

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

A.1 AGRICULTURAL FERTILISER (PHOSPHATE) PRODUCTION**Table A-1: Annual emissions from agricultural fertiliser (phosphate) production**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0.176	0	0	0.176
1,2,4-TRIMETHYLBENZENE	0	0.0945	0	0	0.0945
1,3,5-TRIMETHYLBENZENE	0	0.133	0	0	0.133
AMMONIA (TOTAL)	0	2.46	0	0	2.46
ANTIMONY & COMPOUNDS	0	0.179	0	0	0.179
ARSENIC & COMPOUNDS	0	0.0352	0	0	0.0352
BENZENE	0	2.5	0	0	2.5
BERYLLIUM & COMPOUNDS	0	0.000595	0	0	0.000595
CADMIUM & COMPOUNDS	0	0.0135	0	0	0.0135
CARBON DIOXIDE	0	614000	0	0	614000
CARBON MONOXIDE	0	1090	0	0	1090
CHROMIUM (III) COMPOUNDS	0	0.0378	0	0	0.0378
CHROMIUM (VI) COMPOUNDS	0	0.0138	0	0	0.0138
COBALT & COMPOUNDS	0	0.0609	0	0	0.0609
COPPER & COMPOUNDS	0	0.394	0	0	0.394
CUMENE (1-METHYLETHYLBENZENE)	0	0.0634	0	0	0.0634
CYCLOHEXANE	0	0.626	0	0	0.626
ETHYLBENZENE	0	0.00742	0	0	0.00742
FLUORIDE COMPOUNDS	0	10900	0	0	10900
FORMALDEHYDE	0	5.01	0	0	5.01
HEXADECANE	0	0.000376	0	0	0.000376
ISOMERS OF HEXANE	0	0.626	0	0	0.626
ISOMERS OF PENTANE	0	5.63	0	0	5.63
ISOMERS OF XYLENE	0	0.113	0	0	0.113
LEAD & COMPOUNDS	0	0.329	0	0	0.329
MANGANESE & COMPOUNDS	0	2.11	0	0	2.11
MERCURY & COMPOUNDS	0	0.025	0	0	0.025
METHANE	0	35.1	0	0	35.1
M-ETHYLTOLUENE	0	0.151	0	0	0.151
MOLYBDENUM	0	0.0131	0	0	0.0131
N-BUTANE	0	5.63	0	0	5.63
N-DODECANE	0	0.0103	0	0	0.0103
N-HEPTADECANE	0	0.000125	0	0	0.000125
NICKEL & COMPOUNDS	0	0.0422	0	0	0.0422
NITRIC OXIDE	0	310	0	0	310
NITROGEN DIOXIDE	0	25	0	0	25
NITROUS OXIDE	0	1.16	0	0	1.16
N-PENTADECANE	0	0.00176	0	0	0.00176
N-PENTANE	0	3.76	0	0	3.76
N-PROPYLBENZENE	0	0.0771	0	0	0.0771
N-TETRADECANE	0	0.00503	0	0	0.00503
N-TRIDECANE	0	0.00691	0	0	0.00691
N-UNDECANE	0	0.00339	0	0	0.00339
O-ETHYLTOLUENE	0	0.13	0	0	0.13

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	0	501	0	0	501
PARTICULATE MATTER ≤ 10 µm	0	40000	0	0	40000
PARTICULATE MATTER ≤ 2.5 µm	0	38400	0	0	38400
P-ETHYLTOLUENE	0	0.248	0	0	0.248
POLYCHLORINATED DIOXINS AND FURANS	0	5.95x10 ⁻⁰⁹	0	0	5.95x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0	0.00344	0	0	0.00344
PROPANE	0	2.5	0	0	2.5
SELENIUM & COMPOUNDS	0	0.00538	0	0	0.00538
SULFUR DIOXIDE	0	2.62	0	0	2.62
SULFURIC ACID	0	0.0115	0	0	0.0115
TOLUENE	0	1.29	0	0	1.29
TOTAL SUSPENDED PARTICULATE	0	44300	0	0	44300
TOTAL VOLATILE ORGANIC COMPOUNDS	0	28.8	0	0	28.8
VANADIUM & COMPOUNDS	0	0.00526	0	0	0.00526
ZINC & COMPOUNDS	0	2.75	0	0	2.75

A.2 ALUMINIUM PRODUCTION (ALUMINA)

Table A-2: Annual emissions from aluminium production (alumina)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	1340	0	0	1340
1,2,3-TRIMETHYLBENZENE	0	2.35	0	1.48	3.84
1,2,4-TRIMETHYLBENZENE	0	4.89	0	3.23	8.12
1,2-DIETHYLBENZENE (ORTHO)	0	0.567	0	0.382	0.949
1,3,5-TRIMETHYLBENZENE	0	6.73	0	4.45	11.2
1-BUTENE	0	76.6	0	51.5	128
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0.599	0	0	0.599
1-ETHYL-2-METHYLCYCLOPENTANE	0	0.599	0	0	0.599
1-HEXENE	0	6.81	0	4.58	11.4
1-METHYL-3-ISOPROPYLBENZENE	0	2.27	0	1.53	3.8
1-METHYL-3N-PROPYLBENZENE	0	0.567	0	0.382	0.949
1-METHYLCYCLOPENTENE	0	15.3	0	10.3	25.6
1-PENTENE	0	18.2	0	12.2	30.4
2,2,3-TRIMETHYLPENTANE	0	2.84	0	1.91	4.75
2,2,4-TRIMETHYLPENTANE	0	10.8	0	7.25	18
2,2,5-TRIMETHYLHEXANE	0	4.54	0	3.05	7.59
2,2-DIMETHYLBUTANE	0	11.9	0	8.01	19.9
2,3,4-TRIMETHYLPENTANE	0	1.7	0	1.14	2.85
2,3,5-TRIMETHYLHEXANE	0	0.567	0	0.382	0.949
2,3-DIMETHYLBUTANE	0	17.6	0	11.8	29.4
2,4-DIMETHYLHEXANE	0	3.4	0	2.29	5.69
2,4-DIMETHYLPENTANE	0	7.94	0	5.34	13.3
2-HEXENES	0	3.97	0	2.67	6.64
2-METHYL-2-BUTENE	0	46	0	30.9	76.9

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-2-PENTENE	0	10.2	0	6.87	17.1
2-METHYL-BUTANE	0	449	0	302	752
2-METHYLDECANE	0	1.7	0	1.14	2.85
2-METHYLHEPTANE	0	1.13	0	0.763	1.9
2-METHYLPENTANE	0	64.1	0	43.1	107
2-METHYLPROPANE; ISOBUTANE	0	410	0	276	686
3,4-DIMETHYLOCTANE	0	2.27	0	1.53	3.8
3,5-DIMETHYLHEPTANE	0	1.13	0	0.763	1.9
3-METHYL-1-BUTENE	0	10.8	0	7.25	18
3-METHYLHEPTANE	0	1.13	0	0.763	1.9
3-METHYLHEXANE	0	10.8	0	7.25	18
3-METHYLPENTANE	0	32.9	0	22.1	55
4-METHYLHEPTANE	0	1.7	0	1.14	2.85
ACENAPHTHENE	0	34.6	0	23.3	57.9
ACENAPHTHYLENE	0	574	0	386	959
ACETONE	0	83.9	0	0	83.9
AMMONIA (TOTAL)	0	7.39	0	488	496
ANTHRACENE	0	426	0	287	713
ANTIMONY & COMPOUNDS	0	11.4	0	8.94	20.4
ARSENIC & COMPOUNDS	0	13	0	1.77	14.8
BENZENE	0	95.8	0	95.2	191
BENZO(A)ANTHRACENE	0	9.08	0	6.1	15.2
BENZO(A)PYRENE	0	6.81	0	4.58	11.4
BERYLLIUM & COMPOUNDS	0	0.2	0	0.00207	0.202
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	1.8	0	0	1.8
BORON & COMPOUNDS	0	0.00942	0	0.00348	0.0129
BUTYLBENZENE ISOMERS	0	24.6	0	0	24.6
BUTYLCYCLOHEXANE	0	9.59	0	0	9.59
C10 OLEFINS	0	21	0	0	21
C11 OLEFINS	0	5.39	0	0	5.39
C12 OLEFINS	0	1.2	0	0	1.2
C6 OLEFINS (HEXENE ISOMERS)	0	5.11	0	3.43	8.54
C8 OLEFINS	0	18.6	0	0	18.6
CADMIUM & COMPOUNDS	0	40.6	0	0.748	41.3
CARBON DIOXIDE	0	847000000	0	276000000	1120000000
CARBON MONOXIDE	0	39200000	0	13800000	53000000
CHROMIUM (III) COMPOUNDS	0	192	0	2.01	194
CHROMIUM (VI) COMPOUNDS	0	81.9	0	0.706	82.6
CHRYSENE	0	7.94	0	5.34	13.3
CIS-2-BUTENE	0	59	0	39.7	98.7
CIS-2-PENTENE	0	19.3	0	13	32.3
COBALT & COMPOUNDS	0	5.75	0	3.04	8.79
COPPER & COMPOUNDS	0	84.3	0	19.7	104
CUMENE (1-METHYLETHYLBENZENE)	0	2.03	0	0.122	2.15
CYCLOHEXANE	0	7.87	0	19	26.9
CYCLOPENTANE	0	13.6	0	9.16	22.8
CYCLOPENTENE	0	5.67	0	3.82	9.49

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DECALINS (MIXED CIS,TRANS)	0	3.6	0	0	3.6
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	246	0	0	246
DIETHYLCYCLOHEXANE	0	4.8	0	0	4.8
DIMETHYLBENZYLALCOHOL	0	1.2	0	0	1.2
DIMETHYLCYCLOBUTANONE	0	3.6	0	0	3.6
DIMETHYLCYCLOHEXANES	0	6.59	0	0	6.59
DIMETHYLCYCLOPENTANE	0	42.6	0	0	42.6
DIMETHYLHEPTANES	0	1.2	0	0	1.2
DIMETHYLHEXANES	0	19.8	0	0	19.8
DIMETHYLHEXENES	0	0.567	0	0.382	0.949
DIMETHYLNONANES	0	12.6	0	0	12.6
DIMETHYLOCTANES	0	18	0	0	18
ETHYL ETHER	0	48	0	0	48
ETHYL PROPYLCYCLOHEXANES	0	3.6	0	0	3.6
ETHYLBENZENE	0	7.97	0	5.36	13.3
ETHYLCYCLOHEXANE	0	4.8	0	0	4.8
ETHYLDIMETHYLPHENOL	0	3.6	0	0	3.6
ETHYLHEPTENE	0	1.8	0	0	1.8
ETHYLHEXANE	0	3	0	0	3
ETHYLMETHYLCYCLOHEXANES	0	41.4	0	0	41.4
ETHYLMETHYLOCTANE	0	4.2	0	0	4.2
ETHYLOCTANE	0	1.2	0	0	1.2
ETHYLOCTENES	0	2.4	0	0	2.4
FLUORANTHENE	0	218	0	147	365
FLUORENE	0	199	0	134	332
FLUORIDE COMPOUNDS	0	272000	0	147000	419000
FORMALDEHYDE	0	15	0	152	167
HEXADECANE	0	0.00139	0	0.000725	0.00211
HEXAFLUOROETHANE {F-116}	0	2870	0	945	3820
HYDROCHLORIC ACID	0	7500	0	3100	10600
INDAN	0	0.567	0	0.382	0.949
ISOMERS OF C9H16	0	7.19	0	0	7.19
ISOMERS OF DECANE (C10 PARAFFINS)	0	79.7	0	0	79.7
ISOMERS OF DODECANE (C12 PARAFFINS)	0	16.8	0	0	16.8
ISOMERS OF HEXANE	0	1.88	0	19	20.9
ISOMERS OF PENTANE	0	16.9	0	171	188
ISOMERS OF PROPYLBENZENE	0	16.8	0	0	16.8
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	1.8	0	0	1.8
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0.599	0	0	0.599
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	55.7	0	0	55.7
ISOMERS OF XYLENE	0	241	0	8.99	250
ISOPRENE	0	0.567	0	0.382	0.949
LEAD & COMPOUNDS	0	119	0	477	597
MAGNESIUM OXIDE FUME	0	1900	0	0	1900

