TRIMETHYLCYCLOHEXANES	0.72	0	0	0	0.72
TRIMETHYLCYCLOPENTANE	1.05	0	0	0	1.05
TRIMETHYLHEPTANES	0.639	0	0	0	0.639
TRIMETHYLOCTANES	0.135	0	0	0	0.135
VINYL ACETATE	3130	0	0	0	3130
VINYL CHLORIDE MONOMER	93800	0	0	1260	95000
ZINC & COMPOUNDS	0.308	0	0.000506	0.19	0.498

A.77 WASTE DISPOSAL SERVICES

Table A-77: Annual emissions from waste disposal services

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	207	12	0	0	317
1,2,3-TRIMETHYLBENZENE	13.2	0	0	0	13.2
1,2,4-TRIMETHYLBENZENE	7.11	0	0	0	7.11
1,3,5-TRIMETHYLBENZENE	9.96	0	0	0	9.96
1,3-BUTADIENE	27.3	0	0	0	27.3
1,3-DIETHYL-5-METHYL CYCLOHEXANE	32.7	7.38	0	0	40.1
1,4-DIETHYL-CYCLOHEXANE	615	1090	0	0	1710
1,4-PENTADIENE	0.0545	0	0	0	0.0545
1-BUTENE	52.5	0	0	0	52.5
1-CHLOROBUTANE	3.33	0	0	0	3.33
1-ETHOXY-2-PROPANOL	2.2	0	0	0	2.2
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.503	0	0	0	0.503
1-PENTENE	0.3	0	0	0	0.3
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	1.17	0	0	0	1.17
2,2,3,TRIMETHYLHEXANE	0.00545	0	0	0	0.00545

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,2,3-TRIMETHYLBUTANE	0.0109	0	0	0	0.0109
2,2,4-TRIMETHYLPENTANE	0.267	0	0	0	0.267
2,2-DIMETHYLBUTANE	0.0817	0	0	0	0.0817
2,2-DIMETHYLHEXANE	0.0109	0	0	0	0.0109
2,2-DIMETHYLPENTANE	0.0272	0	0	0	0.0272
2,3,3-TRIMETHYLPENTANE	0.0272	0	0	0	0.0272
2,3,4-TRIMETHYLPENTANE	0.0272	0	0	0	0.0272
2,3-DIMETHYLBUTANE	0.441	0	0	0	0.441
2,3-DIMETHYLHEXANE	0.0436	0	0	0	0.0436
2,3-DIMETHYLPENTANE	0.0981	0	0	0	0.0981
2,4-DIMETHYLHEXANE	346	588	0	0	934
2,4-DIMETHYLPENTANE	82.1	139	0	0	221
2,4-TOLUENE DIISOCYANATE {TDI}	0.00106	0	0	0	0.00106
2,5-DIMETHYLHEXANE	0.0381	0	0	0	0.0381
2-BUTYL TETRAHYDROFURAN	0.226	0	0	0	0.226
2-ETHYL-1-HEXANOL	1.52	0	0	0	1.52
2-METHYL-1-BUTENE	0.616	0	0	0	0.616
2-METHYL-2-BUTENE	2.41	0	0	0	2.41
2-METHYL-3-HEXANONE	109	306	0	0	415
2-METHYLHEPTANE	0.0817	0	0	0	0.0817
2-METHYLHEXANE	0.278	0	0	0	0.278
2-METHYLNONANE	0.00545	0	0	0	0.00545
2-METHYLOCTANE	0.00545	0	0	0	0.00545
2-METHYLPENTANE	2.6	0	0	0	2.6
2-METHYLPROPANE; ISOBUTANE	1.66	0	0	0	1.66
3-(CHLOROMETHYL)-HEPTANE	0.933	0	0	0	0.933
3,3-DIMETHYLPENTANE	0.0327	0	0	0	0.0327
3,6-DIMETHYL UNDECANE	0.00884	0	0	0	0.00884
3,7-DIMETHYL-1-OCTANOL	0.00212	0	0	0	0.00212
3-ETHYLPENTANE	0.0545	0	0	0	0.0545
3-METHYL-1-BUTENE	0.0163	0	0	0	0.0163
3-METHYLHEPTANE	0.0763	0	0	0	0.0763
3-METHYLHEXANE	0.343	0	0	0	0.343
3-METHYLOCTANE	0.0109	0	0	0	0.0109
3-METHYLPENTANE	1.28	0	0	0	1.28
4-METHYLHEPTANE	0.0436	0	0	0	0.0436
4-METHYLOCTANE	0.00545	0	0	0	0.00545
ACETONE	2180	664	0	0	2850
ACETONITRILE	782	0	0	0	782
ACETYLENE	44	0	0	0	44
AMMONIA (TOTAL)	327	0.0359	0	0	327
ARSENIC & COMPOUNDS	1.84	0.0000146	0	0	1.84
BENZALDEHYDE	27.3	6.16	0	0	33.5
BENZENE	110	0.0365	0	0	110
BENZOIC ACID	0.000706	0	0	0	0.000706
BERYLLIUM & COMPOUNDS	0.000975	0.000000867	0	0	0.000976
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	1.51	0	0	0	1.51

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BIPHENYLOL {2-PHENYLPHENOL}	0.00247	0	0	0	0.00247
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	312	529	0	0	842
BUTYL ISOPROPYL PHTHALATE	0.451	0	0	0	0.451
BUTYLBENZENE ISOMERS	16.7	0	0	0	16.7
BUTYLCYCLOHEXANE	6.66	0	0	0	6.66
C10 OLEFINS	272	58.2	0	0	331
C10H12	504	1050	0	0	1560
C11 OLEFINS	3.65	0	0	0	3.65
C12 OLEFINS	0.88	0	0	0	0.88
C8 INTERNAL ALKENES	6.26	12.3	0	0	18.5
C8 OLEFINS	12.6	0	0	0	12.6
C9 CYCLOPARAFFINS	219	458	0	0	677
CADMIUM & COMPOUNDS	0.268	0.0000822	0	0	0.268
CARBON DIOXIDE	10200000	8950	0	0	10300000
CARBON MONOXIDE	9220	6.13	0	0	9220
CARYOPHYLLENE	0.00389	0	0	0	0.00389
CHLOROETHANE (ETHYL CHLORIDE)	0.933	0	0	0	0.933
CHLOROFORM (TRICHLOROMETHANE)	116	0	0	0	116
CHROMIUM (III) COMPOUNDS	8.8	0.0000954	0	0	8.8
CHROMIUM (VI) COMPOUNDS	0.0967	0.00000502	0	0	0.0967
CIS-1,3-DIMETHYLCYCLOPENTANE	0.12	0	0	0	0.12
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.0763	0	0	0	0.0763
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0763	0	0	0	0.0763
CIS-2-BUTENE	0.163	0	0	0	0.163
CIS-2-PENTENE	0.883	0	0	0	0.883
COBALT & COMPOUNDS	0.00825	0.00000593	0	0	0.00825
COPPER & COMPOUNDS	0.0727	0.0000639	0	0	0.0727
CUMENE (1-METHYLETHYLBENZENE)	6.14	0	0	0	6.14
CYCLOHEXANE	34.7	42.5	0	0	77.2
CYCLOHEXENE	0.00778	0	0	0	0.00778
CYCLOPENTENE	0.0163	0	0	0	0.0163
DECALINS (MIXED CIS,TRANS)	2.39	0	0	0	2.39
DIACETONE ALCOHOL (4-HYDROXY- 4-METHYL-2-PENTANONE)	1.17	0	0	0	1.17
DIBROMOETHANE	32.7	7.38	0	0	40.1
DIBUTYL ETHER	0.361	0	0	0	0.361
DIBUTYL PHTHALATE	0.353	0	0	0	0.353
DICHLOROMETHANE {METHYLENE CHLORIDE}	226	9.89	0	0	235
DIETHYLCYCLOHEXANE	289	64.5	0	0	354
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	0	33	0	0	33
DIMETHOXYMETHANE (METHYLAL)	40.6	0	0	0	40.6
DIMETHYLBENZYLALCOHOL	0.629	0	0	0	0.629
DIMETHYLCYCLOBUTANONE	2.39	0	0	0	2.39
DIMETHYLCYCLOHEXANES	269	344	0	0	613

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOPENTANE	29	0	0	0	29
DIMETHYLHEPTANES	32.8	54.7	0	0	87.5
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	0.00141	0	0	0	0.00141
DIMETHYLHEXANES	13.7	0	0	0	13.7
DIMETHYLNONANES	8.8	0	0	0	8.8
DIMETHYLOCTANES	12.3	0	0	0	12.3
EICOSANE	0.017	0	0	0	0.017
ETHANE	10.9	0	0	0	10.9
ETHYL ACETATE	81.4	213	0	0	294
ETHYL ALCOHOL	231	153	0	0	384
ETHYL ISOPROPYL ETHER	7.83	0	0	0	7.83
ETHYL PROPYLCYCLOHEXANES	2.51	0	0	0	2.51
ETHYLBENZENE	49.7	51.6	0	0	101
ETHYLCYCLOHEXANE	71.6	117	0	0	188
ETHYLCYCLOPENTANE	9.21	18	0	0	27.2
ETHYLDIMETHYLPHENOL	2.26	0	0	0	2.26
ETHYLENE	112	0	0	0	112
ETHYLENE GLYCOL	0.873	0	0	0	0.873
ETHYLHEPTENE	82.4	18.3	0	0	101
ETHYLHEXANE	2.01	0	0	0	2.01
ETHYLMETHYLCYCLOHEXANES	28.2	0	0	0	28.2
ETHYLMETHYLOCTANE	2.77	0	0	0	2.77
ETHYLOCTANE	1.02	0	0	0	1.02
ETHYLOCTENES	1.76	0	0	0	1.76
ETHYLTOLUENES {METHYLETHYLBENZENES}	5.8	16.3	0	0	22.1
FORMALDEHYDE	175	0.073	0	0	175
HENEICOSANE	0.0106	0	0	0	0.0106
HEXADECANE	0.146	0	0	0	0.146
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	2.15	0	0	0	2.15
HYDROCHLORIC ACID	1	0	0	0	1
ISOMERS OF C10H18	160	36.1	0	0	196
ISOMERS OF C9H16	4.9	0	0	0	4.9
ISOMERS OF DECANE (C10 PARAFFINS)	287	52.5	0	0	340
ISOMERS OF DODECANE (C12 PARAFFINS)	11.4	0	0	0	11.4
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	0.13	0	0	0	0.13
ISOMERS OF HEXANE	10.3	0.00913	0	0	10.3
ISOMERS OF NONANE (C9 PARAFFIN)	479	604	0	0	1080
ISOMERS OF OCTADECANE (C18 PARAFFINS)	0.0597	0	0	0	0.0597
ISOMERS OF PENTADECANE (C15 PARAFFINS)	0.0053	0	0	0	0.0053
ISOMERS OF PENTANE	119	0.0822	0	0	119
ISOMERS OF PROPYLBENZENE	11.4	0	0	0	11.4

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF TETRADECANE (C14 PARAFFINS)	202	421	0	0	623
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.377	0	0	0	0.377
ISOMERS OF UNDECANE (C11 PARAFFINS)	471	794	0	0	1270
ISOMERS OF XYLENE	622	885	0	0	1510
ISOPROPYL ACETATE	1.06	0	0	0	1.06
ISOPROPYL ALCOHOL	262	218	0	0	480
LEAD & COMPOUNDS	0.641	0.0000365	0	0	0.641
MANGANESE & COMPOUNDS	116	0.0000278	0	0	116
MERCURY & COMPOUNDS	0.0216	0.0000192	0	0	0.0216
METHANE	193000	0.511	0	0	193000
METHYL ALCOHOL	167	5.02	0	0	172
METHYL AMYL KETONE	25.6	67.8	0	0	93.4
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	0.00141	0	0	0	0.00141
METHYL CHLORIDE	0.828	0	0	0	0.828
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	286	796	0	0	1080
METHYL HEXANE	52.3	0	0	0	52.3
METHYL ISOBUTYL KETONE	52.5	301	0	0	353
METHYL PALMITATE {METHYL HEXADECANOATE}	0.542	0	0	0	0.542
METHYL PROPYLCYCLOHEXANES	10.4	0	0	0	10.4
METHYLCYCLOHEXANE	581	373	0	0	954
METHYLCYCLOPENTANE	0.158	0	0	0	0.158
METHYLDECALINS	1.01	0	0	0	1.01
METHYLDECANES	18.4	0	0	0	18.4
METHYLDECENES	3.14	0	0	0	3.14
METHYLDODECANES	0.754	0	0	0	0.754
METHYLETHYLPENTANOATE	0.00106	0	0	0	0.00106
METHYLHEPTANOL	0.00247	0	0	0	0.00247
METHYLHEXENES	5.03	0	0	0	5.03
METHYLINDANS	0.126	0	0	0	0.126
METHYLNONANE	30.9	0	0	0	30.9
METHYLNONENES	1.13	0	0	0	1.13
METHYLOCTANES	30.2	0	0	0	30.2
METHYLPROPYLNONANE	1.38	0	0	0	1.38
M-ETHYLTOLUENE	11.4	0	0	0	11.4
METHYLUDECANE	1.32	0	0	0	1.32
MOLYBDENUM	0.00006	0	0	0	0.00006
NAPHTHALENE	1.26	0	0	0	1.26
N-BUTANE	99.6	0.0822	0	0	99.7
N-BUTYL ACETATE	815	1010	0	0	1830
N-BUTYL ALCOHOL	84.9	114	0	0	199
N-DECANE	0.322	0	0	0	0.322
N-DODECANE	0.773	0	0	0	0.773

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEPTADECANE	0.00943	0	0	0	0.00943
N-HEPTANE	583	265	0	0	848
N-HEXANE	10.9	0	0	0	10.9
NICKEL & COMPOUNDS	8.89	0.000155	0	0	8.89
NITRIC OXIDE	8050	4.53	0	0	8060
NITROGEN DIOXIDE	650	0.365	0	0	650
NITROUS OXIDE	20.8	0.0169	0	0	20.8
N-NONANE	35.7	0	0	0	35.7
NONADECANE	0.0315	0	0	0	0.0315
NONADIENE	0.88	0	0	0	0.88
N-PENTADECANE	0.132	0	0	0	0.132
N-PENTANE	61.6	0.0548	0	0	61.6
N-PENTYLCYCLOHEXANE	2.01	0	0	0	2.01
N-PHENYLANILINE {DIPHENYLAMINE}	0.00141	0	0	0	0.00141
N-PROPYLBENZENE	7.68	0	0	0	7.68
N-TETRADECANE	0.377	0	0	0	0.377
N-TRIDECANE	0.519	0	0	0	0.519
N-UNDECANE	90.6	20.4	0	0	111
O-ETHYLTOLUENE	9.72	0	0	0	9.72
OXIDES OF NITROGEN	13000	7.3	0	0	13000
PARTICULATE MATTER ≤ 10 µm	1700	0.555	0	0	1700
PARTICULATE MATTER ≤ 2.5 µm	1670	0.555	0	0	1670
P-DICHLOROBENZENE	19.3	0	0	0	19.3
PENTYLCYCLOPENTANE	0.251	0	0	0	0.251
PERCHLOROETHYLENE	135	0	0	0	135
P-ETHYLTOLUENE	18.7	0	0	0	18.7
PHTHALIC ANHYDRIDE	27.3	6.16	0	0	33.5
POLYCHLORINATED DIOXINS AND FURANS	9.76x10 ⁻⁰⁸	8.67x10 ⁻¹¹	0	0	9.77x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.236	0.0000502	0	0	0.236
PROPANE	41	0.0365	0	0	41.1
PROPENYLCYCLOHEXANE	0.88	0	0	0	0.88
PROPYL ACETATE	6.37	11.3	0	0	17.7
PROPYLENE	67.4	0	0	0	67.4
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	37.7	8.51	0	0	46.2
SELENIUM & COMPOUNDS	0.177	0.00000173	0	0	0.177
SUBSTITUTED C9 ESTER (C12)	43	0	0	0	43
SULFUR DIOXIDE	353	0.0382	0	0	353
TETRAMETHYLBENZENES	1.26	0	0	0	1.26
TETRAMETHYLCYCLOBUTENE	0.126	0	0	0	0.126
TETRAMETHYLCYCLOPENTANE	2.77	0	0	0	2.77
TETRAMETHYLTHIOUREA	0.251	0	0	0	0.251
TIN & COMPOUNDS	0.176	0	0	0	0.176
TOLUENE	2850	3640	0	0	6490
TOTAL SUSPENDED PARTICULATE	1770	0.555	0	0	1770

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL VOLATILE ORGANIC COMPOUNDS	17300	16000	0	0	33200
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.00545	0	0	0	0.00545
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0163	0	0	0	0.0163
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0381	0	0	0	0.0381
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0218	0	0	0	0.0218
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.0272	0	0	0	0.0272
TRANS-2-BUTENE	1.54	0	0	0	1.54
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0163	0	0	0	0.0163
TRANS-2-PENTENE	1.6	0	0	0	1.6
TRICHLOROETHYLENE (TCE)	136	0	0	0	136
TRIMETHYLBENZENES	15.8	8.98	0	0	24.7
TRIMETHYLCYCLOHEXANES	89.4	136	0	0	225
TRIMETHYLCYCLOPENTANE	21.8	13.9	0	0	35.7
TRIMETHYLDECANE	0.0106	0	0	0	0.0106
TRIMETHYLHEPTANES	8.92	0	0	0	8.92
TRIMETHYLOCTANES	1.91	0	0	0	1.91
VANADIUM & COMPOUNDS	0.000126	0	0	0	0.000126
VINYL ACETATE	0.181	0	0	0	0.181
ZINC & COMPOUNDS	4.25	0.0021	0	0	4.25

A.78 WATER SUPPLY

Table A-78: Annual emissions from water supply

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	360	0	0	0	360
CHLORINE	180	0.07	1000	0	1180
FLUORIDE COMPOUNDS	0	0	285	0	285

A.79 WINE MANUFACTURING

Table A-79: Annual emissions from wine manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	1.81	0.326	0	42.6	44.8
1,2,3-TRIMETHYLBENZENE	0.0033	0	0	0.223	0.227
1,2,4-TRIMETHYLBENZENE	0.00344	0	0	0.127	0.13
1,3,5-TRIMETHYLBENZENE	0.00248	0	0	0.168	0.171
1,4-PENTADIENE	0.00558	0	0	0.0224	0.0279

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-BUTENE	0.0257	0	0	0.103	0.129
1-PENTENE	0.0307	0	0	0.123	0.154
2,2,3-TRIMETHYLHEXANE	0.000558	0	0	0.00224	0.00279
2,2,3-TRIMETHYLBUTANE	0.00112	0	0	0.00447	0.00559
2,2,4-TRIMETHYLPENTANE	0.0274	0	0	0.11	0.137
2,2-DIMETHYLBUTANE	0.00837	0	0	0.0335	0.0419
2,2-DIMETHYLHEXANE	0.00112	0	0	0.00447	0.00559
2,2-DIMETHYLPENTANE	0.00279	0	0	0.0112	0.014
2,3,3-TRIMETHYLPENTANE	0.00279	0	0	0.0112	0.014
2,3,4-TRIMETHYLPENTANE	0.00279	0	0	0.0112	0.014
2,3-DIMETHYLBUTANE	0.0452	0	0	0.181	0.226
2,3-DIMETHYLHEXANE	0.00447	0	0	0.0179	0.0224
2,3-DIMETHYLPENTANE	0.01	0	0	0.0403	0.0503
2,4-DIMETHYLHEXANE	0.00782	0	0	0.0313	0.0391
2,4-DIMETHYLPENTANE	0.00893	0	0	0.0358	0.0447
2,5-DIMETHYLHEXANE	0.00391	0	0	0.0157	0.0196
2-METHYL-1-BUTENE	0.0631	0	0	0.253	0.316
2-METHYL-2-BUTENE	0.247	0	0	0.991	1.24
2-METHYLHEPTANE	0.00837	0	0	0.0335	0.0419
2-METHYLHEXANE	0.0285	0	0	0.114	0.143
2-METHYLNONANE	0.000558	0	0	0.00224	0.00279
2-METHYLOCTANE	0.000558	0	0	0.00224	0.00279
2-METHYLPENTANE	0.267	0	0	1.07	1.34
2-METHYLPROPANE; ISOBUTANE	0.17	0	0	0.682	0.852
3,3-DIMETHYLPENTANE	0.00335	0	0	0.0134	0.0168
3-ETHYLPENTANE	0.00558	0	0	0.0224	0.0279
3-METHYL-1-BUTENE	0.00167	0	0	0.00671	0.00838
3-METHYLHEPTANE	0.00782	0	0	0.0313	0.0391
3-METHYLHEXANE	0.0352	0	0	0.141	0.176
3-METHYLOCTANE	0.00112	0	0	0.00447	0.00559
3-METHYLPENTANE	0.131	0	0	0.523	0.654
4-METHYLHEPTANE	0.00447	0	0	0.0179	0.0224
4-METHYLOCTANE	0.000558	0	0	0.00224	0.00279
AMMONIA (TOTAL)	13.1	2.36	0	309	325
ARSENIC & COMPOUNDS	0.00000214	0	0	0	0.00000214
BENZENE	0.0541	0	0	0.174	0.229
BERYLLIUM & COMPOUNDS	0.000000128	0	0	0	0.000000128
CADMIUM & COMPOUNDS	0.0000117	0	0	0	0.0000117
CARBON DIOXIDE	1520	0	0	0	1520
CARBON MONOXIDE	0.241	0	0	0	0.241
CHLOROFORM (TRICHLOROMETHANE)	1.36	0.244	0	32	33.6
CHROMIUM (III) COMPOUNDS	0.0000124	0	0	0	0.0000124
CHROMIUM (VI) COMPOUNDS	0.00000255	0	0	0	0.00000255
CIS-1,3- DIMETHYLCYCLOPENTANE	0.0123	0	0	0.0492	0.0615
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.00782	0	0	0.0313	0.0391