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	0	372	0	105	477
MERCURY & COMPOUNDS	0	7.41	0	1.27	8.68
METHANE	0	105	0	1070	1170
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	65.9	0	0	65.9
METHYL HEXANE	0	76.1	0	0	76.1
METHYL PROPYLCYCLOHEXANES	0	15.6	0	0	15.6
METHYLCYCLOHEXANE	0	114	0	2.67	116
METHYLCYCLOPENTANE	0	24.4	0	16.4	40.8
METHYLDECALINS	0	1.8	0	0	1.8
METHYLDECANES	0	27	0	0	27
METHYLDECENES	0	4.8	0	0	4.8
METHYLDODECANES	0	1.2	0	0	1.2
METHYLHEXENES	0	7.19	0	0	7.19
METHYLNONANE	0	45	0	0	45
METHYLNONENES	0	1.8	0	0	1.8
METHYLOCTANES	0	43.8	0	0	43.8
METHYLPROPYLNONANE	0	1.8	0	0	1.8
M-ETHYLTOLUENE	0	3.96	0	2.58	6.54
METHYLUNDECANE	0	1.8	0	0	1.8
MOLYBDENUM	0	0.782	0	0.657	1.44
NAPHTHALENE	0	328	0	219	547
N-BUTANE	0	944	0	794	1740
N-DECANE	0	1.13	0	0.763	1.9
N-DODECANE	0	0.038	0	0.0198	0.0578
N-HEPTADECANE	0	0.000462	0	0.000241	0.000703
N-HEPTANE	0	516	0	6.87	523
N-HEXANE	0	27.9	0	17.2	45.1
NICKEL & COMPOUNDS	0	192	0	2.26	194
NITRIC OXIDE	0	204000	0	95900	300000
NITROGEN DIOXIDE	0	33900	0	16900	50800
NITROUS OXIDE	0	42500	0	35.3	42500
N-NONANE	0	53.3	0	0.763	54
NONADIENE	0	1.2	0	0	1.2
N-PENTADECANE	0	0.00649	0	0.00339	0.00987
N-PENTANE	0	200	0	241	442
N-PENTYLCYCLOHEXANE	0	3	0	0	3
N-PROPYLBENZENE	0	3.85	0	0.53	4.38
N-TETRADECANE	0	0.0185	0	0.00968	0.0282
N-TRIDECANE	0	0.0255	0	0.0133	0.0388
N-UNDECANE	0	0.0125	0	0.00653	0.019
O-ETHYLTOLUENE	0	0.478	0	0.249	0.727
OXIDES OF NITROGEN	0	347000	0	164000	511000
PARTICULATE MATTER ≤ 10 µm	0	186000	0	205000	391000
PARTICULATE MATTER ≤ 2.5 µm	0	119000	0	135000	255000
PENTAMETHYLBENZENE	0	1.8	0	0	1.8
PERCHLOROETHYLENE	0	444	0	0	444
P-ETHYLTOLUENE	0	0.916	0	0.478	1.39

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PHENANTHRENE	0	415	0	279	694
PHENOL (CARBOLIC ACID)	0	190	0	128	318
POLYCHLORINATED DIOXINS AND FURANS	0	0.00000303	0	0.00000103	0.00000406
POLYCYCLIC AROMATIC HYDROCARBONS	0	6620	0	3170	9790
PROPANE	0	7.52	0	76.1	83.7
PROPENYLCYCLOHEXANE	0	1.2	0	0	1.2
PYRENE	0	159	0	107	266
SEC-BUTYL ALCOHOL	0	42	0	0	42
SELENIUM & COMPOUNDS	0	3	0	0.268	3.27
SULFUR DIOXIDE	0	10100000	0	3740000	13900000
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0	21100	0	6960	28100
TETRAMETHYLCYCLOPENTANE	0	4.2	0	0	4.2
TETRAMETHYLTHIOUREA	0	0.599	0	0	0.599
TOLUENE	0	530	0	58	588
TOTAL SUSPENDED PARTICULATE	0	482000	0	380000	862000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	11400	0	4400	15800
TRANS-2-BUTENE	0	90.8	0	61	152
TRANS-2-PENTENE	0	38.6	0	25.9	64.5
TRICHLOROETHYLENE (TCE)	0	1260	0	0	1260
TRICHLOROTRIFLUOROETHANE-F113	0	246	0	0	246
TRIMETHYLBENZENES	0	18.6	0	0	18.6
TRIMETHYLCYCLOHEXANES	0	14.4	0	0	14.4
TRIMETHYLCYCLOPENTANE	0	21.6	0	0	21.6
TRIMETHYLHEPTANES	0	13.2	0	0	13.2
TRIMETHYLOCTANES	0	3	0	0	3
VANADIUM & COMPOUNDS	0	0.313	0	0.263	0.576
ZINC & COMPOUNDS	0	735	0	135	870

A.3 ALUMINIUM PRODUCTION (SCRAP METAL)

Table A-3: Annual emissions from aluminium production (scrap metal)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	120	0	0	0	120
1,2,3-TRIMETHYLBENZENE	0.203	0	0	0.114	0.317
1,2,4-TRIMETHYLBENZENE	0.109	0	0	0.0611	0.17
1,3,5-TRIMETHYLBENZENE	0.153	0	0	0.0858	0.239
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	2.23	2.23
1,4-DIETHYL-CYCLOHEXANE	0	0	0	7.07	7.07
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.054	0	0	0	0.054
1-ETHYL-2-METHYLCYCLOPENTANE	0.054	0	0	0	0.054
2,4-DIMETHYLHEXANE	0	0	0	1.45	1.45
2,4-DIMETHYLPENTANE	0	0	0	0.342	0.342
2-METHYL-3-HEXANONE	0	0	0	46.9	46.9

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4,4-METHYLENE DIANILINE	0.766	0	0	0	0.766
4-METHYLANILINE	422	0	0	0	422
ACETONE	7.56	0	0	15.9	23.4
AMMONIA (TOTAL)	166	0	0	248	414
ANILINE {AMINO BENZENE}	5430	0	0	0	5430
ANTIMONY & COMPOUNDS	0.0763	0	0	0.714	0.79
ARSENIC & COMPOUNDS	0.0823	0	0	0.148	0.23
BENZALDEHYDE	0	0	0	1.86	1.86
BENZENE	2350	0	0	38.6	2390
BERYLLIUM & COMPOUNDS	0.00402	0	0	0.000918	0.00494
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.162	0	0	0	0.162
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0	0	0	1.31	1.31
BUTYLBENZENE ISOMERS	2.21	0	0	0	2.21
BUTYLCYCLOHEXANE	0.864	0	0	0	0.864
C10 OLEFINS	1.89	0	0	17.6	19.4
C11 OLEFINS	0.486	0	0	0	0.486
C12 OLEFINS	0.108	0	0	0	0.108
C8 INTERNAL ALKENES	0	0	0	0.0302	0.0302
C8 OLEFINS	1.67	0	0	0	1.67
CADMIUM & COMPOUNDS	0.384	0	0	0.199	0.583
CARBON DIOXIDE	4150000	0	0	9470000	5090000
CARBON MONOXIDE	46900	0	0	22500	69400
CHROMIUM (III) COMPOUNDS	0.455	0	0	0.206	0.662
CHROMIUM (VI) COMPOUNDS	0.029	0	0	0.0505	0.0795
COBALT & COMPOUNDS	0.0533	0	0	0.0555	0.109
COPPER & COMPOUNDS	0.462	0	0	1.46	1.93
CUMENE (1-METHYLETHYLBENZENE)	0.235	0	0	0.0409	0.276
CYCLOHEXANE	588	0	0	16.1	604
DECALINS (MIXED CIS,TRANS)	0.324	0	0	0	0.324
DIBROMOETHANE	0	0	0	2.23	2.23
DICHLOROMETHANE {METHYLENE CHLORIDE}	22.1	0	0	2.98	25.1
DIETHYLCYCLOHEXANE	0.432	0	0	19.5	19.9
DIMETHYLBENZYLALCOHOL	0.108	0	0	0	0.108
DIMETHYLCYCLOBUTANONE	0.324	0	0	0	0.324
DIMETHYLCYCLOHEXANES	0.594	0	0	5.67	6.27
DIMETHYLCYCLOPENTANE	3.83	0	0	0	3.83
DIMETHYLHEPTANES	0.108	0	0	0.135	0.243
DIMETHYLHEXANES	1.78	0	0	0	1.78
DIMETHYLNONANES	1.13	0	0	0	1.13
DIMETHYLOCTANES	1.62	0	0	0	1.62
ETHYL ACETATE	0	0	0	25.6	25.6
ETHYL ETHER	4.32	0	0	0	4.32
ETHYL PROPYLCYCLOHEXANES	0.324	0	0	0	0.324
ETHYLBENZENE	0.00854	0	0	9.01	9.02
ETHYLCYCLOHEXANE	0.432	0	0	0.288	0.72

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOPENTANE	0	0	0	0.0443	0.0443
ETHYLDIMETHYLPHENOL	0.324	0	0	0	0.324
ETHYLHEPTENE	0.162	0	0	5.53	5.69
ETHYLHEXANE	0.27	0	0	0	0.27
ETHYLMETHYLCYCLOHEXANES	3.73	0	0	0	3.73
ETHYLMETHYLOCTANE	0.378	0	0	0	0.378
ETHYLOCTANE	0.108	0	0	0	0.108
ETHYLOCTENES	0.216	0	0	0	0.216
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	0	2.51	2.51
FLUORIDE COMPOUNDS	0	0	0	492	492
FORMALDEHYDE	4700	0	0	77.3	4770
HEXADECANE	0.000434	0	0	0.000243	0.000677
HYDROCHLORIC ACID	50	0	0	0	50
ISOMERS OF C10H18	0	0	0	10.9	10.9
ISOMERS OF C9H16	0.648	0	0	0	0.648
ISOMERS OF DECANE (C10 PARAFFINS)	7.18	0	0	15.8	23
ISOMERS OF DODECANE (C12 PARAFFINS)	1.51	0	0	0	1.51
ISOMERS OF HEXANE	587	0	0	9.66	597
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	0	13.4	13.4
ISOMERS OF PENTANE	5280	0	0	87	5370
ISOMERS OF PROPYLBENZENE	1.51	0	0	0	1.51
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.162	0	0	0	0.162
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.054	0	0	0	0.054
ISOMERS OF UNDECANE (C11 PARAFFINS)	5.02	0	0	3.99	9.01
ISOMERS OF XYLENE	20.7	0	0	73.2	93.8
ISOPROPYL ALCOHOL	0	0	0	12	12
LEAD & COMPOUNDS	1.31	0	0	1.19	2.5
MANGANESE & COMPOUNDS	1.03	0	0	8.1	9.13
MERCURY & COMPOUNDS	0.0989	0	0	0.143	0.242
METHANE	32900	0	0	541	33400
METHENE(B)4-PHENYLISOCYANATE {METHYLENEDIPHENYLDIISOCYANATE}	2.3	0	0	0	2.3
METHYL AMYL KETONE	0	0	0	10.3	10.3
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	5.94	0	0	16.7	22.6
METHYL HEXANE	6.86	0	0	0	6.86
METHYL ISOBUTYL KETONE	0	0	0	4.48	4.48
METHYL PROPYLCYCLOHEXANES	1.4	0	0	0	1.4
METHYLCYCLOHEXANE	9.88	0	0	24.2	34.1
METHYLDECALINS	0.162	0	0	0	0.162
METHYLDECANES	2.43	0	0	0	2.43
METHYLDECENES	0.432	0	0	0	0.432
METHYLDODECANES	0.108	0	0	0	0.108
METHYLHEXENES	0.648	0	0	0	0.648