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-1-2-DIMETHYLCYCLOPENTANE	0.00782	0	0	0.0313	0.0391
CIS-2-BUTENE	0.0167	0	0	0.0671	0.0838
CIS-2-PENTENE	0.0904	0	0	0.362	0.453
COBALT & COMPOUNDS	0.00000899	0	0	0	0.00000899
COPPER & COMPOUNDS	0.00000909	0	0	0	0.00000909
CUMENE (1-METHYLETHYLBENZENE)	0.00119	0	0	0.0803	0.0815
CYCLOHEXANE	0.00541	0	0	0.0112	0.0166
CYCLOPENTENE	0.00167	0	0	0.00671	0.00838
DICHLOROMETHANE {METHYLENE CHLORIDE}	2.04	0.366	0	48	50.4
ETHYL ACETATE	10.1	0.103	0	66.2	76.4
ETHYL ALCOHOL	3150	32.1	0	20600	23800
ETHYLBENZENE	0.00572	0	0	0.0318	0.0375
ETHYLCYCLOPENTANE	0.00167	0	0	0.00671	0.00838
FORMALDEHYDE	0.247	0.0407	0	5.33	5.62
HEXADECANE	0.000007	0	0	0.000476	0.000483
HYDROGEN SULFIDE	1.38	0.014	0	9.01	10.4
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	2.85	0.029	0	18.6	21.5
ISOBUTYL ALCOHOL	0.949	0.00967	0	6.2	7.16
ISOMERS OF PENTANE	2.77	0	0	11.1	13.8
ISOMERS OF XYLENE	1.39	0.244	0	32.3	33.9
LEAD & COMPOUNDS	0.00000535	0	0	0	0.00000535
MANGANESE & COMPOUNDS	0.00000406	0	0	0	0.00000406
MERCURY & COMPOUNDS	0.00000278	0	0	0	0.00000278
METHANE	2250	405	0	53100	55700
METHYLCYCLOPENTANE	0.0162	0	0	0.0649	0.081
M-ETHYLTOLUENE	0.00617	0	0	0.205	0.211
MOLYBDENUM	0.0000117	0	0	0	0.0000117
N-BUTANE	0.744	0	0	2.98	3.73
N-DECANE	0.000558	0	0	0.00224	0.00279
N-DODECANE	0.000192	0	0	0.0131	0.0133
N-HEPTADECANE	0.000002	0	0	0.000157	0.000159
N-HEPTANE	0.0218	0	0	0.0872	0.109
N-HEXANE	0.0149	0	0	0.0492	0.0641
NICKEL & COMPOUNDS	0.0000225	0	0	0	0.0000225
NITRIC OXIDE	1.08	0	0	0	1.08
NITROGEN DIOXIDE	0.0873	0	0	0	0.0873
NITROUS OXIDE	0.0165	0	0	0	0.0165
N-NONANE	0.000558	0	0	0.00224	0.00279
N-PENTADECANE	0.000032	0	0	0.00223	0.00226
N-PROPYLBENZENE	0.00256	0	0	0.102	0.105
N-TETRADECANE	0.000094	0	0	0.00637	0.00646
N-TRIDECANE	0.000129	0	0	0.00876	0.00889
N-UNDECANE	0.000063	0	0	0.0043	0.00436
O-ETHYLTOLUENE	0.00242	0	0	0.164	0.167

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	1.75	0	0	0	1.75
PARTICULATE MATTER ≤ 10 µm	0.0542	0	0	0	0.0542
PARTICULATE MATTER ≤ 2.5 µm	0.0537	0	0	0	0.0537
P-DICHLOROBENZENE	0.226	0.0407	0	5.33	5.6
PERCHLOROETHYLENE	1.58	0.285	0	37.3	39.2
P-ETHYLTOLUENE	0.00632	0	0	0.322	0.328
POLYCHLORINATED DIOXINS AND FURANS	3.33x10 ⁻¹²	0	0	0	3.33x10 ⁻¹²
POLYCYCLIC AROMATIC HYDROCARBONS	0.00000747	0	0	0	0.00000747
SELENIUM & COMPOUNDS	0.000000257	0	0	0	0.000000257
SULFUR DIOXIDE	0.00000903	0	0	0	0.00000903
TOLUENE	1.02	0.163	0	21.8	23
TOTAL SUSPENDED PARTICULATE	0.0555	0	0	0	0.0555
TOTAL VOLATILE ORGANIC COMPOUNDS	3180	34	0	20900	24100
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.000558	0	0	0.00224	0.00279
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.00167	0	0	0.00671	0.00838
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.00391	0	0	0.0157	0.0196
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.00223	0	0	0.00894	0.0112
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.00279	0	0	0.0112	0.014
TRANS-2-BUTENE	0.158	0	0	0.633	0.791
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.00167	0	0	0.00671	0.00838
TRANS-2-PENTENE	0.164	0	0	0.657	0.822
TRICHLOROETHYLENE (TCE)	0.226	0.0407	0	5.33	5.6
VANADIUM & COMPOUNDS	0.0000246	0	0	0	0.0000246
ZINC & COMPOUNDS	0.00031	0	0	0	0.00031

A.80 WOOD PRODUCT MANUFACTURING N.E.C.

Table A-80: Annual emissions from wood product manufacturing n.e.c.

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	55.3	55.3
1,4-DIETHYL-CYCLOHEXANE	0	0	0	535	535
2,4-DIMETHYLHEXANE	0	0	0	176	176
2,4-DIMETHYLPENTANE	0	0	0	41.7	41.7
2-METHYL-3-HEXANONE	0	0	0	91.9	91.9
ACETONE	0	0	0	98.3	98.3
AMMONIA (TOTAL)	0.00292	0	0	0	0.00292
ANTIMONY & COMPOUNDS	0.073	0	0	0.00899	0.082

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	0.014	0	0	0.00172	0.0157
BENZENE	0.00298	0	0	0	0.00298
BERYLLIUM & COMPOUNDS	7.07x10 ⁻⁰⁸	0	0	0	7.07x10 ⁻⁰⁸
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	0	0	159	159
C10H12	0	0	0	527	527
C8 INTERNAL ALKENES	0	0	0	3.68	3.68
C9 CYCLOPARAFFINS	0	0	0	229	229
CADMIUM & COMPOUNDS	0.00323	0	0	0.000397	0.00363
CARBON DIOXIDE	729	0	0	0	729
CARBON MONOXIDE	0.5	0	0	0	0.5
CHROMIUM (III) COMPOUNDS	0.0128	0	0	0.00157	0.0144
CHROMIUM (VI) COMPOUNDS	0.00548	0	0	0.000674	0.00615
COBALT & COMPOUNDS	0.0247	0	0	0.00304	0.0277
COPPER & COMPOUNDS	0.159	0	0	0.0196	0.179
CYCLOHEXANE	0.000744	0	0	12.7	12.7
DIMETHYLCYCLOHEXANES	0	0	0	98.2	98.2
DIMETHYLHEPTANES	0	0	0	16.4	16.4
ETHYL ACETATE	0	0	0	73.2	73.2
ETHYL ALCOHOL	0	0	0	76.6	76.6
ETHYLBENZENE	0	0	0	13.2	13.2
ETHYLCYCLOHEXANE	0	0	0	35	35
ETHYLCYCLOPENTANE	0	0	0	5.39	5.39
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	0	4.9	4.9
FORMALDEHYDE	0.00595	0	0	0	0.00595
ISOMERS OF HEXANE	0.000744	0	0	0	0.000744
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	0	235	235
ISOMERS OF PENTANE	0.0067	0	0	0	0.0067
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0	0	210	210
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0	391	391
ISOMERS OF XYLENE	0	0	0	298	298
ISOPROPYL ALCOHOL	0	0	0	89.2	89.2
LEAD & COMPOUNDS	0.133	0	0	0.0164	0.15
MANGANESE & COMPOUNDS	0.859	0	0	0.106	0.965
MERCURY & COMPOUNDS	0.00967	0	0	0.00119	0.0109
METHANE	0.0417	0	0	0	0.0417
METHYL ALCOHOL	0	0	0	2.51	2.51
METHYL AMYL KETONE	0	0	0	20.3	20.3
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	144	144
METHYL ISOBUTYL KETONE	0	0	0	52.8	52.8
METHYLCYCLOHEXANE	0	0	0	88.4	88.4
MOLYBDENUM	0.00537	0	0	0.000661	0.00603
N-BUTANE	0.0067	0	0	0	0.0067
N-BUTYL ACETATE	0	0	0	314	314

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-BUTYL ALCOHOL	0	0	0	57.1	57.1
N-HEPTANE	0	0	0	72	72
NICKEL & COMPOUNDS	0.0129	0	0	0.00159	0.0145
NITRIC OXIDE	0.369	0	0	0	0.369
NITROGEN DIOXIDE	0.0298	0	0	0	0.0298
NITROUS OXIDE	0.00138	0	0	0	0.00138
N-PENTANE	0.00446	0	0	0	0.00446
OXIDES OF NITROGEN	0.595	0	0	0	0.595
PARTICULATE MATTER ≤ 10 µm	206	0	0	25.4	232
PARTICULATE MATTER ≤ 2.5 µm	49.9	0	0	6.14	56.1
POLYCHLORINATED DIOXINS AND FURANS	7.07x10 ⁻¹²	0	0	0	7.07x10 ⁻¹²
POLYCYCLIC AROMATIC HYDROCARBONS	0.00000409	0	0	0	0.00000409
PROPANE	0.00298	0	0	0	0.00298
PROPYL ACETATE	0	0	0	5.65	5.65
SELENIUM & COMPOUNDS	0.00215	0	0	0.000264	0.00241
SULFUR DIOXIDE	0.00311	0	0	0	0.00311
TOLUENE	0.00149	0	0	1140	1140
TOTAL SUSPENDED PARTICULATE	1070	0	0	132	1210
TOTAL VOLATILE ORGANIC COMPOUNDS	0.0327	0	0	5420	5420
TRIMETHYLBENZENES	0	0	0	2.7	2.7
TRIMETHYLCYCLOHEXANES	0	0	0	40.7	40.7
TRIMETHYLCYCLOPENTANE	0	0	0	4.17	4.17
VANADIUM & COMPOUNDS	0.0763	0	0	0.00938	0.0857
ZINC & COMPOUNDS	1.06	0	0	0.131	1.2

A.81 WOODEN FURNITURE AND UPHOLSTERED SEAT MANUFACTURING

Table A-81: Annual emissions from wooden furniture and upholstered seat manufacturing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYL CYCLOHEXANE	1.8	0	0	0	1.8
1,4-BUTANEDIOL	13	0	0	0	13
1,4-DIETHYL-CYCLOHEXANE	5.73	0	0	0	5.73
2,4-DIMETHYLHEXANE	140	0	0	0	140
2,4-DIMETHYLPENTANE	33.4	0	0	0	33.4
2-METHYL-3-HEXANONE	22.5	0	0	0	22.5
ACETONE	23	0	0	0	23
BENZALDEHYDE	1.51	0	0	0	1.51
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	127	0	0	0	127
C10 OLEFINS	14.2	0	0	0	14.2
C8 INTERNAL ALKENES	0.898	0	0	0	0.898

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE	3.11	0	0	0	3.11
DIBROMOETHANE	1.8	0	0	0	1.8
DICHLOROMETHANE {METHYLENE CHLORIDE}	2.42	0	0	0	2.42
DIETHYLCYCLOHEXANE	15.8	0	0	0	15.8
DIMETHYLCYCLOHEXANES	82.5	0	0	0	82.5
DIMETHYLHEPTANES	13.1	0	0	0	13.1
ETHYL ACETATE	12.2	0	0	0	12.2
ETHYLBENZENE	5.08	0	0	0	5.08
ETHYLCYCLOHEXANE	26.7	0	0	0	26.7
ETHYLCYCLOPENTANE	1.32	0	0	0	1.32
ETHYLHEPTENE	4.48	0	0	0	4.48
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.2	0	0	0	1.2
ISOMERS OF C10H18	8.82	0	0	0	8.82
ISOMERS OF DECANE (C10 PARAFFINS)	12.8	0	0	0	12.8
ISOMERS OF NONANE (C9 PARAFFIN)	57.2	0	0	0	57.2
ISOMERS OF PENTANE	65.1	0	0	0	65.1
ISOMERS OF UNDECANE (C11 PARAFFINS)	3.23	0	0	0	3.23
ISOMERS OF XYLENE	86.4	0	0	0	86.4
ISOPROPYL ALCOHOL	9.73	0	0	0	9.73
METHYL AMYL KETONE	4.97	0	0	0	4.97
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	24.3	0	0	0	24.3
METHYL ISOBUTYL KETONE	3.09	0	0	0	3.09
METHYLCYCLOHEXANE	62.4	0	0	0	62.4
METHYLCYCLOPENTANE	3.74	0	0	0	3.74
N-BUTYL ACETATE	149	0	0	0	149
N-HEPTANE	40.6	0	0	0	40.6
N-HEXANE	1.05	0	0	0	1.05
N-UNDECANE	4.97	0	0	0	4.97
PHTHALIC ANHYDRIDE	1.51	0	0	0	1.51
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	2.08	0	0	0	2.08
TOLUENE	647	0	0	0	647
TOTAL VOLATILE ORGANIC COMPOUNDS	1770	0	0	0	1770
TRIMETHYLBENZENES	0.659	0	0	0	0.659
TRIMETHYLCYCLOHEXANES	31.1	0	0	0	31.1
TRIMETHYLCYCLOPENTANE	1.02	0	0	0	1.02

A.82 TOTAL ESTIMATED ANNUAL EMISSIONS OF ALL SUBSTANCES FROM COMMERCIAL SOURCES

Table A-82: Total estimated annual emissions of all substances from commercial sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	22.4	0	0	27.6	49.9
(2-METHYLBUTYL)CYCLOHEXANE	29.8	0	0	36.7	66.6
1,1,1-TRICHLOROETHANE	4470	111	0.587	1060	5640
1,1,2,3-TETRAMETHYLCYCLOHEXANE	7.46	0	0	9.19	16.6
1,1,2-TRICHLOROETHANE	81.9	0	0	0	81.9
1,1,2-TRIMETHYLCYCLOHEXANE	14.9	0	0	18.4	33.3
1,1,2-TRIMETHYLCYCLOPENTANE	44.7	0	0	55.1	99.9
1,1,3,4-TETRAMETHYLCYCLOHEXANE	37.3	0	0	45.9	83.2
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	154	0	0	184	338
1,1,3-TRIMETHYLCYCLOPENTANE	149	0	0	184	333
1,1,4-TRIMETHYLCYCLOHEXANE	29.8	0	0	36.7	66.6
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.113	0	0	0	0.113
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	14.9	0	0	18.4	33.3
1,1-DIMETHYLCYCLOHEXANE	59.7	0	0	73.5	133
1,1-DIMETHYLCYCLOPENTANE	22.4	0	0	27.6	49.9
1,1-METHYLETHYLCYCLOPENTANE	14.9	0	0	18.4	33.3
1,2,3,5-TETRAMETHYLBENZENE	67.1	0	0	82.7	150
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	326	27.8	28.7	221	603
1,2,3-TRIMETHYLCYCLOHEXANE	89.5	0	0	110	200
1,2,4,5-TETRAMETHYLBENZENE	44.7	0	0	55.1	99.9
1,2,4-TRIMETHYLBENZENE	1340	136	109	830	2410
1,2,4-TRIMETHYLCYCLOPENTENE	306	0	0	377	682
1,2-BUTADIENE {METHYLLALLENE}	93.6	0	0	0	93.6
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	91.5	0	0	0.016	91.5
1,2-DICHLOROETHANE	3350	0	0	0.575	3350
1,2-DICHLOROPROPANE	102	0	0	0.0182	102
1,2-DIETHYL-1-METHYLCYCLOHEXANE	29.8	0	0	36.7	66.6
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	37.3	0	0	45.9	83.2
1,2-DIMETHYL-4-ETHYLBENZENE	74.6	0	0	91.9	166
1,2-DIMETHYLCYCLOPENTANE	261	0	0	321	583
1,3,5-TRIETHYL CYCLOHEXANE	14.9	0	0	18.4	33.3
1,3,5-TRIMETHYLBENZENE	169	21	21.6	62.3	273
1,3-BUTADIENE	1520	210	63.7	323	2120
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	12.8	0	0	0.00228	12.8
1,3-DIETHYL-5-METHYL CYCLOHEXANE	1830	108	68.7	222	2230
1,3-DIETHYL-CYCLOHEXANE	22.4	0	0	27.6	49.9
1,3-DIMETHYL-2-ETHYLBENZENE	59.7	0	0	73.5	133

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIMETHYL-4-ETHYLBENZENE	29.8	0	0	36.7	66.6
1,3-DIMETHYL-4-ISOPROPYLBENZENE	7.46	0	0	9.19	16.6
1,3-DIMETHYL-5-ETHYLBENZENE	59.7	0	0	73.5	133
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-BUTANEDIOL	19800	175	127	405	20500
1,4-DIETHYL-CYCLOHEXANE	37700	1410	218	1460	40800
1,4-DIMETHYL-2-ETHYLBENZENE	44.7	0	0	55.1	99.9
1,4-DIOXANE	0.0567	0	0	0	0.0567
1,4-PENTADIENE	3070	402	313	1400	5180
1-BUTENE	41200	1870	1440	6550	51100
1-BUTYNE (ETHYLACETYLENE)	4.68	0	0	0	4.68
1-CHLOROBUTANE	11.9	0	0	0	11.9
1-DECENE	2.34	0	0	6.13	8.47
1-ETHOXY-2-PROPANOL	7.83	0	0	0	7.83
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	204	9.36	7.91	44.5	266
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	14.9	0	0	18.4	33.3
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	7.46	0	0	9.19	16.6
1-ETHYL-2-PROPYL CYCLOHEXANE	254	0	0	312	566
1-ETHYL-4-ISOPROPYLBENZENE	29.8	0	0	36.7	66.6
1-HEXENE	109	0	0	8.35	117
1-METHYL INDAN	89.5	0	0	110	200
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	67.1	0	0	82.7	150
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	89.5	0	0	110	200
1-METHYL-3-ISOPROPYLCYCLOHEXANE	74.6	0	0	91.9	166
1-METHYL-4-ISOBUTYLBENZENE	7.46	0	0	9.19	16.6
1-METHYL-4-ISOPROPYLBENZENE	7.46	0	0	9.19	16.6
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	112	0	0	138	250
1-METHYL-4-PENTYL CYCLOHEXANE	14.9	0	0	18.4	33.3
1-NONENE	0.155	0	0	0	0.155
1-OCTENE	0.155	0	0	0	0.155
1-PENTENE	40200	2210	1720	7780	51900
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	498	0	0	496	994
2,2,3,3-TETRAMETHYLPENTANE	7.46	0	0	9.19	16.6
2,2,3,TRIMETHYLHEXANE	307	40.2	31.3	140	518
2,2,3-TRIMETHYLBUTANE	614	80.5	62.6	279	1040
2,2,4,4-TETRAMETHYL-3-PENTANONE	126	6.3	4.99	17.6	155
2,2,4-TRIMETHYLPENTANE	15100	1970	1530	6850	25400
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	22.4	0	0	27.6	49.9
2,2-DICHLORONITROANILINE	29.5	0	0	0.00194	29.5
2,2-DIMETHYLBUTANE	4610	604	470	2100	7780

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,2-DIMETHYLHEXANE	614	80.5	62.6	279	1040
2,2-DIMETHYLPENTANE	1540	201	157	699	2590
2,3,3-TRIMETHYLPENTANE	1540	201	157	699	2590
2,3,4-TRIMETHYLPENTANE	1550	201	157	717	2630
2,3,5-TRIMETHYLHEPTANE	7.46	0	0	9.19	16.6
2,3-DIMETHYLBUTANE	24900	3260	2540	11300	42000
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	2520	322	250	1200	4300
2,3-DIMETHYLOCTANE	112	0	0	138	250
2,3-DIMETHYLPENTANE	5570	724	563	2560	9410
2,4,4-TRIMETHYL-1-PENTENE	2.34	0	0	0	2.34
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	67.1	0	0	82.7	150
2,4-DIMETHYLHEXANE	23300	2020	922	3660	29900
2,4-DIMETHYLNONANE	7.46	0	0	9.19	16.6
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	9380	987	614	2640	13600
2,4-TOLUENE DIISOCYANATE {TDI}	426	0	1.87	3.75	432
2,5-DIMETHYLHEPTANE	97	0	0	119	216
2,5-DIMETHYLHEXANE	2150	282	219	978	3630
2,5-DIMETHYLNONANE	82	0	0	101	183
2,5-DIMETHYLOCTANE	7.46	0	0	9.19	16.6
2,6-DIMETHYLDECANE	59.7	0	0	73.5	133
2,6-DIMETHYLHEPTANE	172	0	0	211	383
2,6-DIMETHYLNONANE	328	0	0	404	732
2,6-DIMETHYLOCTANE	142	0	0	156	298
2,6-DIMETHYLUDECANE	14.9	0	0	18.4	33.3
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	14.9	0	0	18.4	33.3
2-BUTYLTETRAHYDROFURAN	0.805	0	0	0	0.805
2-BUTYNE	2.34	0	0	0	2.34
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	263	0	0	220	484
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	352	0	0	331	683
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	22.4	0	0	27.6	49.9
2-ETHYL-1-HEXANOL	5.42	0	0	0	5.42
2-FURFURAL	86.6	0	0	0	86.6
2-HEXENES	2.34	0	0	0	2.34
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	91.3	0	0	0	91.3
2-METHYL-1-BUTENE	34700	4550	3540	15800	58600
2-METHYL-1-PENTENE	0.31	0	0	0	0.31
2-METHYL-2-BUTENE	136000	17800	13900	61900	230000
2-METHYL-2-PENTENE	2.34	0	0	0	2.34
2-METHYL-3-ETHYLPENTANE	14.9	0	0	18.4	33.3
2-METHYL-3-HEXANONE	11600	917	331	15800	28700