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLNONANE	4.05	0	0	0	4.05
METHYLNONENES	0.162	0	0	0	0.162
METHYLOCTANES	3.94	0	0	0	3.94
METHYLPROPYLNONANE	0.162	0	0	0	0.162
M-ETHYLTOLUENE	0.174	0	0	0.0975	0.271
METHYLUNDECANE	0.162	0	0	0	0.162
MOLYBDENUM	0.00561	0	0	0.0872	0.0928
NAPHTHALENE	0.162	0	0	0	0.162
N-BUTANE	5280	0	0	87	5370
N-BUTYL ACETATE	0	0	0	51	51
N-DODECANE	0.0119	0	0	0.00666	0.0185
N-HEPTADECANE	0.000144	0	0	0.000081	0.000225
N-HEPTANE	45.6	0	0	12.5	58.1
N-HEXANE	0.216	0	0	0	0.216
NICKEL & COMPOUNDS	0.733	0	0	0.485	1.22
NITRIC OXIDE	21000	0	0	6710	27700
NITROGEN DIOXIDE	1690	0	0	541	2230
NITROUS OXIDE	78.5	0	0	17.9	96.4
N-NONANE	4.7	0	0	0	4.7
NONADIENE	0.108	0	0	0	0.108
N-PENTADECANE	0.00203	0	0	0.00114	0.00316
N-PENTANE	3520	0	0	58	3580
N-PENTYLCYCLOHEXANE	0.27	0	0	0	0.27
N-PROPYLBENZENE	0.359	0	0	0.0498	0.409
N-TETRADECANE	0.00579	0	0	0.00325	0.00904
N-TRIDECANE	0.00796	0	0	0.00447	0.0124
N-UNDECANE	0.00391	0	0	6.14	6.14
O-ETHYLTOLUENE	0.149	0	0	0.0838	0.233
OXIDES OF NITROGEN	33800	0	0	10800	44700
PARTICULATE MATTER ≤ 10 µm	9560	0	0	14300	23900
PARTICULATE MATTER ≤ 2.5 µm	9180	0	0	10200	19400
PENTAMETHYLBENZENE	0.162	0	0	0	0.162
PERCHLOROETHYLENE	40	0	0	0	40
P-ETHYLTOLUENE	0.286	0	0	0.161	0.447
PHENYL ISOCYANATE	1810	0	0	0	1810
PHTHALIC ANHYDRIDE	0	0	0	1.86	1.86
POLYCHLORINATED DIOXINS AND FURANS	0.0000284	0	0	0.00112	0.00115
POLYCYCLIC AROMATIC HYDROCARBONS	693	0	0	0.0531	693
PROPANE	2350	0	0	38.6	2390
PROPENYLCYCLOHEXANE	0.108	0	0	0	0.108
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	0	2.57	2.57
SEC-BUTYL ALCOHOL	3.78	0	0	0	3.78
SELENIUM & COMPOUNDS	0.0103	0	0	0.0281	0.0384
SULFUR DIOXIDE	22200	0	0	5080	27200
SULFUR TRIOXIDE	0	0	0	590	590

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TETRAMETHYLCYCLOPENTANE	0.378	0	0	0	0.378
TETRAMETHYLTHIOUREA	0.054	0	0	0	0.054
TOLUENE	1220	0	0	109	1330
TOTAL SUSPENDED PARTICULATE	24900	0	0	21800	46700
TOTAL VOLATILE ORGANIC COMPOUNDS	34000	0	0	951	35000
TRICHLOROETHYLENE (TCE)	114	0	0	0	114
TRICHLOROTRIFLUOROETHANE-F113	22.1	0	0	0	22.1
TRIMETHYLBENZENES	1.67	0	0	1.43	3.1
TRIMETHYLCYCLOHEXANES	1.3	0	0	0.334	1.63
TRIMETHYLCYCLOPENTANE	1.94	0	0	0.0342	1.98
TRIMETHYLHEPTANES	1.19	0	0	0	1.19
TRIMETHYLOCTANES	0.27	0	0	0	0.27
VANADIUM & COMPOUNDS	0.00224	0	0	0.662	0.664
ZINC & COMPOUNDS	10.8	0	0	5.7	16.5

A.4 AMMONIUM NITRATE PRODUCTION

Table A-4: Annual emissions from ammonium nitrate production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	44.4	0	0	44.4
1,2,3-TRIMETHYLBENZENE	0	0.171	0	0	0.171
1,2,4-TRIMETHYLBENZENE	0	0.0918	0	0	0.0918
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0	91.7	0	0	91.7
1,2-DICHLOROETHANE	0	3300	0	0	3300
1,2-DICHLOROPROPANE	0	105	0	0	105
1,3,5-TRIMETHYLBENZENE	0	0.129	0	0	0.129
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0	13.1	0	0	13.1
1,4-DIETHYL-CYCLOHEXANE	0	430	0	0	430
1-BUTENE	0	485	0	0	485
1-HEXENE	0	105	0	0	105
1-PENTENE	0	26.2	0	0	26.2
2-METHYL-BUTANE	0	65.5	0	0	65.5
2-METHYLPROPANE; ISOBUTANE	0	91.7	0	0	91.7
ACETALDEHYDE	0	2440	0	0	2440
ACETIC ACID	0	1930	0	0	1930
ACETIC ANHYDRIDE	0	118	0	0	118
ACETONE	0	3080	0	0	3080
ACETYLENE	0	2800	0	0	2800
ACROLEIN (2-PROPENAL)	0	2350	0	0	2350
ACRYLONITRILE	0	1240	0	0	1240
AMMONIA (TOTAL)	0	445000	0	0	445000
ANTIMONY & COMPOUNDS	0	0.00812	0	0	0.00812
ARSENIC & COMPOUNDS	0	0.355	0	0	0.355
BENZALDEHYDE	0	91.7	0	0	91.7

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZENE	0	12000	0	0	12000
BENZOIC ACID	0	197	0	0	197
BERYLLIUM & COMPOUNDS	0	0.021	0	0	0.021
BUTYRALDEHYDE	0	13.1	0	0	13.1
C10H12	0	423	0	0	423
C7 CYCLOPARAFFINS	0	2290	0	0	2290
C8 CYCLOPARAFFINS	0	39.3	0	0	39.3
C9 CYCLOPARAFFINS	0	184	0	0	184
CADMIUM & COMPOUNDS	0	1.99	0	0	1.99
CARBON DIOXIDE	0	217000000	0	0	217000000
CARBON DISULFIDE	0	524	0	0	524
CARBON MONOXIDE	0	258000	0	0	258000
CARBON TETRACHLORIDE	0	393	0	0	393
CARBONYL SULFIDE	0	170	0	0	170
CHLOROETHANE (ETHYL CHLORIDE)	0	3960	0	0	3960
CHLORODIFLUOROMETHANE (F-22)	0	944	0	0	944
CHLOROETHANE (ETHYL CHLORIDE)	0	1680	0	0	1680
CHLOROFORM (TRICHLOROMETHANE)	0	52.4	0	0	52.4
CHLOROPENTAFLUOROETHANE (F115)	0	91.7	0	0	91.7
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	0	1990	0	0	1990
CHLOROTRIFLUOROMETHANE (F-13)	0	315	0	0	315
CHROMIUM (III) COMPOUNDS	0	2.31	0	0	2.31
CHROMIUM (VI) COMPOUNDS	0	0.122	0	0	0.122
COBALT & COMPOUNDS	0	0.146	0	0	0.146
COPPER & COMPOUNDS	0	1.56	0	0	1.56
CUMENE (1-METHYLETHYLBENZENE)	0	0.0615	0	0	0.0615
CYCLOHEXANE	0	1350	0	0	1350
CYCLOHEXANOL	0	210	0	0	210
CYCLOHEXANONE	0	210	0	0	210
DICHLOROBENZENES	0	118	0	0	118
DICHLORODIFLUOROMETHANE (F-12)	0	2080	0	0	2080
DIETHYLBENZENES	0	65.5	0	0	65.5
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0	65.5	0	0	65.5
DIMETHOXYMETHANE (METHYLAL)	0	498	0	0	498
DIMETHYL ETHER	0	5530	0	0	5530
ETHANE	0	1810	0	0	1810
ETHYL ACETATE	0	18.7	0	0	18.7
ETHYL ACRYLATE	0	708	0	0	708
ETHYL ALCOHOL	0	297	0	0	297

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ETHER	0	747	0	0	747
ETHYLBENZENE	0	852	0	0	852
ETHYLENE	0	10900	0	0	10900
ETHYLENE OXIDE	0	91.7	0	0	91.7
FORMALDEHYDE	0	1810	0	0	1810
FORMIC ACID	0	131	0	0	131
HEXADECANE	0	0.000363	0	0	0.000363
HEXAFLUOROETHANE {F-116}	0	2360	0	0	2360
HEXAMETHYLENEDIAMINE	0	1990	0	0	1990
ISOMERS OF BUTENE	0	170	0	0	170
ISOMERS OF HEXANE	0	378	0	0	378
ISOMERS OF NONANE (C9 PARAFFIN)	0	134	0	0	134
ISOMERS OF PENTANE	0	2050	0	0	2050
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	169	0	0	169
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	314	0	0	314
ISOMERS OF XYLENE	0	682	0	0	682
ISOPROPYL ALCOHOL	0	871	0	0	871
LEAD & COMPOUNDS	0	0.898	0	0	0.898
MALEIC ANHYDRIDE	0	393	0	0	393
MANGANESE & COMPOUNDS	0	0.769	0	0	0.769
MERCURY & COMPOUNDS	0	0.465	0	0	0.465
METHANE	0	19000	0	0	19000
METHYL ACETATE	0	1810	0	0	1810
METHYL ALCOHOL	0	3830	0	0	3830
METHYL CHLORIDE	0	13.1	0	0	13.1
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	2610	0	0	2610
METHYL FORMATE	0	1300	0	0	1300
METHYL ISOBUTYL KETONE	0	363	0	0	363
METHYL METHACRYLATE	0	564	0	0	564
METHYLENE BROMIDE	0	197	0	0	197
M-ETHYLTOLUENE	0	0.147	0	0	0.147
MOLYBDENUM	0	0.000597	0	0	0.000597
N-BUTANE	0	3740	0	0	3740
N-BUTYL ACETATE	0	144	0	0	144
N-BUTYL ACRYLATE	0	288	0	0	288
N-BUTYL ALCOHOL	0	1510	0	0	1510
N-DODECANE	0	0.01	0	0	0.01
N-HEPTADECANE	0	0.000119	0	0	0.000119
N-HEXANE	0	78.6	0	0	78.6
NICKEL & COMPOUNDS	0	3.76	0	0	3.76
NITRIC ACID	0	17000	0	0	17000
NITRIC OXIDE	0	484000	0	0	484000
NITROGEN DIOXIDE	0	102000	0	0	102000
NITROUS OXIDE	0	410	0	0	410

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTADECANE	0	0.00171	0	0	0.00171
N-PENTANE	0	1640	0	0	1640
N-PROPYLBENZENE	0	0.0748	0	0	0.0748
N-TETRADECANE	0	0.00488	0	0	0.00488
N-TRIDECANE	0	0.00671	0	0	0.00671
N-UNDECANE	0	0.0033	0	0	0.0033
O-DICHLOROBENZENE	0	210	0	0	210
O-ETHYLTOLUENE	0	0.126	0	0	0.126
OXIDES OF NITROGEN	0	844000	0	0	844000
PARTICULATE MATTER ≤ 10 µm	0	323000	0	0	323000
PARTICULATE MATTER ≤ 2.5 µm	0	316000	0	0	316000
P-DICHLOROBENZENE	0	4220	0	0	4220
P-ETHYLTOLUENE	0	0.241	0	0	0.241
PHENOL (CARBOLIC ACID)	0	2030	0	0	2030
PHTHALIC ANHYDRIDE	0	1190	0	0	1190
POLYCHLORINATED DIOXINS AND FURANS	0	0.0000021	0	0	0.0000021
POLYCYCLIC AROMATIC HYDROCARBONS	0	1.21	0	0	1.21
PROPANE	0	5400	0	0	5400
PROPYL ACETATE	0	4.54	0	0	4.54
PROPYLENE	0	3500	0	0	3500
PROPYLENE OXIDE	0	26.2	0	0	26.2
SEC-BUTYL ALCOHOL	0	1990	0	0	1990
SELENIUM & COMPOUNDS	0	0.0422	0	0	0.0422
STYRENE (ETHENYLBENZENE)	0	5120	0	0	5120
SULFUR DIOXIDE	0	923	0	0	923
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	0	26.2	0	0	26.2
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0	197	0	0	197
TOLUENE	0	2970	0	0	2970
TOTAL SUSPENDED PARTICULATE	0	337000	0	0	337000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	132000	0	0	132000
TRICHLOROFLUOROMETHANE	0	1510	0	0	1510
TRICHLOROTRIFLUOROETHANE-F113	0	118	0	0	118
TRIFLUOROMETHANE (F-23)	0	1780	0	0	1780
VANADIUM & COMPOUNDS	0	0.00848	0	0	0.00848
VINYL ACETATE	0	3220	0	0	3220
VINYL CHLORIDE MONOMER	0	2110	0	0	2110
ZINC & COMPOUNDS	0	50.9	0	0	50.9

A.5 ANIMAL ACCOMMODATION

Table A-5: Annual emissions from animal accommodation

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	4.73	4.73
1,2,3-TRIMETHYLBENZENE	0	0	0	0.0134	0.0134
1,2,4-TRIMETHYLBENZENE	0	0	0	0.00717	0.00717
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0101	0.0101
1,3-BUTADIENE	0	0	0	0.248	0.248
1-BUTENE	0	0	0	0.475	0.475
ACETYLENE	0	0	0	0.4	0.4
AMMONIA (TOTAL)	0	0	0	123000	123000
ARSENIC & COMPOUNDS	0	0	0	0.0165	0.0165
BENZENE	0	0	0	0.28	0.28
CADMIUM & COMPOUNDS	0	0	0	0.0016	0.0016
CARBON DIOXIDE	0	0	0	1580	1580
CARBON MONOXIDE	0	0	0	9.22	9.22
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	3.55	3.55
CHROMIUM (III) COMPOUNDS	0	0	0	0.016	0.016
CHROMIUM (VI) COMPOUNDS	0	0	0	0.000827	0.000827
CUMENE (1- METHYLETHYLBENZENE)	0	0	0	0.0048	0.0048
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	5.32	5.32
ETHANE	0	0	0	0.0992	0.0992
ETHYLBENZENE	0	0	0	0.000562	0.000562
ETHYLENE	0	0	0	1.02	1.02
FORMALDEHYDE	0	0	0	0.591	0.591
HEXADECANE	0	0	0	0.000028	0.000028
ISOMERS OF XYLENE	0	0	0	3.56	3.56
LEAD & COMPOUNDS	0	0	0	0.00544	0.00544
METHANE	0	0	0	5890	5890
M-ETHYLTOLUENE	0	0	0	0.0114	0.0114
N-DODECANE	0	0	0	0.000781	0.000781
N-HEPTADECANE	0	0	0	0.000009	0.000009
NICKEL & COMPOUNDS	0	0	0	0.0016	0.0016
NITRIC OXIDE	0	0	0	26.6	26.6
NITROGEN DIOXIDE	0	0	0	2.14	2.14
NITROUS OXIDE	0	0	0	0.0148	0.0148
N-PENTADECANE	0	0	0	0.000133	0.000133
N-PROPYLBENZENE	0	0	0	0.00584	0.00584
N-TETRADECANE	0	0	0	0.000381	0.000381
N-TRIDECANE	0	0	0	0.000524	0.000524
N-UNDECANE	0	0	0	0.000257	0.000257
O-ETHYLTOLUENE	0	0	0	0.00983	0.00983
OXIDES OF NITROGEN	0	0	0	42.8	42.8
PARTICULATE MATTER ≤ 10 µm	0	0	0	10500	10500
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	1350	1350

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
P-DICHLOROBENZENE	0	0	0	0.591	0.591
PERCHLOROETHYLENE	0	0	0	4.14	4.14
P-ETHYLTOLUENE	0	0	0	0.0188	0.0188
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.00163	0.00163
PROPYLENE	0	0	0	0.613	0.613
SELENIUM & COMPOUNDS	0	0	0	0.0016	0.0016
SULFUR DIOXIDE	0	0	0	0.05	0.05
TIN & COMPOUNDS	0	0	0	0.0016	0.0016
TOLUENE	0	0	0	2.37	2.37
TOTAL SUSPENDED PARTICULATE	0	0	0	21900	21900
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	28.7	28.7
TRICHLOROETHYLENE (TCE)	0	0	0	0.591	0.591
ZINC & COMPOUNDS	0	0	0	0.0171	0.0171

A.6 BATTERY PRODUCTION

Table A-6: Annual emissions from battery production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	0.000667	0	0	0	0.000667
ARSENIC & COMPOUNDS	0.000128	0	0	0	0.000128
CADMIUM & COMPOUNDS	0.155	0	0	0	0.155
CHROMIUM (III) COMPOUNDS	0.000117	0	0	0	0.000117
CHROMIUM (VI) COMPOUNDS	0.00005	0	0	0	0.00005
COBALT & COMPOUNDS	0.000226	0	0	0	0.000226
COPPER & COMPOUNDS	0.00145	0	0	0	0.00145
LEAD & COMPOUNDS	910	0	0	0	910
MANGANESE & COMPOUNDS	0.00785	0	0	0	0.00785
MERCURY & COMPOUNDS	0.0000883	0	0	0	0.0000883
MOLYBDENUM	0.0000491	0	0	0	0.0000491
NICKEL & COMPOUNDS	0.177	0	0	0	0.177
PARTICULATE MATTER ≤ 10 µm	3940	0	0	0	3940
PARTICULATE MATTER ≤ 2.5 µm	3940	0	0	0	3940
SELENIUM & COMPOUNDS	0.0000196	0	0	0	0.0000196
SULFURIC ACID	1760	0	0	0	1760
TOTAL SUSPENDED PARTICULATE	3950	0	0	0	3950
VANADIUM & COMPOUNDS	0.000697	0	0	0	0.000697
ZINC & COMPOUNDS	0.00972	0	0	0	0.00972

A.7 BIRD ACCOMMODATION

Table A-7: Annual emissions from bird accommodation

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.261	0	0	0.0853	0.346
1,2,4-TRIMETHYLBENZENE	0.14	0	0	0.0457	0.186
1,3,5-TRIMETHYLBENZENE	0.197	0	0	0.0642	0.261
AMMONIA (TOTAL)	498000	0	0	157000	655000
ANTIMONY & COMPOUNDS	0.0599	0	0	1.42	1.48
ARSENIC & COMPOUNDS	0.00698	0	0	0.258	0.265
BENZENE	22.7	0	0	17.3	39.9
BERYLLIUM & COMPOUNDS	0.0192	0	0	0.00965	0.0289
BORON & COMPOUNDS	1.2	0	0	0.609	1.81
CADMIUM & COMPOUNDS	0.0596	0	0	0.24	0.3
CARBON DIOXIDE	4390000	0	0	971000	5360000
CARBON MONOXIDE	1400	0	0	574	1980
CHROMIUM (III) COMPOUNDS	4.32	0	0	2.39	6.71
CHROMIUM (VI) COMPOUNDS	0.00334	0	0	0.0889	0.0923
COBALT & COMPOUNDS	0.482	0	0	0.331	0.812
COPPER & COMPOUNDS	1.91	0	0	3.67	5.58
CUMENE (1-METHYLETHYLBENZENE)	0.0938	0	0	0.0306	0.124
CYCLOHEXANE	5.65	0	0	4.29	9.94
ETHYLBENZENE	0.011	0	0	0.00359	0.0146
FLUORIDE COMPOUNDS	12	0	0	6.09	18.1
FORMALDEHYDE	45.4	0	0	34.5	79.9
HEXADECANE	0.000555	0	0	0.00018	0.000735
ISOMERS OF HEXANE	3.67	0	0	0	3.67
ISOMERS OF PENTANE	33	0	0	0	33
ISOMERS OF XYLENE	0.168	0	0	0.0549	0.223
LEAD & COMPOUNDS	2.07	0	0	3.27	5.34
MANGANESE & COMPOUNDS	59.9	0	0	46.1	106
MERCURY & COMPOUNDS	0.0127	0	0	0.243	0.256
METHANE	276	0	0	153	429
M-ETHYLTOLUENE	0.223	0	0	0.073	0.296
MOLYBDENUM	0.00607	0	0	0.178	0.184
N-BUTANE	33	0	0	0	33
N-DODECANE	0.0153	0	0	0.00498	0.0202
N-HEPTADECANE	0.000182	0	0	0.000058	0.00024
N-HEXANE	1.98	0	0	4.29	6.27
NICKEL & COMPOUNDS	3.15	0	0	2.21	5.36
NITRIC OXIDE	2280	0	0	709	2990
NITROGEN DIOXIDE	184	0	0	57.4	241
NITROUS OXIDE	15.4	0	0	10.5	25.9
N-PENTADECANE	0.0026	0	0	0.00085	0.00345
N-PENTANE	22	0	0	0	22
N-PROPYLBENZENE	0.114	0	0	0.0373	0.151
N-TETRADECANE	0.00744	0	0	0.00243	0.00987
N-TRIDECANE	0.0102	0	0	0.00334	0.0136
N-UNDECANE	0.00502	0	0	0.00164	0.00666

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
O-ETHYLTOLUENE	0.192	0	0	0.0627	0.255
OXIDES OF NITROGEN	3670	0	0	1150	4820
PARTICULATE MATTER ≤ 10 µm	238000	0	0	81000	319000
PARTICULATE MATTER ≤ 2.5 µm	53900	0	0	17600	71400
P-ETHYLTOLUENE	0.368	0	0	0.12	0.488
POLYCHLORINATED DIOXINS AND FURANS	3.66x10 ⁻⁰⁸	0	0	2.12x10 ⁻⁰⁹	3.87x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0241	0	0	0.00476	0.0288
PROPANE	14.7	0	0	0	14.7
SELENIUM & COMPOUNDS	0.428	0	0	0.269	0.697
SULFUR DIOXIDE	17.4	0	0	8.37	25.7
TOLUENE	11.4	0	0	8.63	20
TOTAL SUSPENDED PARTICULATE	536000	0	0	187000	724000
TOTAL VOLATILE ORGANIC COMPOUNDS	195	0	0	69.6	265
VANADIUM & COMPOUNDS	0.0127	0	0	1.33	1.35
ZINC & COMPOUNDS	6.48	0	0	9.42	15.9

A.8 BITUMEN MIXING

Table A-8: Annual emissions from bitumen mixing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	207	158	131	78.1	574
1,2,3-TRIMETHYLBENZENE	0.312	1.18	0.0897	0.0165	1.6
1,2,4-TRIMETHYLBENZENE	0.167	0.634	0.0481	0.00887	0.858
1,3,5-TRIMETHYLBENZENE	0.235	0.891	0.0676	0.0125	1.21
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.0054	0	0	0	0.0054
1-ETHYL-2-METHYLCYCLOPENTANE	0.0054	0	0	0	0.0054
2-METHYLPROPANE; ISOBUTANE	0	136	0	0	136
ACETONE	0.756	0	0	0	0.756
AMMONIA (TOTAL)	28.3	23	19	11.3	81.5
ANTIMONY & COMPOUNDS	0.965	0.0437	0.0012	0.00549	1.02
ARSENIC & COMPOUNDS	1.25	0.21	0.28	0.317	2.05
BENZENE	1710	53.1	144	136	2040
BERYLLIUM & COMPOUNDS	0.266	0.0193	0.0913	0.0962	0.473
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.0162	0	0	0	0.0162
BUTYLBENZENE ISOMERS	23.9	8.15	5.54	2.34	40
BUTYLCYCLOHEXANE	0.0864	0	0	0	0.0864
C10 ALKYL CYCLOHEXANES	13	4.46	3.03	1.28	21.8
C10 DIALKYL BENZENES	7.39	2.54	1.73	0.728	12.4
C10 OLEFINS	0.189	0	0	0	0.189
C11 OLEFINS	0.0486	0	0	0	0.0486
C12 OLEFINS	0.0108	0	0	0	0.0108