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-BUTANE	82.4	0	0	2.81	85.2
2-METHYLDECALIN	29.8	0	0	36.7	66.6
2-METHYLDECANE	186	0	0	230	416
2-METHYLHEPTANE	5110	604	470	2710	8890
2-METHYLHEXANE	16000	2050	1600	7490	27100
2-METHYLNAPHTHALENE	7.46	0	0	9.19	16.6
2-METHYLNONANE	434	40.2	31.3	296	801
2-METHYLOCTANE	382	40.2	31.3	232	685
2-METHYLPENTANE	147000	19200	15000	66800	248000
2-METHYLPROPANE; ISOBUTANE	94000	12300	9550	42600	158000
2-METHYLPROPENE (ISOBUTENE)	0.31	0	0	0	0.31
2-METHYLUNDECANE {ISODODECANE}	67.1	0	0	82.7	150
3-(CHLOROMETHYL)-HEPTANE	3.33	0	0	0	3.33
3,3,5-TRIMETHYLHEPTANE	7.46	0	0	9.19	16.6
3,3-DIMETHYLPENTANE	1840	241	188	838	3110
3,4-DIMETHYLHEXANE	29.8	0	0	36.7	66.6
3,4-DIMETHYLOCTANE	22.4	0	0	27.6	49.9
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	22.4	0	0	27.6	49.9
3,6-DIMETHYL DECANE	22.4	0	0	27.6	49.9
3,6-DIMETHYL UNDECANE	2310	2.36	17.5	37.9	2370
3,6-DIMETHYLOCTANE	29.8	0	0	36.7	66.6
3,7-DIMETHYL-1-OCTANOL	544	0	3.75	7.5	555
3,7-DIMETHYLNONANE	97	0	0	119	216
3-ETHYL-2,2-DIMETHYL PENTANE	2.34	0	0	0	2.34
3-ETHYL-2-METHYLHEPTANE	37.3	0	0	45.9	83.2
3-ETHYL-3-METHYLOCTANE	29.8	0	0	36.7	66.6
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	7.46	0	0	9.19	16.6
3-ETHYLHEPTANE	29.8	0	0	36.7	66.6
3-ETHYLHEXANE	71.8	0	0	82.7	154
3-ETHYLOCTANE	22.4	0	0	27.6	49.9
3-ETHYLPENTANE	3070	402	313	1400	5180
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-1-BUTENE	921	121	93.9	419	1560
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	172	0	0	211	383
3-METHYLHEPTANE	4610	563	438	2340	7960
3-METHYLHEXANE	19400	2540	1970	8840	32700
3-METHYLNONANE	74.6	0	0	91.9	166
3-METHYLOCTANE	704	80.5	62.6	390	1240
3-METHYLPENTANE	71900	9420	7330	32700	121000
3-METHYLUNDECANE	37.3	0	0	45.9	83.2
3-PHENYLPENTANE	37.3	0	0	45.9	83.2
4,5-DIMETHYLDECANE	7.46	0	0	9.19	16.6
4,5-DIMETHYLOCTANE	37.3	0	0	45.9	83.2
4-ETHYLDECANE	29.8	0	0	36.7	66.6
4-METHYLANILINE	7.02	0	0	0	7.02

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYLDECANE	149	0	0	184	333
4-METHYLHEPTANE	2590	322	250	1280	4450
4-METHYLINDAN	14.9	0	0	18.4	33.3
4-METHYLNONANE	216	0	0	266	483
4-METHYLOCTANE	419	40.2	31.3	277	768
4-METHYLUNDECANE	22.4	0	0	27.6	49.9
5-ISOPROPYLNONANE	22.4	0	0	27.6	49.9
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	142	0	0	175	316
5-METHYLINDAN	119	0	0	147	266
5-METHYLUNDECANE	29.8	0	0	36.7	66.6
6-ETHYL-2-METHYLOCTANE	37.3	0	0	45.9	83.2
6-METHYLUNDECANE	37.3	0	0	45.9	83.2
9,10-ANTHRAQUINONE	2.34	0	0	0	2.34
ACENAPHTHENE	3.76	0.736	0.227	1.21	5.94
ACENAPHTHYLENE	8.84	0.814	0.251	1.34	11.2
ACETALDEHYDE	2580	2.28	0.704	4.17	2590
ACETIC ACID	3920	0	0	0.335	3920
ACETIC ANHYDRIDE	197	0	0	0.0205	197
ACETONE	58600	5330	5340	11800	81100
ACETONITRILE	782	0	0	0	782
ACETYLENE	2980	13.5	0	6.72	3000
ACROLEIN (2-PROPENAL)	2460	0	0	0.408	2460
ACRYLIC ACID	105	0	0	0	105
ACRYLONITRILE	1350	0	0	0.217	1350
ADIPIC ACID	93.6	0	0	0	93.6
ALIPHATICS	23.4	0	0	0	23.4
ALKENE KETONE	2.34	0	0	0	2.34
AMMONIA (TOTAL)	1290000	4270	1100	411000	1700000
ANILINE {AMINO BENZENE}	185	0	0	0	185
ANTHRACENE	11.1	2.16	0.668	3.56	17.4
ANTIMONY & COMPOUNDS	32.5	2.38	0.713	18.4	53.9
A-PINENE	81.9	0	0	0	81.9
ARSENIC & COMPOUNDS	10.2	1.07	0.173	5.49	17
BENZALDEHYDE	1630	90.2	57.4	186	1960
BENZENE	38200	3230	2540	11100	55100
BENZO(A)ANTHRACENE	0.434	0.0849	0.0262	0.14	0.685
BENZO(A)PYRENE	1.21	0.237	0.0733	0.39	1.91
BENZOIC ACID	382	0	1.25	2.53	385
BENZOTHAZOLE	9.83	0.492	0.39	1.38	12.1
BENZYL CHLORIDE	98.3	0	0	0	98.3
BERYLLIUM & COMPOUNDS	0.167	0.0035	0.0122	0.0991	0.282
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	41.1	1.67	2.83	4.68	50.3
BIPHENYL {PHENYL BENZENE}	2.34	0	0	0	2.34
BIPHENYLOL {2-PHENYLPHENOL}	634	0	4.37	8.75	647
BORON & COMPOUNDS	231	0.153	236	0.71	468
B-PHELLANDRENE {1(7)-2-P-	2.34	0	0	0	2.34

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MENTHADIENE}					
B-PINENE	53.8	0	0	0	53.8
BROMODINITROBENZENE	2.34	0	0	0	2.34
BUTANE, BRANCHED & LINEAR	11700	0	0	78.4	11800
BUTANOIC ACID	50	0	0	0	50
BUTOXYBUTENE	2.34	0	0	0	2.34
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	19300	1310	431	4230	25300
BUTYL ISOPROPYL PHTHALATE	116000	0	797	1590	118000
BUTYLBENZENE ISOMERS	820	36.8	45.8	103	1010
BUTYLCYCLOHEXANE	526	16.5	19.7	212	774
BUTYRALDEHYDE	116	0	0	0.00228	116
C10 AROMATIC	2.34	0	0	0	2.34
C10 OLEFINS	16600	873	584	1840	19900
C10H12	31500	1060	5.77	727	33300
C11 OLEFINS	211	9.65	11.3	27	259
C12 OLEFINS	28.1	1.18	1.81	3.31	34.3
C2 ALKYL INDAN	86.4	0	0	0.0055	86.4
C2 CYCLOHEXANE	2.34	0	0	0	2.34
C3 CYCLOHEXANE	2.34	0	0	0	2.34
C3/C4/C5 ALKYL BENZENES	7.02	0	0	0	7.02
C4 SUBSTITUTED CYCLOHEXANE	2.34	0	0	0	2.34
C4 SUBSTITUTED CYCLOHEXANONE	18.9	0	0	0.00118	18.9
C5 ESTER	4.68	0	0	0	4.68
C5 KETONES	328	0	0	404	732
C5 OLEFIN	2.34	0	0	0	2.34
C5 PARAFFIN	2.34	0	0	0	2.34
C5 SUBSTITUTED CYCLOHEXANE	30.9	0	0	0.00204	30.9
C6 SUBSTITUTED CYCLOHEXANE	23.7	0	0	0.00152	23.7
C6H18O3SI3	21.1	0	0	0	21.1
C7 CYCLOPARAFFINS	3400	145	45.8	230	3820
C7 INTERNAL ALKENES	0.155	0	0	8.47	8.62
C7-C16 PARAFFINS	35.1	0	0	0	35.1
C8 CYCLOPARAFFINS	186	20.2	6.37	31.9	244
C8 INTERNAL ALKENES	551	39.4	16.6	53	660
C8 OLEFINS	63.8	0	12.5	0	76.3
C8H24O4SI4	7.02	0	0	0	7.02
C9 CYCLOPARAFFINS	13600	458	0	307	14300
C9 OLEFINS	4.55	0.197	0.156	0.551	5.46
CADMIUM & COMPOUNDS	9.33	0.44	0.271	3.41	13.5
CAMPHENE	2.34	0	0	0	2.34
CARBARYL	7.02	0	0	0	7.02
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	197	0	0	110	307
CARBON DIOXIDE	246000000	12900000	10200000	53300000	322000000
CARBON DISULFIDE	530	0	0	0.0912	531
CARBON MONOXIDE	335000	9200	19700	24300	389000
CARBON TETRACHLORIDE	534	0	0	0.0684	534

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CARBONYL SULFIDE	173	0	0	0.0296	173
CARYOPHYLLENE	997	0	6.87	13.7	1020
CHLORINE	180	0.07	1000	0	1180
CHLOROBENZENE	4060	2.56	2.03	7.85	4080
CHLORODIFLUOROMETHANE (F-22)	954	0	0	0.164	955
CHLOROETHANE (ETHYL CHLORIDE)	1700	0	0	0.292	1700
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	854	0.265	0.441	44.1	899
CHLOROPENTAFLUOROETHANE (F115)	93.8	0	0	0.016	93.8
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	2020	0	0	0.347	2020
CHLOROTRIFLUOROMETHANE (F-13)	317	0	0	0.0547	317
CHROMIUM (III) COMPOUNDS	127	5.88	779	8.99	921
CHROMIUM (VI) COMPOUNDS	31	0.401	0.0605	1.5	32.9
CHRYSENE	4.46	0.414	0.128	0.681	5.68
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	29.8	0	0	36.7	66.6
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	22.4	0	0	27.6	49.9
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	59.7	0	0	73.5	133
CIS-1,2-DIMETHYLCYCLOHEXANE	22.4	0	0	27.6	49.9
CIS-1,3-DIMETHYLCYCLOHEXANE	567	0	0	698	1260
CIS-1,3-DIMETHYLCYCLOPENTANE	6850	885	689	3180	11600
CIS-1,4-DIMETHYLCYCLOHEXANE	29.8	0	0	36.7	66.6
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	74.6	0	0	91.9	166
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	4300	563	438	1960	7260
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	157	0	0	193	350
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	76.9	0	0	91.9	169
CIS-1-2-DIMETHYLCYCLOPENTANE	4300	563	438	1960	7260
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	7.46	0	0	9.19	16.6
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	7.46	0	0	9.19	16.6
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	97	0	0	119	216
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	22.4	0	0	27.6	49.9
CIS-2-BUTENE	9210	1210	939	4190	15600
CIS-2-PENTENE	49800	6520	5070	22600	84000
CIS-3-HEXENE	2.34	0	0	0	2.34
CIS-BICYCLO[3.3.0]OCTANE	7.46	0	0	9.19	16.6
CIS-BICYCLO[4.3.0]NONANE	29.8	0	0	36.7	66.6
CIS-DECALIN	7.46	0	0	9.19	16.6
COAL TAR	86.6	0	0	0	86.6
COBALT & COMPOUNDS	3.14	0.482	0.0703	1.98	5.67
COPPER & COMPOUNDS	158	5.17	2.68	37.4	203
CRESOLS	88.9	0	0	0	88.9
CUMENE (1-METHYLETHYLBENZENE)	281	13.4	14.3	90.2	399