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C8 ALKYL CYCLOHEXANES	8.66	2.97	2.02	0.853	14.5
C8 OLEFINS	0.167	0	0	0	0.167
C9 ALKYL CYCLOHEXANES	25	8.58	5.84	2.46	41.9
CADMIUM & COMPOUNDS	1.04	0.123	0.348	0.363	1.87
CARBON DIOXIDE	23800000	5120000	4340000	1720000	35000000
CARBON MONOXIDE	204000	16500	37300	8940	267000
CHLOROFORM (TRICHLOROMETHANE)	146	119	98	58.6	421
CHROMIUM (III) COMPOUNDS	4.98	1.71	0.452	0.767	7.9
CHROMIUM (VI) COMPOUNDS	0.0764	0.0173	0.00405	0.00421	0.102
COBALT & COMPOUNDS	0.675	0.0428	0.00963	0.0439	0.772
COPPER & COMPOUNDS	7.72	1.17	1.52	1.71	12.1
CUMENE (1-METHYLETHYLBENZENE)	0.128	0.425	0.0323	0.00595	0.591
CYCLOHEXANE	428	13.3	35.9	34	511
DECALINS (MIXED CIS,TRANS)	0.0324	0	0	0	0.0324
DICHLOROMETHANE {METHYLENE CHLORIDE}	221	178	147	87.9	634
DIETHYLCYCLOHEXANE	0.0432	0	0	0	0.0432
DIMETHYLBENZYLALCOHOL	0.0108	0	0	0	0.0108
DIMETHYLCYCLOBUTANONE	0.0324	0	0	0	0.0324
DIMETHYLCYCLOHEXANES	0.0594	0	0	0	0.0594
DIMETHYLCYCLOPENTANE	0.383	0	0	0	0.383
DIMETHYLHEPTANES	0.0108	0	0	0	0.0108
DIMETHYLHEXANES	0.178	0	0	0	0.178
DIMETHYLNONANES	0.113	0	0	0	0.113
DIMETHYLOCTANES	0.162	0	0	0	0.162
ETHYL ALCOHOL	8.89	0	0	0	8.89
ETHYL ETHER	0.432	0	0	0	0.432
ETHYL PROPYLCYCLOHEXANES	0.0324	0	0	0	0.0324
ETHYLBENZENE	5.89	2.07	1.38	0.579	9.91
ETHYLCYCLOHEXANE	0.0432	0	0	0	0.0432
ETHYLDIMETHYLPHENOL	0.0324	0	0	0	0.0324
ETHYLHEPTENE	0.0162	0	0	0	0.0162
ETHYLHEXANE	0.027	0	0	0	0.027
ETHYLMETHYLCYCLOHEXANES	0.373	0	0	0	0.373
ETHYLMETHYLOCTANE	0.0378	0	0	0	0.0378
ETHYLOCTANE	0.0108	0	0	0	0.0108
ETHYLOCTENES	0.0216	0	0	0	0.0216
FLUORIDE COMPOUNDS	10.9	0.992	0.241	1.1	13.2
FORMALDEHYDE	3440	1740	304	281	5770
HEXADECANE	0.000664	0.00253	0.000191	0.000035	0.00342
ISOMERS OF C9H16	0.0648	0	0	0	0.0648
ISOMERS OF DECANE (C10 PARAFFINS)	21.1	7	4.76	2.01	34.9
ISOMERS OF DODECANE (C12 PARAFFINS)	0.151	0	0	0	0.151
ISOMERS OF HEPTANE	0	86.2	0	0	86.2
ISOMERS OF HEXANE	427	186	35.9	34	683

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF NONANE (C9 PARAFFIN)	5.09	1.75	1.19	0.501	8.53
ISOMERS OF OCTANE (C8 PARAFFIN)	0	156	0	0	156
ISOMERS OF PENTANE	3850	302	323	306	4780
ISOMERS OF PROPYLBENZENE	0.151	0	0	0	0.151
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.0162	0	0	0	0.0162
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.0054	0	0	0	0.0054
ISOMERS OF UNDECANE (C11 PARAFFINS)	0.502	0	0	0	0.502
ISOMERS OF XYLENE	179	130	105	61.7	476
LEAD & COMPOUNDS	4.35	0.658	0.348	0.51	5.87
MANGANESE & COMPOUNDS	76.4	7.4	5.34	9.78	98.9
MERCURY & COMPOUNDS	55.4	3.82	10.1	4	73.3
METHANE	266000	198000	165000	99200	728000
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0.594	0	0	0	0.594
METHYL HEXANE	0.686	0	0	0	0.686
METHYL PROPYLCYCLOHEXANES	0.14	0	0	0	0.14
METHYLCYCLOHEXANE	6.35	1.84	1.25	0.529	9.98
METHYLDECALINS	0.0162	0	0	0	0.0162
METHYLDECANES	0.243	0	0	0	0.243
METHYLDECENES	0.0432	0	0	0	0.0432
METHYLDODECANES	0.0108	0	0	0	0.0108
METHYLHEXENES	0.0648	0	0	0	0.0648
METHYLNONANE	0.405	0	0	0	0.405
METHYLNONENES	0.0162	0	0	0	0.0162
METHYLOCTANES	0.394	0	0	0	0.394
METHYLPROPYLNONANE	0.0162	0	0	0	0.0162
M-ETHYLTOLUENE	0.267	1.01	0.0768	0.0142	1.37
METHYLUDECANE	0.0162	0	0	0	0.0162
MOLYBDENUM	0.0793	0.00465	0	0	0.0839
NAPHTHALENE	0.0162	0	0	0	0.0162
N-BUTANE	3850	524	323	306	5000
N-DECANE	31.6	11.5	7.38	3.12	53.6
N-DODECANE	0.0182	0.648	0.00525	0.000967	0.672
N-HEPTADECANE	0.000219	0.000839	0.000063	0.000011	0.00113
N-HEPTANE	4.56	9.95	0	0	14.5
N-HEXANE	0.0216	358	0	0	358
NICKEL & COMPOUNDS	7.79	2.26	1.8	2.08	13.9
NITRIC OXIDE	9690	2060	1770	1310	14800
NITROGEN DIOXIDE	781	339	143	106	1370
NITROUS OXIDE	45	35.8	8.21	3.25	92.2
N-NONANE	27	9.26	6.19	2.61	45
N-OCTANE	14.3	4.91	3.33	1.4	23.9
NONADIENE	0.0108	0	0	0	0.0108

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTADECANE	0.00311	0.241	0.000895	0.000165	0.245
N-PENTANE	2560	236	215	204	3220
N-PENTYLCYCLOHEXANE	0.027	0	0	0	0.027
N-PROPYLBENZENE	0.163	0.517	0.0392	0.00723	0.727
N-TETRADECANE	0.00889	0.406	0.00256	0.000472	0.418
N-TRIDECANE	0.0122	0.609	0.00352	0.000649	0.626
N-UNDECANE	5.37	2.51	1.26	0.529	9.67
O-ETHYLTOLUENE	0.229	0.869	0.066	0.0122	1.18
OXIDES OF NITROGEN	15600	6780	2850	2120	27400
PARTICULATE MATTER ≤ 10 µm	59300	9030	10800	12300	91400
PARTICULATE MATTER ≤ 2.5 µm	29000	5570	9320	9750	53600
P-DICHLOROBENZENE	24.3	19.8	16.3	9.77	70.2
PENTAMETHYLBENZENE	0.0162	0	0	0	0.0162
PERCHLOROETHYLENE	174	138	114	68.4	495
P-ETHYLTOLUENE	0.439	1.67	0.126	0.0233	2.26
POLYCHLORINATED DIOXINS AND FURANS	0	0.00000412	0	0	0.00000412
POLYCYCLIC AROMATIC HYDROCARBONS	75.7	21.7	13.8	5.47	117
PROPANE	1710	92.9	144	136	2080
PROPENYLCYCLOHEXANE	0.0108	0	0	0	0.0108
SEC-BUTYL ALCOHOL	0.378	0	0	0	0.378
SELENIUM & COMPOUNDS	3.12	0.0436	0.128	0.0779	3.37
SULFUR DIOXIDE	3010	4420	1030	1230	9690
TETRAMETHYLCYCLOPENTANE	0.0378	0	0	0	0.0378
TETRAMETHYLTHIOUREA	0.0054	0	0	0	0.0054
TOLUENE	984	111	141	109	1350
TOTAL SUSPENDED PARTICULATE	105000	13600	12600	15500	146000
TOTAL VOLATILE ORGANIC COMPOUNDS	20200	4850	2340	1940	29300
TRICHLOROETHYLENE (TCE)	35.7	19.8	16.3	9.77	81.6
TRICHLOROTRIFLUOROETHANE-F113	2.21	0	0	0	2.21
TRIMETHYLBENZENES	13.7	4.64	3.16	1.33	22.8
TRIMETHYLCYCLOHEXANES	0.13	0	0	0	0.13
TRIMETHYLCYCLOPENTANE	0.194	0	0	0	0.194
TRIMETHYLHEPTANES	0.119	0	0	0	0.119
TRIMETHYLOCTANES	0.027	0	0	0	0.027
VANADIUM & COMPOUNDS	0.255	0.0344	0	0	0.289
ZINC & COMPOUNDS	23.4	5.73	2.92	3.42	35.5

A.9 BOAT CONSTRUCTION/MAINTENANCE (DRY/FLOAT)**Table A-9: Annual emissions from boat construction/maintenance (dry/float)**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	15.6	0	0	0	15.6
1,2,3-TRIMETHYLBENZENE	5.45	0.042	0	0	5.49
1,2,4-TRIMETHYLBENZENE	2.92	0.0225	0	0	2.95
1,3,5-TRIMETHYLBENZENE	4.1	0.0316	0	0	4.14
1,3-BUTADIENE	18.1	0	0	0	18.1
1,3-DIETHYL-5-METHYL CYCLOHEXANE	9.7	4.45	0	0	14.2
1,4-DIETHYL-CYCLOHEXANE	30.8	14.1	0	0	45
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	3.41	87.2	0	0	90.6
2,4-DIMETHYLHEXANE	227	0	0	0	227
2,4-DIMETHYLPENTANE	53.8	0	0	0	53.8
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	1.54	39.3	0	0	40.8
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	2.21	56.5	0	0	58.7
2-METHYL-3-HEXANONE	94.4	0	0	0	94.4
ACETONE	72.8	1040	0	0	1120
AMMONIA (TOTAL)	18.8	0.117	0	0	18.9
ANTIMONY & COMPOUNDS	0.0112	1.69	0	0	1.7
ARSENIC & COMPOUNDS	0.00215	74.9	0	0	74.9
BENZALDEHYDE	8.1	3.72	0	0	11.8
BENZENE	3.17	0.604	0	0	3.78
BERYLLIUM & COMPOUNDS	0	0.0000286	0	0	0.0000286
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	224	477	0	0	701
C10 OLEFINS	76.6	35.1	0	0	112
C7 CYCLOPARAFFINS	13	0	0	0	13
C8 CYCLOPARAFFINS	1.81	0	0	0	1.81
C8 INTERNAL ALKENES	2.91	0	0	0	2.91
CADMIUM & COMPOUNDS	0.000495	0.139	0	0	0.139
CARBITOL {DEGBE} {2-(2- ETHOXYETHOXY)ETHANOL}	0.672	17.2	0	0	17.9
CARBON DIOXIDE	0	34000	0	0	34000
CARBON MONOXIDE	0	20.1	0	0	20.1
CHLOROFORM (TRICHLOROMETHANE)	11.7	0	0	0	11.7
CHROMIUM (III) COMPOUNDS	0.00196	13.9	0	0	13.9
CHROMIUM (VI) COMPOUNDS	0.000842	0.12	0	0	0.121
COBALT & COMPOUNDS	0.0038	8.9	0	0	8.91
COPPER & COMPOUNDS	0.0244	250	0	0	250
CUMENE (1- METHYLETHYLBENZENE)	1.96	0.0151	0	0	1.97
CYCLOHEXANE	18.1	0.15	0	0	18.3
CYCLOPENTANE	0.0634	0	0	0	0.0634