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYANIDE (INORGANIC) COMPOUNDS	0.000029	0	0	0	0.000029
CYCLOHEXANE	46900	397	526	3620	51400
CYCLOHEXANOL	309	0	0	0.0365	309
CYCLOHEXANONE	338	0	0	0.0365	338
CYCLOHEXENE	2000	0	13.7	27.5	2040
CYCLOPENTANE	24.5	0.706	0.223	1.12	26.6
CYCLOPENTENE	1010	121	93.9	419	1650
DECALINS (MIXED CIS,TRANS)	130	5.91	7.06	16.5	160
DENATURANT	23.4	0	0	0	23.4
DI(2-ETHYLHEXYL)PHTHALATE	0.085	0	0	0	0.085
DI(PROPYLENE GLYCOL) METHYL ETHER	224	0	0	276	499
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	2190	0	0	2700	4900
DIBROMOETHANE	1930	108	68.7	222	2330
DIBUTYL ETHER	1.29	0	0	0	1.29
DIBUTYL PHTHALATE	90600	0	624	1250	92400
DICHLOROBENZENES	119	0	0	0.0205	119
DICHLORODIFLUOROMETHANE (F-12)	2110	0	0	0.363	2110
DICHLOROMETHANE {METHYLENE CHLORIDE}	3690	145	92.8	364	4290
DIETHYL CYCLOHEXANE	7.02	0	0	0	7.02
DIETHYLBENZENES	70.7	0	0	0.0114	70.7
DIETHYLCYCLOHEXANE	16100	949	608	1960	19700
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	6790	33	0	0.0114	6820
DIETHYLENE GLYCOL BUTYL ETHER ACETATE	2.34	0	0	0	2.34
DIETHYLMETHYLCYCLOHEXANES	108	5.42	4.29	15.1	133
DIISOPROPYL BENZENE (MIXED ISOMERS)	88.9	0	0	0	88.9
DIMETHOXYMETHANE (METHYLAL)	668	0	0	0.0867	669
DIMETHYL ETHER	18000	0	0	0.962	18000
DIMETHYL FORMAMIDE	84.2	0	0	0	84.2
DIMETHYL PHTHALATE	14	0	0	0	14
DIMETHYLAMINE	6	0	0	0	6
DIMETHYLBENZYLALCOHOL	32.7	1.48	1.8	4.13	40.1
DIMETHYLBUTYLCYCLOHEXANE	9.83	0.492	0.39	1.38	12.1
DIMETHYLCYCLOBUTANONE	12.1	0	2.38	0	14.5
DIMETHYLCYCLOHEXANES	14600	1050	425	1370	17500
DIMETHYLCYCLOPENTANE	150	0	28.9	0	179
DIMETHYLDECANE	57	2.86	2.26	7.99	70.1
DIMETHYLHEPTANES	1860	141	49.5	160	2210
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	362	0	2.5	5	370
DIMETHYLHEXANES	69.5	0	13.6	0	83.1
DIMETHYLNONANES	532	24.4	28.1	68.3	653
DIMETHYLOCTANES	1350	63.9	62.9	179	1650
DIMETHYLOCTYNE	19.7	0.985	0.78	2.75	24.2

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIPROPYLENE GLYCOL	154	0	0	0	154
D-LIMONENE	11.7	0	0	0	11.7
EICOSANE	4350	0	30	60	4440
EPICHLOROHYDRIN	98.3	0	0	0	98.3
ETHANE	2390	3.36	0	6.66	2400
ETHANOLAMINE	103	0	0	0	103
ETHYL ACETATE	54600	546	180	10300	65600
ETHYL ACRYLATE	805	0	0	0.123	805
ETHYL ALCOHOL	441000	16600	0	23700	481000
ETHYL ETHER	871	0	0	0.13	871
ETHYL ISOPROPYL ETHER	32.6	0	0	0	32.6
ETHYL MERCAPTAN	77.2	0	0	0	77.2
ETHYL PROPYLCYCLOHEXANES	111	4.92	6.4	13.8	136
ETHYL STYRENE {ETHYLVINYL BENZENE}	7.02	0	0	0	7.02
ETHYLBENZENE	7870	649	467	4050	13000
ETHYLCYCLOHEXANE	4220	301	108	625	5250
ETHYLCYCLOPENTANE	1860	179	118	653	2810
ETHYLDIMETHYLPHENOL	120	5.42	6.54	15.1	147
ETHYLENE	15300	34.4	0	33.8	15300
ETHYLENE GLYCOL	2590	0	0	3080	5660
ETHYLENE OXIDE	178	0	0	0.016	178
ETHYLENEAMINES	103	0	0	0	103
ETHYLHEPTENE	4560	268	172	552	5560
ETHYLHEXANE	77	3.35	4.65	9.36	94.4
ETHYLMETHYLCYCLOHEXANES	987	42.1	61.3	118	1210
ETHYLMETHYLHEXANE	19.7	0.985	0.78	2.75	24.2
ETHYLMETHYLOCTANE	14	0	2.75	0	16.8
ETHYLOCTANE	4030	2.07	30.1	60.8	4130
ETHYLOCTENES	8.93	0	1.75	0	10.7
ETHYL-PHENYL-PHENYL-ETHANE	2.34	0	0	0	2.34
ETHYLTOLUENES {METHYLETHYLBENZENES}	708	52.7	20.6	856	1640
FLUORANTHENE	9.32	1.37	0.422	2.25	13.4
FLUORENE	16.5	2.77	0.857	4.56	24.7
FLUORIDE COMPOUNDS	2690	1.53	901	581	4180
FORMALDEHYDE	48400	110	168	505	49200
FORMIC ACID	226	0	0	0.0228	226
FURFURYL ALCOHOL	4.68	0	0	0	4.68
GLYOXAL	4.68	0	0	0	4.68
HENEICOSANE	2720	0	18.7	37.5	2770
HEPTENES	119	0	0	0	119
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	30100	0.0595	208	415	30700
HEXAFLUOROETHANE {F-116}	2390	0	0	0.411	2390
HEXAMETHYLENEDIAMINE	2090	0	0	0.347	2090
HEXYLCYCLOHEXANE	14.9	0	0	18.4	33.3
HEXYLCYCLOPENTANE	22.4	0	0	27.6	49.9

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	91.9	0	0	0	91.9
HYDROCHLORIC ACID	880	4.52	1450	4700	7040
HYDROGEN SULFIDE	1.38	0.014	0	9.01	10.4
INDAN	44.7	0	0	55.1	99.9
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	278	0.029	0	18.6	297
ISOBUTYL ACRYLATE {2-PROPENOIC ACID}	88.9	0	0	0	88.9
ISOBUTYL ALCOHOL	1730	0.00967	0	1900	3620
ISOBUTYL ISOBUTYRATE	91.3	0	0	0	91.3
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	67.1	0	0	82.7	150
ISOBUTYRALDEHYDE	98.6	0	0	0	98.6
ISOMERS OF BUTENE	181	0	0	0.0296	181
ISOMERS OF C10H18	8980	529	336	1090	10900
ISOMERS OF C11H20	62.9	3.15	2.5	8.81	77.4
ISOMERS OF C9H16	24.9	0	4.88	0	29.7
ISOMERS OF DECANE (C10 PARAFFINS)	15600	879	631	1890	19000
ISOMERS OF DODECANE (C12 PARAFFINS)	452	11	20.1	30.9	514
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	33400	0	231	461	34100
ISOMERS OF HEPTANE	243	16.4	5.2	26.1	291
ISOMERS OF HEXANE	1570	94	46.4	160	1870
ISOMERS OF NONANE (C9 PARAFFIN)	28400	1550	607	2190	32800
ISOMERS OF OCTADECANE (C18 PARAFFINS)	15300	0	106	211	15600
ISOMERS OF OCTANE (C8 PARAFFIN)	116	2.72	0.882	4.49	124
ISOMERS OF PENTADECANE (C15 PARAFFINS)	1460	0	9.37	18.7	1490
ISOMERS OF PENTANE	1630000	200000	156000	695000	2680000
ISOMERS OF PENTENE	15.1	0	0	0.000245	15.1
ISOMERS OF PROPYLBENZENE	255	9.65	19	27	311
ISOMERS OF TETRADECANE (C14 PARAFFINS)	12300	421	1.25	282	13000
ISOMERS OF TRIDECANE (C13 PARAFFINS)	11.7	0.492	0.765	1.38	14.4
ISOMERS OF UNDECANE (C11 PARAFFINS)	28100	1050	223	1140	30500
ISOMERS OF XYLENE	87900	4700	2770	47700	143000
ISOPRENE	93.6	0	0	0	93.6
ISOPROPYL ACETATE	273000	0	1880	3760	278000
ISOPROPYL ALCOHOL	24000	761	371	2700	27900
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	67.1	0	0	82.7	150
ISOPROPYLMETHYLCYCLOHEXANE	84.5	4.23	3.35	11.8	104
LACTOL SPIRITS	84.2	0	0	0	84.2
LEAD & COMPOUNDS	394	4.52	1.29	36.2	436

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MAGNESIUM OXIDE FUME	1050	5270	0	161	6490
MALEIC ANHYDRIDE	398	0	0	0.0684	399
MANGANESE & COMPOUNDS	2010	113	49.4	281	2450
MERCURY & COMPOUNDS	7.59	0.401	0.161	3.53	11.7
METHANE	1180000	1160	1890	75300	1260000
METHYL ACETATE	1920	0	0	0.315	1920
METHYL ACRYLATE	88.9	0	0	0	88.9
METHYL ALCOHOL	4780	5.02	0	3140	7920
METHYL AMYL KETONE	2880	203	73	3720	6880
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL} {DEGM}	543	0	2.5	115	661
METHYL CHLORIDE	15.7	0	0	0.00228	15.7
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	251000	1510	481	7660	261000
METHYL FORMATE	1310	0	0	0.226	1310
METHYL HEXANE	272	0	52	0	324
METHYL ISOBUTYL KETONE	17300	372	40.8	4490	22200
METHYL METHACRYLATE	655	0	0	0.0981	655
METHYL PALMITATE {METHYL HEXADECANOATE}	20.7	0	0	0	20.7
METHYL PROPYLCYCLOHEXANES	1230	59	57.1	165	1510
METHYL STEARATE {METHYL OCTADECANOATE}	25.7	0	0	0	25.7
METHYL STYRENE (MIXED) {VINYL TOLUENE}	95.9	0	0	0	95.9
METHYL T-BUTYL ETHER (MTBE)	77.2	0	0	0	77.2
METHYLCYCLOHEXANE	33600	1990	1130	6200	42900
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	15800	1390	999	4440	22700
METHYLDECALINS	113	5.42	5.29	15.1	139
METHYLDECANES	921	41.3	50.9	115	1130
METHYLDECENES	148	6.6	8.35	18.5	181
METHYLDODECANES	3.83	0	0.75	0	4.58
METHYLENE BROMIDE	198	0	0	0.0342	198
METHYLETHYLPENTANOATE	272	0	1.87	3.75	277
METHYLHEPTANE	3.93	0.197	0.156	0.551	4.83
METHYLHEPTANOL	634	0	4.37	8.75	647
METHYLHEXENES	25.5	0	5	0	30.5
METHYLINDANS	0.638	0	0.125	0	0.763
METHYLNAPHTHALENES	79.5	0	0	0.00501	79.5
METHYLNONANE	1010	41.1	63.3	115	1230
METHYLNONENES	5.74	0	1.13	0	6.86
METHYLOCTANES	448	14.7	41.6	41	546
METHYLPENTANE	2.34	0	0	0	2.34
METHYLPROPYLNONANE	7.01	0	1.38	0	8.39
M-ETHYLTOLUENE	2080	265	212	970	3530
METHYLUDECANE	15600	8.96	115	238	16000
MINERAL SPIRITS	150	0	0	0	150
MOLYBDENUM	3.89	0.245	0.0872	2.25	6.47