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DI(PROPYLENE GLYCOL) METHYL ETHER	1.92	49.1	0	0	51
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	9.8	250	0	0	260
DIBROMOETHANE	9.7	4.45	0	0	14.2
DICHLOROMETHANE {METHYLENE CHLORIDE}	30.5	5.97	0	0	36.5
DIETHYLCYCLOHEXANE	84.9	38.9	0	0	124
DIMETHYLCYCLOHEXANES	148	9.73	0	0	158
DIMETHYLHEPTANES	21.1	0	0	0	21.1
ETHYL ACETATE	73.2	557	0	0	630
ETHYLBENZENE	23.7	4.55	0	0	28.3
ETHYLCYCLOHEXANE	44	0	0	0	44
ETHYLCYCLOPENTANE	4.27	0	0	0	4.27
ETHYLENE GLYCOL	1.54	39.3	0	0	40.8
ETHYLHEPTENE	24.1	11.1	0	0	35.2
ETHYLTOLUENES {METHYLETHYLBENZENES}	5.04	0	0	0	5.04
FORMALDEHYDE	1.95	1.21	0	0	3.15
HEXADECANE	0.0117	0.000089	0	0	0.0117
ISOBUTYL ALCOHOL	9.51	243	0	0	253
ISOMERS OF C10H18	47.5	21.8	0	0	69.2
ISOMERS OF DECANE (C10 PARAFFINS)	69	31.6	0	0	101
ISOMERS OF HEPTANE	1.48	0	0	0	1.48
ISOMERS OF HEXANE	7.31	0	0	0	7.31
ISOMERS OF NONANE (C9 PARAFFIN)	137	25.6	0	0	163
ISOMERS OF OCTANE (C8 PARAFFIN)	0.245	0	0	0	0.245
ISOMERS OF UNDECANE (C11 PARAFFINS)	17.4	7.97	0	0	25.4
ISOMERS OF XYLENE	365	2650	0	0	3020
ISOPROPYL ALCOHOL	52.4	24	0	0	76.4
LEAD & COMPOUNDS	0.0205	226	0	0	226
MANGANESE & COMPOUNDS	0.132	19.6	0	0	19.7
MERCURY & COMPOUNDS	0.00149	0.246	0	0	0.247
METHANE	19400	5.34	0	0	19400
METHYL AMYL KETONE	20.9	0	0	0	20.9
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	0.672	17.2	0	0	17.9
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	78.7	577	0	0	656
METHYL ISOBUTYL KETONE	30.9	557	0	0	588
METHYLCYCLOHEXANE	192	47	0	0	239
METHYLCYCLOPENTANE	15.5	0	0	0	15.5
M-ETHYLTOLUENE	4.66	0.0359	0	0	4.7
MINERAL SPIRITS	88.5	2260	0	0	2350

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MOLYBDENUM	0.000825	0.152	0	0	0.153
N-BUTYL ACETATE	383	603	0	0	986
N-DODECANE	0.319	0.00246	0	0	0.321
N-HEPTADECANE	0.00389	0.000029	0	0	0.00392
N-HEPTANE	108	15	0	0	123
N-HEXANE	11.9	0.15	0	0	12
NICKEL & COMPOUNDS	0.00198	2.27	0	0	2.27
NITRIC OXIDE	0	24.8	0	0	24.8
NITROGEN DIOXIDE	0	2.01	0	0	2.01
NITROUS OXIDE	0	0.369	0	0	0.369
N-OCTANE	0.118	0	0	0	0.118
N-PENTADECANE	0.0544	0.000419	0	0	0.0548
N-PROPYLBENZENE	2.38	0.0184	0	0	2.4
N-TETRADECANE	0.155	0.0012	0	0	0.157
N-TRIDECANE	0.214	0.00165	0	0	0.215
N-UNDECANE	26.9	12.3	0	0	39.1
O-ETHYLTOLUENE	4.01	0.0309	0	0	4.04
OXIDES OF NITROGEN	0	40.2	0	0	40.2
PARTICULATE MATTER ≤ 10 µm	31.7	57300	0	0	57300
PARTICULATE MATTER ≤ 2.5 µm	7.66	48800	0	0	48900
P-DICHLOROBENZENE	1.95	0	0	0	1.95
PERCHLOROETHYLENE	13.6	0	0	0	13.6
P-ETHYLTOLUENE	7.68	0.0592	0	0	7.74
PHTHALIC ANHYDRIDE	8.1	3.72	0	0	11.8
POLYCHLORINATED DIOXINS AND FURANS	0	7.42x10 ⁻¹¹	0	0	7.42x10 ⁻¹¹
POLYCYCLIC AROMATIC HYDROCARBONS	0	0.000166	0	0	0.000166
PROPYL ACETATE	21.8	557	0	0	579
PROPYLENE GLYCOL METHYL ETHER	1.92	49.1	0	0	51
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	3.79	97	0	0	101
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	11.2	5.14	0	0	16.3
SELENIUM & COMPOUNDS	0.00033	0.0539	0	0	0.0542
STYRENE (ETHENYLBENZENE)	12.1	0	0	0	12.1
SULFUR DIOXIDE	0	0.293	0	0	0.293
TOLUENE	1330	1610	0	0	2940
TOTAL SUSPENDED PARTICULATE	165	84100	0	0	84300
TOTAL VOLATILE ORGANIC COMPOUNDS	4540	12200	0	0	16700
TRICHLOROETHYLENE (TCE)	1.95	0	0	0	1.95
TRIMETHYLBENZENES	2.79	0	0	0	2.79
TRIMETHYLCYCLOHEXANES	51.2	0	0	0	51.2
TRIMETHYLCYCLOPENTANE	3.3	0	0	0	3.3
VANADIUM & COMPOUNDS	0.0117	1.71	0	0	1.72
ZINC & COMPOUNDS	0.164	958	0	0	959

A.10 BOAT CONSTRUCTION/MAINTENANCE (GENERAL)

Table A-10: Annual emissions from boat construction/maintenance (general)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	10.7	0	0	13	23.7
1,2,3-TRIMETHYLBENZENE	0.978	0.0312	0.101	0.0738	1.18
1,2,4-TRIMETHYLBENZENE	1.11	0.0338	0.0543	0.048	1.24
1,3,5-TRIMETHYLBENZENE	0.736	0.0235	0.0762	0.0556	0.892
1,3-BUTADIENE	9.06	31.7	0	0	40.7
1,3-DIETHYL-5-METHYL CYCLOHEXANE	37.3	18.8	0	1.11	57.3
1,4-DIETHYL-CYCLOHEXANE	133	59.8	0	3.53	196
1,4-PENTADIENE	1.94	0.057	0	0.028	2.03
1-BUTENE	8.92	0.262	0	0.129	9.32
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.0054	0.0054
1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0.0054	0.0054
1-PENTENE	10.7	0.313	0	0.154	11.1
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	129	6.86	0	7.2	143
2,2,3,TRIMETHYLHEXANE	0.194	0.0057	0	0.0028	0.203
2,2,3-TRIMETHYLBUTANE	0.388	0.0114	0	0.00559	0.405
2,2,4-TRIMETHYLPENTANE	9.51	0.279	0	0.137	9.92
2,2-DIMETHYLBUTANE	2.91	0.0855	0	0.0419	3.04
2,2-DIMETHYLHEXANE	0.388	0.0114	0	0.00559	0.405
2,2-DIMETHYLPENTANE	0.97	0.0285	0	0.014	1.01
2,3,3-TRIMETHYLPENTANE	0.97	0.0285	0	0.014	1.01
2,3,4-TRIMETHYLPENTANE	0.97	0.0285	0	0.014	1.01
2,3-DIMETHYLBUTANE	15.7	0.462	0	0.226	16.4
2,3-DIMETHYLHEXANE	1.55	0.0456	0	0.0224	1.62
2,3-DIMETHYLPENTANE	3.49	0.103	0	0.0503	3.65
2,4-DIMETHYLHEXANE	246	410	0	21.8	678
2,4-DIMETHYLPENTANE	61.5	97.8	0	5.27	165
2,5-DIMETHYLHEXANE	1.36	0.0399	0	0.0196	1.42
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	58.1	3.09	0	3.25	64.4
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	83.5	4.44	0	4.67	92.6
2-METHYL-1-BUTENE	21.9	0.644	0	0.316	22.9
2-METHYL-2-BUTENE	85.9	2.52	0	1.24	89.7
2-METHYL-3-HEXANONE	625	200	0	5.19	831
2-METHYLHEPTANE	2.91	0.0855	0	0.0419	3.04
2-METHYLHEXANE	9.89	0.291	0	0.143	10.3
2-METHYLNONANE	0.194	0.0057	0	0.0028	0.203
2-METHYLOCTANE	0.194	0.0057	0	0.0028	0.203
2-METHYLPENTANE	92.7	2.72	0	1.34	96.8
2-METHYLPROPANE; ISOBUTANE	59.2	1.74	0	0.853	61.8
3,3-DIMETHYLPENTANE	1.16	0.0342	0	0.0168	1.22
3-ETHYLPENTANE	1.94	0.057	0	0.028	2.03
3-METHYL-1-BUTENE	0.582	0.0171	0	0.00839	0.608
3-METHYLHEPTANE	2.72	0.0798	0	0.0391	2.84

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYLHEXANE	12.2	0.359	0	0.176	12.8
3-METHYLOCTANE	0.388	0.0114	0	0.00559	0.405
3-METHYLPENTANE	45.4	1.33	0	0.654	47.4
4-METHYLHEPTANE	1.55	0.0456	0	0.0224	1.62
4-METHYLOCTANE	0.194	0.0057	0	0.0028	0.203
ACETONE	2460	150	0	249	2860
AMMONIA (TOTAL)	1.95	0	0	0.135	2.09
ANTIMONY & COMPOUNDS	0.0169	0.0273	0	0	0.0442
ARSENIC & COMPOUNDS	0.147	0.0073	0	0	0.154
BENZALDEHYDE	31.2	15.7	0	0.929	47.8
BENZENE	16.7	5.99	0	0.758	23.5
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0	0.0162	0.0162
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	928	410	0	59.4	1400
BUTYLBENZENE ISOMERS	0	0	0	0.221	0.221
BUTYLCYCLOHEXANE	0	0	0	0.0864	0.0864
C10 OLEFINS	294	149	0	8.97	452
C10H12	14	0	0	0	14
C11 OLEFINS	0	0	0	0.0486	0.0486
C12 OLEFINS	0	0	0	0.0108	0.0108
C7 CYCLOPARAFFINS	6.52	22.8	0	0	29.3
C8 CYCLOPARAFFINS	0.906	3.17	0	0	4.07
C8 INTERNAL ALKENES	0.167	3.63	0	0	3.79
C8 OLEFINS	0	0	0	0.167	0.167
C9 CYCLOPARAFFINS	6.11	0	0	0	6.11
CADMIUM & COMPOUNDS	0.00168	0.0012	0	0	0.00289
CARBITOL {DEGEE} {2-(2- ETHOXYETHOXY)ETHANOL}	25.4	1.35	0	1.42	28.2
CHLOROFORM (TRICHLOROMETHANE)	6.92	0	0	0.698	7.62
CHROMIUM (III) COMPOUNDS	2.83	0.0054	0	0	2.83
CHROMIUM (VI) COMPOUNDS	0.00117	0.00205	0	0	0.00322
CIS-1,3-DIMETHYLCYCLOPENTANE	4.27	0.125	0	0.0615	4.46
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	2.72	0.0798	0	0.0391	2.84
CIS-1-2-DIMETHYLCYCLOPENTANE	2.72	0.0798	0	0.0391	2.84
CIS-2-BUTENE	5.82	0.171	0	0.0839	6.08
CIS-2-PENTENE	31.4	0.923	0	0.453	32.8
COBALT & COMPOUNDS	0.0609	0.0101	0	0	0.071
COPPER & COMPOUNDS	0.0637	0.0598	0	0	0.124
CUMENE (1-METHYLETHYLBENZENE)	0.351	0.0112	0.0364	0.0427	0.442
CYCLOHEXANE	89.8	36.6	0	0.785	127
CYCLOPENTANE	0.0317	0.111	0	0	0.143
CYCLOPENTENE	0.582	0.0171	0	0.00839	0.608
DECALINS (MIXED CIS,TRANS)	0	0	0	0.0324	0.0324
DI(PROPYLENE GLYCOL) METHYL ETHER	72.6	3.86	0	4.06	80.5
DIACETONE ALCOHOL (4-HYDROXY-4- METHYL-2-PENTANONE)	370	19.7	0	20.7	411
DIBROMOETHANE	37.3	18.8	0	1.11	57.3

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DICHLOROMETHANE {METHYLENE CHLORIDE}	60.4	25.3	0	4.75	90.4
DIETHYLCYCLOHEXANE	326	165	0	9.78	501
DIMETHYLBENZYLALCOHOL	0	0	0	0.0108	0.0108
DIMETHYLCYCLOBUTANONE	0	0	0	0.0324	0.0324
DIMETHYLCYCLOHEXANES	219	271	0	14.8	505
DIMETHYLCYCLOPENTANE	0	0	0	0.383	0.383
DIMETHYLHEPTANES	22.8	38.3	0	2.05	63.2
DIMETHYLHEXANES	0	0	0	0.178	0.178
DIMETHYLNONANES	0	0	0	0.113	0.113
DIMETHYLOCTANES	0	0	0	0.162	0.162
ETHYL ACETATE	1170	153	0	48.9	1370
ETHYL ALCOHOL	2.04	0	0	0	2.04
ETHYL ETHER	0	0	0	0.432	0.432
ETHYL PROPYLCYCLOHEXANES	0	0	0	0.0324	0.0324
ETHYLBENZENE	130	48.1	0.00426	1.91	180
ETHYLCYCLOHEXANE	45.8	78.9	0	4.13	129
ETHYLCYCLOPENTANE	0.828	5.34	0	0.00839	6.17
ETHYLDIMETHYLPHENOL	0	0	0	0.0324	0.0324
ETHYLENE GLYCOL	58.1	3.09	0	3.25	64.4
ETHYLHEPTENE	92.7	46.8	0	2.78	142
ETHYLHEXANE	0	0	0	0.027	0.027
ETHYLMETHYLCYCLOHEXANES	0	0	0	0.373	0.373
ETHYLMETHYLOCTANE	0	0	0	0.0378	0.0378
ETHYLOCTANE	0	0	0	0.0108	0.0108
ETHYLOCTENES	0	0	0	0.0216	0.0216
ETHYLTOLUENES {METHYLETHYLBENZENES}	33.5	10.7	0	0.278	44.4
FLUORIDE COMPOUNDS	0	0	0	0	0
FORMALDEHYDE	1.15	0	0	0.116	1.27
HEXADECANE	0.00209	0.000066	0.000216	0.000156	0.00253
ISOBUTYL ALCOHOL	359	19.1	0	20.1	399
ISOMERS OF C10H18	182	92.1	0	5.44	280
ISOMERS OF C9H16	0	0	0	0.0648	0.0648
ISOMERS OF DECANE (C10 PARAFFINS)	708	134	0	8.63	851
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	0	0.151	0.151
ISOMERS OF HEPTANE	0.738	2.58	0	0	3.32
ISOMERS OF HEXANE	3.66	12.8	0	0	16.4
ISOMERS OF NONANE (C9 PARAFFIN)	470	249	0	13.2	733
ISOMERS OF OCTANE (C8 PARAFFIN)	5.24	0.428	0	0	5.66
ISOMERS OF PENTANE	961	28.2	0	13.8	1000
ISOMERS OF PROPYLBENZENE	0	0	0	0.151	0.151
ISOMERS OF TETRADECANE (C14 PARAFFINS)	5.61	0	0	0.0162	5.63
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0	0.0054	0.0054
ISOMERS OF UNDECANE (C11 PARAFFINS)	93.9	33.7	0	2.5	130
ISOMERS OF XYLENE	5000	694	0.0651	239	5930
ISOPROPYL ALCOHOL	204	102	0	6	311

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
LEAD & COMPOUNDS	0.115	0.051	0	0	0.166
MAGNESIUM OXIDE FUME	0	121	0	0	121
MANGANESE & COMPOUNDS	46.6	0.321	0	0	46.9
MERCURY & COMPOUNDS	0.00257	0.00361	0	0	0.00618
METHANE	11500	0	0	1160	12600
METHYL ALCOHOL	0.067	0	0	0	0.067
METHYL AMYL KETONE	138	44.2	0	1.14	183
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	25.4	1.35	0	1.42	28.2
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1160	157	0	52.4	1370
METHYL HEXANE	0	0	0	0.686	0.686
METHYL ISOBUTYL KETONE	885	63	0	46.6	994
METHYL PROPYLCYCLOHEXANES	0	0	0	0.14	0.14
METHYLCYCLOHEXANE	451	339	0	17.7	808
METHYLCYCLOPENTANE	13.4	27.3	0	0.0811	40.8
METHYLDECALINS	0	0	0	0.0162	0.0162
METHYLDECANES	0	0	0	0.243	0.243
METHYLDECENES	0	0	0	0.0432	0.0432
METHYLDODECANES	0	0	0	0.0108	0.0108
METHYLHEXENES	0	0	0	0.0648	0.0648
METHYLNONANE	0	0	0	0.405	0.405
METHYLNONENES	0	0	0	0.0162	0.0162
METHYLOCTANES	0	0	0	0.394	0.394
METHYLPROPYLNONANE	0	0	0	0.0162	0.0162
M-ETHYLTOLUENE	2	0.0609	0.0866	0.0799	2.23
METHYLUDECANE	0	0	0	0.0162	0.0162
MINERAL SPIRITS	3350	178	0	187	3710
MOLYBDENUM	0.00165	0.00201	0	0	0.00365
NAPHTHALENE	0	0	0	0.0162	0.0162
N-BUTANE	259	7.6	0	3.73	270
N-BUTYL ACETATE	1750	707	0	76.9	2540
N-BUTYL ALCOHOL	1.52	0	0	0	1.52
N-DECANE	0.194	0.0057	0	0.0028	0.203
N-DODECANE	0.0572	0.00182	0.00592	0.00432	0.0692
N-HEPTADECANE	0.000692	0.000022	0.000072	0.000052	0.000838
N-HEPTANE	237	188	0	12.7	437
N-HEXANE	10.2	20.9	0	0.0831	31.2
NICKEL & COMPOUNDS	3.45	0.00523	0	0	3.46
NITRIC OXIDE	0	358	0	0	358
NITROGEN DIOXIDE	0	28.9	0	0	28.9
N-NONANE	0.194	0.0057	0	0.473	0.672
N-OCTANE	0.0589	0.206	0	0	0.265
NONADIENE	0	0	0	0.0108	0.0108
N-PENTADECANE	0.00976	0.000311	0.00101	0.000736	0.0118
N-PENTYLCYCLOHEXANE	0	0	0	0.027	0.027
N-PROPYLBENZENE	0.815	0.025	0.0442	0.0649	0.95
N-TETRADECANE	0.0279	0.000889	0.00289	0.0021	0.0338

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	0.0383	0.00122	0.00397	0.00289	0.0464
N-UNDECANE	103	52	0.00195	3.07	158
O-ETHYLTOLUENE	0.719	0.0229	0.0744	0.0543	0.871
OXIDES OF NITROGEN	0	578	0	0	578
PARTICULATE MATTER ≤ 10 µm	12600	256	0	0	12800
PARTICULATE MATTER ≤ 2.5 µm	11500	183	0	0	11700
P-DICHLOROBENZENE	1.15	0	0	0.116	1.27
PENTAMETHYLBENZENE	0	0	0	0.0162	0.0162
PERCHLOROETHYLENE	8.08	0	0	4.81	12.9
P-ETHYLTOLUENE	1.96	0.061	0.143	0.112	2.28
PHTHALIC ANHYDRIDE	31.2	15.7	0	0.929	47.8
PROPENYLCYCLOHEXANE	0	0	0	0.0108	0.0108
PROPYL ACETATE	824	43.9	0	46.1	914
PROPYLENE GLYCOL METHYL ETHER	72.6	3.86	0	4.06	80.5
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	143	7.63	0	8.01	159
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	43.1	21.7	0	1.28	66.1
SEC-BUTYL ALCOHOL	0	0	0	0.378	0.378
SELENIUM & COMPOUNDS	0.000559	0.000803	0	0	0.00136
STYRENE (ETHENYLBENZENE)	259	21.1	0	0	281
TETRAMETHYLCYCLOPENTANE	0	0	0	0.0378	0.0378
TETRAMETHYLTHIOUREA	0	0	0	0.0054	0.0054
TOLUENE	4520	2400	0.02	243	7170
TOTAL SUSPENDED PARTICULATE	14800	610	0	0	15400
TOTAL VOLATILE ORGANIC COMPOUNDS	30800	8310	0.721	1560	40700
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.194	0.0057	0	0.0028	0.203
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.582	0.0171	0	0.00839	0.608
TRANS-1,3-DIMETHYLCYCLOPENTANE	1.36	0.0399	0	0.0196	1.42
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.776	0.0228	0	0.0112	0.81
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.97	0.0285	0	0.014	1.01
TRANS-2-BUTENE	54.9	1.61	0	0.791	57.3
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.582	0.0171	0	0.00839	0.608
TRANS-2-PENTENE	57	1.68	0	0.822	59.5
TRICHLOROETHYLENE (TCE)	1.15	0	0	11.5	12.7
TRICHLOROTRIFLUOROETHANE-F113	0	0	0	2.21	2.21
TRIMETHYLBENZENES	19	5.99	0	0.325	25.3
TRIMETHYLCYCLOHEXANES	53.5	91.9	0	4.9	150
TRIMETHYLCYCLOPENTANE	0.189	4.11	0	0.194	4.49
TRIMETHYLHEPTANES	0	0	0	0.119	0.119
TRIMETHYLOCTANES	0	0	0	0.027	0.027
VANADIUM & COMPOUNDS	0.0103	0.000803	0	0	0.0111
ZINC & COMPOUNDS	0.238	0.399	0	0	0.637

A.11 BOAT MOORING OR STORAGE**Table A-11: Annual emissions from boat mooring or storage**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.000053	0	0	0	0.000053
1,2,3-TRIMETHYLBENZENE	0.666	0.00827	0	0.391	1.07
1,2,4-TRIMETHYLBENZENE	0.878	0.011	0	0.347	1.24
1,3,5-TRIMETHYLBENZENE	0.501	0.00623	0	0.295	0.802
1,4-PENTADIENE	1.74	0.0219	0	0.456	2.21
1-BUTENE	7.99	0.101	0	2.1	10.2
1-PENTENE	9.55	0.121	0	2.51	12.2
2,2,3,TRIMETHYLHEXANE	0.174	0.00219	0	0.0456	0.221
2,2,3-TRIMETHYLBUTANE	0.347	0.00438	0	0.0912	0.443
2,2,4-TRIMETHYLPENTANE	8.51	0.107	0	2.23	10.9
2,2-DIMETHYLBUTANE	2.61	0.0329	0	0.684	3.32
2,2-DIMETHYLHEXANE	0.347	0.00438	0	0.0912	0.443
2,2-DIMETHYLPENTANE	0.868	0.011	0	0.228	1.11
2,3,3-TRIMETHYLPENTANE	0.868	0.011	0	0.228	1.11
2,3,4-TRIMETHYLPENTANE	0.868	0.011	0	0.228	1.11
2,3-DIMETHYLBUTANE	14.1	0.178	0	3.69	17.9
2,3-DIMETHYLHEXANE	1.39	0.0175	0	0.365	1.77
2,3-DIMETHYLPENTANE	3.13	0.0395	0	0.821	3.99
2,4-DIMETHYLHEXANE	7.52	0.0307	0	0.638	8.19
2,4-DIMETHYLPENTANE	2.78	0.0351	0	0.73	3.54
2,5-DIMETHYLHEXANE	1.22	0.0153	0	0.319	1.55
2-METHYL-1-BUTENE	19.6	0.248	0	5.15	25
2-METHYL-2-BUTENE	76.9	0.971	0	20.2	98.1
2-METHYLHEPTANE	2.61	0.0329	0	0.684	3.32
2-METHYLHEXANE	8.86	0.112	0	2.33	11.3
2-METHYLNONANE	0.174	0.00219	0	0.0456	0.221
2-METHYLOCTANE	0.174	0.00219	0	0.0456	0.221
2-METHYLPENTANE	83	1.05	0	21.8	106
2-METHYLPROPANE; ISOBUTANE	53	0.669	0	13.9	67.5
3,3-DIMETHYLPENTANE	1.04	0.0132	0	0.274	1.33
3-ETHYLPENTANE	1.74	0.0219	0	0.456	2.21
3-METHYL-1-BUTENE	0.521	0.00658	0	0.137	0.664
3-METHYLHEPTANE	2.43	0.0307	0	0.638	3.1
3-METHYLHEXANE	10.9	0.138	0	2.87	14
3-METHYLOCTANE	0.347	0.00438	0	0.0912	0.443
3-METHYLPENTANE	40.6	0.513	0	10.7	51.8
4-METHYLHEPTANE	1.39	0.0175	0	0.365	1.77
4-METHYLOCTANE	0.174	0.00219	0	0.0456	0.221
ACETONE	94	0	0	0	94
AMMONIA (TOTAL)	0.0000648	0	0	0	0.0000648
ANTIMONY & COMPOUNDS	0.0269	0	0	0.0265	0.0534
ARSENIC & COMPOUNDS	0.00514	0	0	0.00506	0.0102
BENZENE	13.5	0.171	0	3.56	17.3
C8 INTERNAL ALKENES	7.63	0	0	0	7.63
CADMIUM & COMPOUNDS	0.00119	0	0	0.00117	0.00236