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MYRCENE	2.34	0	0	0	2.34
NAPHTHA	110	0	0	0	110
NAPHTHALENE	215	3.45	3.98	73.9	296
N-BUTANE	417000	53800	41900	187000	699000
N-BUTYL ACETATE	57100	3390	1470	17200	79100
N-BUTYL ACRYLATE	381	0	0	0.0502	381
N-BUTYL ALCOHOL	12500	114	0	76.9	12700
N-BUTYL BENZOATE	49.1	0	0	0	49.1
N-BUTYLBENZENE	14	0	0	0	14
N-BUTYLCYCHOHEPTANE	28.3	0	0	0	28.3
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	2950	40.2	31.3	1370	4390
N-DODECANE	1770	1.63	1.68	159	1940
N-HEPTADECANE	0.131	0.0198	0.0205	0.0329	0.205
N-HEPTANE	30900	2630	2060	9910	45500
N-HEXANE	10000	1030	742	3340	15100
NICKEL & COMPOUNDS	169	6.77	2.63	14.4	193
NITRIC OXIDE	213000	23900	7510	65600	310000
NITROBENZENE	77.2	0	0	0	77.2
NITROGEN DIOXIDE	17200	1930	605	5290	25000
NITROUS OXIDE	541	26.6	20	232	820
N-NONANE	2550	108	121	661	3440
N-OCTANE	1000	1.31	0.414	1100	2100
NONADECANE	8060	0	55.6	111	8230
NONADIENE	37.9	1.67	2.2	4.68	46.4
NONENONE	4.68	0	0	0	4.68
N-PENTADECANE	574	0.278	0.286	0.461	575
N-PENTANE	4250	75.9	124	188	4630
N-PENTYLCYCLOHEXANE	71.4	0	2	55.1	129
N-PHENYLANILINE {DIPHENYLAMINE}	362	0	2.5	5	370
N-PROPYL ALCOHOL	1840	0	0	0	1840
N-PROPYLBENZENE	712	92.6	77	309	1190
N-TETRADECANE	887	0.794	0.819	1.32	890
N-TRIDECANE	1350	1.09	1.13	11	1360
N-UNDECANE	7700	298	190	1880	10100
OCTAMETHYLCYCLOTETRASILOXANE	2.34	0	0	0	2.34
OCTANOL ISOMERS	19.7	0.985	0.78	2.75	24.2
O-DICHLOROBENZENE	297	0	0	0.0365	297
O-ETHYLTOLUENE	218	20.5	21.1	135	394
O-TOLUALDEHYDE	9.36	0	0	0	9.36
OXIDES OF NITROGEN	344000	38500	12100	106000	501000
PALMITIC ACID {N-HEXADECANOIC ACID}	46.8	0	0	0	46.8
PARAFFINS (C16-C34)	4.68	0	0	0	4.68
PARTICULATE MATTER ≤ 10 µm	1110000	129000	47700	732000	2020000
PARTICULATE MATTER ≤ 2.5 µm	485000	30000	13900	167000	695000
P-DICHLOROBENZENE	4380	0.0442	0.0734	8.09	4390
PENTAMETHYLBENZENE	19.7	0.985	0.78	2.75	24.2

2008 Calendar Year Commercial Emissions: Results

Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PENTYL CYCLOHEXANE	84.5	4.23	3.35	11.8	104
PENTYLCYCLOPENTANE	68.4	0	0.25	82.7	151
PENTYLIDENECYCLOHEXANE	33.4	1.67	1.33	4.68	41.1
PERCHLOROETHYLENE	358000	21400	16900	59700	456000
P-ETHYLTOLUENE	1280	160	134	604	2180
PHENANTHRENE	91.9	15.2	4.71	25.1	137
PHENOL (CARBOLIC ACID)	2080	0	3.8	0.354	2080
PHENYL ISOCYANATE	28.1	0	0	0	28.1
PHOSPHORIC ACID	0	44	17.8	0	61.8
PHTHALIC ANHYDRIDE	2740	90.2	57.4	186	3070
PIPERYLENE {1,3-PENTADIENE} (MIXED ISOMERS)	93.6	0	0	0	93.6
POLYCHLORINATED DIOXINS AND FURANS	0.000164	9.02x10 ⁻⁰⁵	0.000234	2.55x10 ⁻⁰⁶	0.000491
POLYCYCLIC AROMATIC HYDROCARBONS	12.4	0.125	0.225	0.359	13.1
PROPANE	7820	50.6	82.7	132	8080
PROPENYLCYCLOHEXANE	156	7.58	6.88	21.2	191
PROPIONALDEHYDE	98.3	0	0	0	98.3
PROPIONIC ACID	93.6	0	0	0	93.6
PROPYL ACETATE	252000	11.3	1710	3990	258000
PROPYLCYCLOHEXANE	514	20.8	16.5	178	729
PROPYLCYCLOPENTANE	14.9	0	0	18.4	33.3
PROPYLENE	69100	20.7	0	280	69400
PROPYLENE DICHLORIDE	4.68	0	0	0	4.68
PROPYLENE GLYCOL	1060	0	0	1140	2200
PROPYLENE GLYCOL METHYL ETHER	225	0	0	276	501
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	447	0	0	551	998
PROPYLENE OXIDE	142	0	0	0.00456	142
PROPYLHEPTENES	108	5.42	4.29	15.1	133
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	2120	125	79.3	256	2580
PYRENE	7.82	1.07	0.331	1.76	11
SEC-BUTYL ALCOHOL	4190	0	0	2680	6870
SEC-BUTYLCYCLOHEXANE	11.8	0	0	0	11.8
SELENIUM & COMPOUNDS	229	0.258	0.0515	6.06	235
STYRENE (ETHENYLBENZENE)	7100	134	7860	214	15300
SUBSTITUTED C9 ESTER (C12)	174	0	0	0	174
SULFUR DIOXIDE	108000	1620	726	69800	180000
SULFUR TRIOXIDE	0.0768	0	0.144	1.16	1.38
SULFURIC ACID	3.94x10 ⁻⁰⁷	0	0	707	707
T-BUTYLBENZENE	60.9	3.05	2.42	8.54	74.9
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	25.5	0	0	0.00456	25.5
TERT-BUTYL ALCOHOL	98.3	0	0	0	98.3
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	198	0	0	0.0342	198
TETRAMETHYLBENZENES	6.38	0	1.25	0	7.63

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Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TETRAMETHYLCYCLOBUTENE	0.638	0	0.125	0	0.763
TETRAMETHYLCYCLOPENTANE	122	5.42	7.04	15.1	150
TETRAMETHYLTHIOUREA	11.1	0.492	0.64	1.38	13.6
TIN & COMPOUNDS	0.188	0.054	0	0.0248	0.267
TOLUENE	424000	18100	10300	66800	520000
TOTAL AROMATIC AMINES	9.36	0	0	0	9.36
TOTAL C2-C5 ALDEHYDES	28.1	0	0	0	28.1
TOTAL SUSPENDED PARTICULATE	3330000	327000	121000	2420000	6190000
TOTAL VOLATILE ORGANIC COMPOUNDS	6650000	476000	358000	1690000	9180000
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	186	0	0	230	416
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	374	40.2	31.3	222	668
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	149	0	0	184	333
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	276	0	0	340	616
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	142	0	0	175	316
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	921	121	93.9	419	1560
TRANS-1,2-DIMETHYLCYCLOHEXANE	14.9	0	0	18.4	33.3
TRANS-1,3-DIMETHYLCYCLOHEXANE	186	0	0	230	416
TRANS-1,3-DIMETHYLCYCLOPENTANE	2270	282	219	1120	3890
TRANS-1,4-DIMETHYLCYCLOHEXANE	194	0	0	239	433
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	1230	161	125	559	2070
TRANS-1-2-DIMETHYLCYCLOPENTANE	1540	201	157	699	2590
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	29.8	0	0	36.7	66.6
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	52.2	0	0	64.3	117
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	22.4	0	0	27.6	49.9
TRANS-2-BUTENE	86900	11400	8860	39500	147000
TRANS-2-ETHYLMETHYLCYCLOPENTANE	959	121	93.9	465	1640
TRANS-2-PENTENE	90300	11800	9200	41100	152000
TRICHLOROBENZENES (MIXED)	2.34	0	0	0	2.34
TRICHLOROETHYLENE (TCE)	58700	0.0442	0.0734	15.8	58700
TRICHLOROFLUOROMETHANE	1610	0	0	0.262	1610
TRICHLOROTRIFLUOROETHANE-F113	215	0	0	0.0205	215
TRIFLUOROMETHANE (F-23)	1800	0	0	0.31	1800
TRIMETHYLBENZENES	933	49.1	39.7	541	1560
TRIMETHYLCYCLOHEXANES	4920	362	141	429	5860
TRIMETHYLCYCLOHEXANOL	33.4	1.67	1.33	4.68	41.1
TRIMETHYLCYCLOPENTANE	699	44.6	33.5	60	837
TRIMETHYLCYCLOPENTANONE	29.5	1.48	1.17	4.13	36.3

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Appendix A. Estimated Annual Emissions of all Substances from Commercial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRIMETHYLDECANE	2720	0.197	18.9	38	2780
TRIMETHYLDECENES	43.2	0	0	0.00275	43.2
TRIMETHYLFLUOROSILANE	161	0	0	0	161
TRIMETHYLHEPTANES	1210	58	54.8	162	1480
TRIMETHYLHEXENE	68.8	3.45	2.73	9.64	84.6
TRIMETHYLOCTANES	7420	3.45	55.2	111	7590
VANADIUM & COMPOUNDS	31	2.35	0.677	17.5	51.5
VINYL ACETATE	3260	0	0	0.561	3260
VINYL CHLORIDE MONOMER	93900	0	0	1260	95100
ZINC & COMPOUNDS	8530	1910	74	102	10600

Appendix B: Emissions from Wheel-Generated Dust

B.1 INTRODUCTION

Particulate matter (TSP, PM₁₀ and PM_{2.5}) and speciated metal emissions from wheel generated dust were estimated using techniques for unpaved and paved road emissions provided in USEPA AP42 Chapter 13 Miscellaneous Sources (USEPA, 2006c; USEPA, 2011a). The methodology used to estimate emissions and emission estimate results from wheel generated dust are summarised in this appendix.

B.2 METHODOLOGY

The emission estimation techniques used to estimate emissions of TSP, PM₁₀ and PM_{2.5} from unpaved and paved roads on commercial businesses are shown in Equation 17 and Equation 18.

$$E_i = \left[k_i \times \left(\frac{s}{12} \right)^{a_i} \times \left(\frac{(W \times 1.1023)^{0.45}}{3} \right) \right] \times f \times \left(\frac{365 - P}{365} \right) \times VKT \times \left(\frac{100 - CE}{100} \right) \quad \text{Equation 17}$$

where:

E _i	=	Estimated emissions of substance i (TSP, PM ₁₀ or PM _{2.5}) from wheel generated dust on paved roads	(kg/year)
k _i	=	Particle size multiplier for particle size i (TSP, PM ₁₀ or PM _{2.5}). (k _{TSP} = 4.9 lb/mile; k _{PM10} = 1.5 lb/mile, k _{PM2.5} = 0.15 lb/mile; USEPA, 2006c)	(lb/mile)
s	=	Silt content of unpaved road surface	(%)
a _i	=	Particle size multiplier for particle size i (TSP, PM ₁₀ or PM _{2.5}). (a _{TSP} = 0.7; k _{PM10} = 0.9, k _{PM2.5} = 0.9; USEPA, 2006c)	(-)
W	=	Average weight of vehicles travelling on the unpaved road (weighted averaged using kilometres travelled by each vehicle type)	(tonne)
f	=	Conversion factor to convert pounds per mile into kilograms per kilometre (f = 0.2819 mile.kg/(km.lb); USEPA 2006c)	(mile.kg/(km.lb))
P	=	Number of "wet" days with at least 0.254 mm of precipitation during the year	(days/year)
VKT	=	Vehicle kilometres travelled on paved road during the year	(km/year)
CE	=	Control efficiency of unpaved emission control method used on the unpaved road	(%)

$$E_i = \frac{\left[k_i \times (sL)^{0.91} \times (W \times 1.1023)^{1.02} \right] \times \left[1 - \frac{P}{(4 \times 365)} \right]}{1000} \times VKT \times \left(\frac{100 - CE}{100} \right) \quad \text{Equation 18}$$

where:

E _i	=	Estimated emissions of substance i (TSP, PM ₁₀ or PM _{2.5}) from wheel generated dust on paved roads	(kg/year)
k _i	=	Particle size multiplier for particle size i (TSP, PM ₁₀ or PM _{2.5}). (k _{TSP} = 3.23 g/km; k _{PM10} = 0.62 g/km, k _{PM2.5} = 0.15 g/km; USEPA, 2011a)	(g/km)
sL	=	Silt loading of paved road	(g/m ²)
W	=	Average weight of vehicles travelling on the paved road (weighted averaged using kilometres travelled by each vehicle type)	(tonne)
P	=	Number of "wet" days with at least 0.254 mm of precipitation during the year	(days/year)
VKT	=	Vehicle kilometres travelled on paved road during the year	(km/year)
CE	=	Control efficiency of paved emission control method (e.g. 99% assumed for indoor operation)	(%)

Emissions of speciated metals were estimated using the emission estimation technique shown in Equation 19.

$$E_i = E_{TSP} \times mf_i \quad \text{Equation 19}$$

where:

E_i	=	Estimated emissions of speciated metal i (TSP, PM ₁₀ or PM _{2.5}) from wheel generated dust	(kg/year)
E_{TSP}	=	Estimated emissions of TSP from wheel generated dust	(kg/year)
mf_i	=	Mass fraction of speciated metal i in paved or unpaved road dust (Source: California Emissions Inventory and Reporting System - Paved Road Dust, 1997 and Unpaved Road Dust, 1997 (CARB, 2007))	(kg i/kg TSP)

Information collected from commercial businesses for vehicles used on site is detailed in Table B-1. Commercial vehicle fuel consumption rates were also collected in the commercial survey.

Table B-1: Information collected for vehicles used on commercial facilities.

Type of vehicle ^a	Vehicle model year	Number of vehicles of this type operating	Fuel type (Petrol, diesel, LPG)	Engine Size (or power rating - kW or HP)	ON-SITE operating regime (e.g. 6am - 6pm, Monday to Friday) ^b	Typical operating hours per day	Number of operating days per year	Annual ON-SITE VKT per vehicle (km) ^{c,d}	% of VKT on PAVED roads ^{c,d}	% of VKT on UNPAVED roads ^{c,d}

- a Covers Off-Road vehicles only. Off-Road vehicles typically are not registered with the Road and Traffic Authority (RTA) because they do not access the road network. Some may have Conditional Registrations with the RTA, when it requires limited access to the road network. Example: front end loader, grader, bulldozer, forklifts.
- b Please characterise the ON-SITE operating regime if it differs to that described in Q8 - Q12.
- c It is important to ensure that only ON-SITE operations are considered when providing these data.
- d VKT = Vehicle Kilometres Travelled (km). Provide these data on a 'per vehicle' basis (i.e. so the TOTAL VKTs for a particular vehicle type will be the 'number of vehicles' by the 'VKTs' for each vehicle). This data only needs to be approximate.

Wheel generated dust emissions were also estimated from commercial businesses involved in concrete slurry manufacturing and gravel and sand quarrying where data were not available from returned questionnaires. Emissions of wheel generated dust from these businesses were estimated using Equation 20.

$$E_{i,j} = EF_{i,j} \times P_k \quad \text{Equation 20}$$

where:

$E_{i,j,k}$	=	Estimated emissions of substance i (TSP, PM ₁₀ or PM _{2.5}) from wheel generated dust on paved roads and unpaved roads from activity j and business k	(kg i/year)
$EF_{i,j}$	=	Derived emission factor for substance i for activity j. Emission factors for concrete slurry manufacturing and sand and gravel and gravel quarrying were derived based on responses to the industrial questionnaire using the following equation:	(kg i/tonne)

$$EF_{i,j} = \frac{\sum (E_{i,paved} + E_{i,unpaved})_j}{P_j}$$

$EF_{i,j}$ = Emission factor for wheel generated dust for substance i (TSP, PM₁₀, PM_{2.5}) from activity j (kg i/tonne for activity j)

$\sum (E_{i,paved} + E_{i,unpaved})_j$ = Sum of estimated emissions of substance i from paved and unpaved roads from (kg/year)

P_j	=	activity j	
P_k	=	Production rate for facility k	(tonne/year)
	=	Total production rate from activity j	(tonne/year)

Derived emission factors for wheel generated dust emissions from commercial businesses where no site specific data were available are provided in Table B-2.

Table B-2: Derived wheel generated dust emission factors for commercial businesses

Activity	Emission factor (kg/tonne of production)		
	TSP	PM ₁₀	PM _{2.5}
Concrete and slurry manufacturing	0.013	0.0030	0.00054
Gravel and sand quarrying	0.24	0.069	0.0069

B.3 RESULTS

Total estimated emissions of TSP, PM₁₀ and PM_{2.5} from unpaved and paved roads by commercial activity type are provided in Table B-3.

Table B-3: Total estimated emissions from wheel generated dust by activity

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Chemical Product Manufacturing	2,580	634	93
Chemical Wholesaling	1,151	221	53
Concrete Product Manufacturing	32	6	2
Concrete Slurry Manufacturing	7,088	1,584	286
Dairy Product Manufacturing	1,479	345	57
Electrical Cable and Wire/Equipment Manufacturing	5,092	977	236
Fibreglass Product Manufacturing	317	70	13
Fruit and Vegetable Processing	900	173	42
Furniture Manufacturing	5.1	1.0	0.2
Gravel and Sand Quarrying	548,889	155,899	15,644
Industrial Gas Manufacturing	4,923	1,399	140
Industrial Machinery and Equipment Manufacturing	5	1	0
Iron and Steel Manufacturing	1,921	431	73
Medicinal and Pharmaceutical Product Manufacturing	69	13	3
Motor Vehicle and Part Manufacturing	2,665	512	124
Nonbuilding Construction	145,063	35,606	5,220
Other Food Manufacturing	831	159	39
Paint and Ink Manufacturing	30	6	1
Petroleum Product Wholesaling	12,277	2,571	528
Plastic Injection Moulded Product Manufacturing	20,031	5,693	570
Rubber Product Manufacturing	0.93	0.18	0.04
Soap and Other Detergent Manufacturing	32,039	9,107	912
Structural and Fabricated Metal Product Manufacturing	27,955	5,386	1,294
Wood Product Manufacturing	738	142	34
Total	816,080	220,938	25,366

The proportion of total estimated particulate matter emissions from unpaved and paved roads by commercial activity type is presented in Figure B-1.

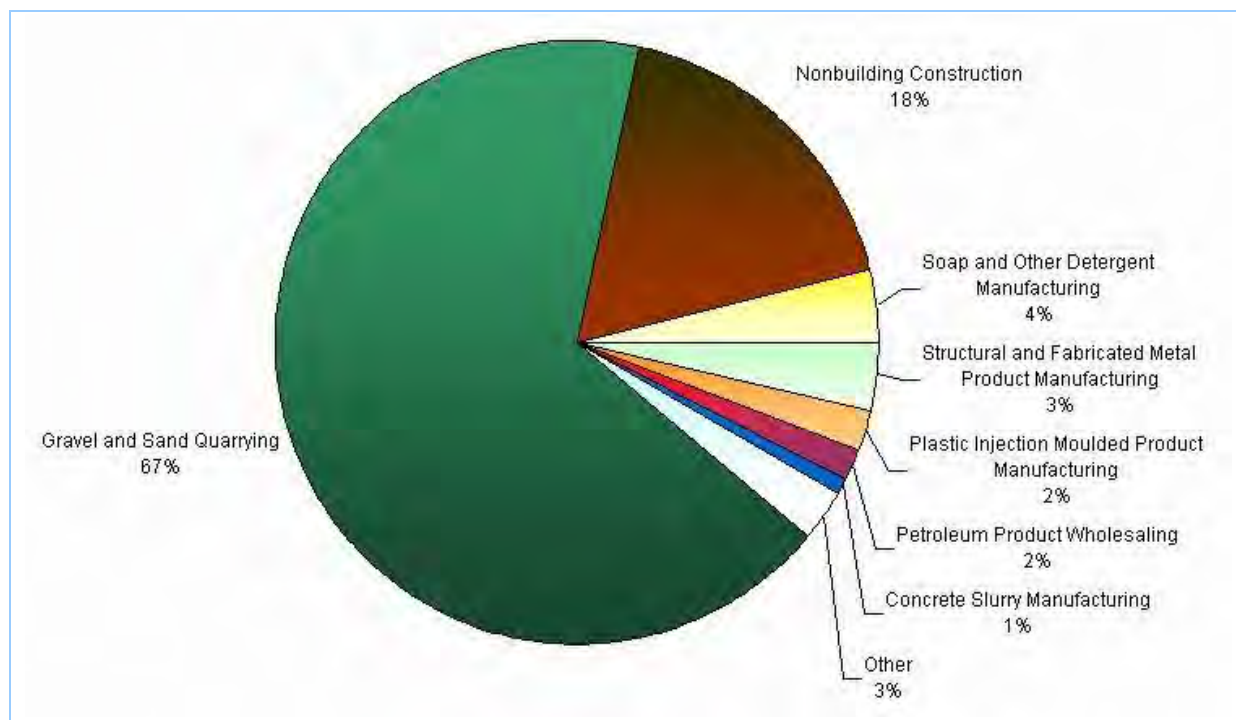


Figure B-1: Proportion of estimated emissions from unpaved roads by commercial activity type