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHLOROFORM (TRICHLOROMETHANE)	0.00004	0	0	0	0.00004
CHROMIUM (III) COMPOUNDS	0.00471	0	0	0.00464	0.00934
CHROMIUM (VI) COMPOUNDS	0.00202	0	0	0.00199	0.004
CIS-1,3- DIMETHYLCYCLOPENTANE	3.82	0.0482	0	1	4.87
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	2.43	0.0307	0	0.638	3.1
CIS-1-2- DIMETHYLCYCLOPENTANE	2.43	0.0307	0	0.638	3.1
CIS-2-BUTENE	5.21	0.0658	0	1.37	6.64
CIS-2-PENTENE	28.1	0.355	0	7.39	35.9
COBALT & COMPOUNDS	0.0091	0	0	0.00896	0.0181
COPPER & COMPOUNDS	0.0586	0	0	0.0577	0.116
CUMENE (1- METHYLETHYLBENZENE)	0.239	0.00297	0	0.141	0.383
CYCLOHEXANE	0.868	0.011	0	0.228	1.11
CYCLOPENTENE	0.521	0.00658	0	0.137	0.664
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.00006	0	0	0	0.00006
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	7.29	0	0	0	7.29
ETHYLBENZENE	1.76	0.0223	0	0.472	2.26
ETHYLCYCLOHEXANE	5.29	0	0	0	5.29
ETHYLCYCLOPENTANE	11.8	0.00658	0	0.137	11.9
FORMALDEHYDE	0.000006	0	0	0	0.000006
HEXADECANE	0.00142	0.000017	0	0.000836	0.00228
ISOMERS OF NONANE (C9 PARAFFIN)	29.7	0	0	0	29.7
ISOMERS OF PENTANE	861	10.9	0	226	1100
ISOMERS OF XYLENE	38	0.126	0	2.76	40.9
LEAD & COMPOUNDS	0.0491	0	0	0.0483	0.0974
MANGANESE & COMPOUNDS	0.317	0	0	0.312	0.628
MERCURY & COMPOUNDS	0.00356	0	0	0.00351	0.00707
METHANE	0.0667	0	0	0	0.0667
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	101	0	0	0	101
METHYL ISOBUTYL KETONE	40.6	0	0	0	40.6
METHYLCYCLOHEXANE	102	0	0	0	102
METHYLCYCLOPENTANE	5.04	0.0636	0	1.32	6.42
M-ETHYLTOLUENE	1.61	0.0202	0	0.609	2.24
MOLYBDENUM	0.00198	0	0	0.00195	0.00393
N-BUTANE	232	2.92	0	60.8	295
N-BUTYL ACETATE	99.8	0	0	0	99.8
N-DECANE	0.174	0.00219	0	0.0456	0.221
N-DODECANE	0.0389	0.000483	0	0.0229	0.0623
N-HEPTADECANE	0.000472	0.000005	0	0.000278	0.000755
N-HEPTANE	74.9	0.0855	0	1.78	76.7
N-HEXANE	3.82	0.0482	0	1	4.87

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NICKEL & COMPOUNDS	0.00475	0	0	0.00467	0.00942
N-NONANE	0.174	0.00219	0	0.0456	0.221
N-PENTADECANE	0.00664	0.000082	0	0.00391	0.0106
N-PROPYLBENZENE	0.638	0.008	0	0.262	0.909
N-TETRADECANE	0.019	0.000236	0	0.0112	0.0304
N-TRIDECANE	0.0261	0.000324	0	0.0154	0.0418
N-UNDECANE	0.0128	0.000159	0	0.00754	0.0205
O-ETHYLTOLUENE	0.489	0.00608	0	0.288	0.783
PARTICULATE MATTER ≤ 10 µm	76	0	0	74.8	151
PARTICULATE MATTER ≤ 2.5 µm	18.4	0	0	18.1	36.5
P-DICHLOROBENZENE	0.000006	0	0	0	0.000006
PERCHLOROETHYLENE	0.000046	0	0	0	0.000046
P-ETHYLTOLUENE	1.46	0.0182	0	0.688	2.17
SELENIUM & COMPOUNDS	0.000791	0	0	0.000779	0.00157
TOLUENE	332	0.418	0	8.74	341
TOTAL SUSPENDED PARTICULATE	396	0	0	390	785
TOTAL VOLATILE ORGANIC COMPOUNDS	2600	21.3	0	444	3060
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.174	0.00219	0	0.0456	0.221
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.521	0.00658	0	0.137	0.664
TRANS-1,3-DIMETHYLCYCLOPENTANE	1.22	0.0153	0	0.319	1.55
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.695	0.00877	0	0.182	0.886
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.868	0.011	0	0.228	1.11
TRANS-2-BUTENE	49.1	0.62	0	12.9	62.7
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.521	0.00658	0	0.137	0.664
TRANS-2-PENTENE	51.1	0.645	0	13.4	65.1
TRICHLOROETHYLENE (TCE)	0.000006	0	0	0	0.000006
TRIMETHYLCYCLOHEXANES	5.42	0	0	0	5.42
TRIMETHYLCYCLOPENTANE	8.64	0	0	0	8.64
VANADIUM & COMPOUNDS	0.000791	0	0	0.000779	0.00157
ZINC & COMPOUNDS	0.392	0	0	0.386	0.778

A.12 BREWING AND DISTILLING

Table A-12: Annual emissions from brewing and distilling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	17300	0	0	0	17300
ANTIMONY & COMPOUNDS	0.0482	0	0	0	0.0482
ARSENIC & COMPOUNDS	0.0288	0	0	0	0.0288
BENZENE	49.1	0	0	0	49.1
BERYLLIUM & COMPOUNDS	0.00117	0	0	0	0.00117

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.113	0	0	0	0.113
CARBON DIOXIDE	13900000	0	0	0	13900000
CARBON MONOXIDE	8220	0	0	0	8220
CHROMIUM (III) COMPOUNDS	0.137	0	0	0	0.137
CHROMIUM (VI) COMPOUNDS	0.0104	0	0	0	0.0104
COBALT & COMPOUNDS	0.0243	0	0	0	0.0243
COPPER & COMPOUNDS	0.191	0	0	0	0.191
CYCLOHEXANE	12.3	0	0	0	12.3
ETHYL ACETATE	7.64	0	0	0	7.64
ETHYL ALCOHOL	18300	0	0	0	18300
FORMALDEHYDE	98.1	0	0	0	98.1
HYDROGEN SULFIDE	13.3	0	0	0	13.3
ISOAMYL ALCOHOL (3-METHYL-1-BUTANOL)	2.15	0	0	0	2.15
ISOBUTYL ALCOHOL	0.716	0	0	0	0.716
ISOMERS OF HEXANE	12.3	0	0	0	12.3
ISOMERS OF PENTANE	110	0	0	0	110
LEAD & COMPOUNDS	0.137	0	0	0	0.137
MANGANESE & COMPOUNDS	0.605	0	0	0	0.605
MERCURY & COMPOUNDS	0.0321	0	0	0	0.0321
METHANE	687	0	0	0	687
MOLYBDENUM	0.00355	0	0	0	0.00355
N-BUTANE	110	0	0	0	110
NICKEL & COMPOUNDS	0.217	0	0	0	0.217
NITRIC OXIDE	11600	0	0	0	11600
NITROGEN DIOXIDE	932	0	0	0	932
NITROUS OXIDE	22.8	0	0	0	22.8
N-PENTANE	73.6	0	0	0	73.6
OXIDES OF NITROGEN	18600	0	0	0	18600
PARTICULATE MATTER ≤ 10 µm	1240	0	0	0	1240
PARTICULATE MATTER ≤ 2.5 µm	1140	0	0	0	1140
POLYCHLORINATED DIOXINS AND FURANS	0.000000117	0	0	0	0.000000117
POLYCYCLIC AROMATIC HYDROCARBONS	0.0675	0	0	0	0.0675
PROPANE	49.1	0	0	0	49.1
SELENIUM & COMPOUNDS	0.00375	0	0	0	0.00375
SULFUR DIOXIDE	51.3	0	0	0	51.3
TOLUENE	24.5	0	0	0	24.5
TOTAL SUSPENDED PARTICULATE	1820	0	0	0	1820
TOTAL VOLATILE ORGANIC COMPOUNDS	18800	0	0	0	18800
VANADIUM & COMPOUNDS	0.0504	0	0	0	0.0504
ZINC & COMPOUNDS	3.52	0	0	0	3.52

A.13 CEMENT OR LIME HANDLING**Table A-13: Annual emissions from cement or lime handling**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	4.81	0	4.81
1,2,3-TRIMETHYLBENZENE	0.577	0.0535	0	0	0.63
1,2,4-TRIMETHYLBENZENE	0.309	0.0643	0	0	0.373
1,3,5-TRIMETHYLBENZENE	0.434	0.0403	0	0	0.474
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0.0742	0	0.0742
1,4-DIETHYL-CYCLOHEXANE	0	0	0.236	0	0.236
1,4-PENTADIENE	0	0.119	0	0	0.119
1-BUTENE	0	0.546	0	0	0.546
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0.00216	0	0.00216
1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0.00216	0	0.00216
1-PENTENE	0	0.652	0	0	0.652
2,2,3,TRIMETHYLHEXANE	0	0.0119	0	0	0.0119
2,2,3-TRIMETHYLBUTANE	0	0.0237	0	0	0.0237
2,2,4-TRIMETHYLPENTANE	0	0.581	0	0	0.581
2,2-DIMETHYLBUTANE	0	0.178	0	0	0.178
2,2-DIMETHYLHEXANE	0	0.0237	0	0	0.0237
2,2-DIMETHYLPENTANE	0	0.0593	0	0	0.0593
2,3,3-TRIMETHYLPENTANE	0	0.0593	0	0	0.0593
2,3,4-TRIMETHYLPENTANE	0	0.0593	0	0	0.0593
2,3-DIMETHYLBUTANE	0	0.961	0	0	0.961
2,3-DIMETHYLHEXANE	0	0.0949	0	0	0.0949
2,3-DIMETHYLPENTANE	0	0.214	0	0	0.214
2,4-DIMETHYLHEXANE	19200	0.166	1.93	0	19200
2,4-DIMETHYLPENTANE	4570	0.19	0.457	0	4570
2,5-DIMETHYLHEXANE	0	0.083	0	0	0.083
2-METHYL-1-BUTENE	0	1.34	0	0	1.34
2-METHYL-2-BUTENE	0	5.26	0	0	5.26
2-METHYL-3-HEXANONE	4310	0	1.01	0	4310
2-METHYLHEPTANE	0	0.178	0	0	0.178
2-METHYLHEXANE	0	0.605	0	0	0.605
2-METHYLNONANE	0	0.0119	0	0	0.0119
2-METHYLOCTANE	0	0.0119	0	0	0.0119
2-METHYLPENTANE	0	5.67	0	0	5.67
2-METHYLPROPANE; ISOBUTANE	0	3.62	0	0	3.62
3,3-DIMETHYLPENTANE	0	0.0712	0	0	0.0712
3-ETHYLPENTANE	0	0.119	0	0	0.119
3-METHYL-1-BUTENE	0	0.0356	0	0	0.0356
3-METHYLHEPTANE	0	0.166	0	0	0.166
3-METHYLHEXANE	0	0.747	0	0	0.747
3-METHYLOCTANE	0	0.0237	0	0	0.0237
3-METHYLPENTANE	0	2.78	0	0	2.78
4-METHYLHEPTANE	0	0.0949	0	0	0.0949
4-METHYLOCTANE	0	0.0119	0	0	0.0119
ACETONE	1780	0	0.644	0	1780

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	495	2.07	0	0	497
ANTIMONY & COMPOUNDS	0.999	0.000178	0.248	0	1.25
ARSENIC & COMPOUNDS	0.467	0.00543	0.0465	0.000292	0.519
BENZALDEHYDE	0	0	0.062	0	0.062
BENZENE	80.8	3.03	0.216	0	84.1
BERYLLIUM & COMPOUNDS	0.0114	0.0000987	0.00000404	0.00000313	0.0115
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0.00648	0	0.00648
BORON & COMPOUNDS	175	0	0	0	175
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	17400	0	1.74	0	17400
BUTYLBENZENE ISOMERS	0	0	0.0886	0	0.0886
BUTYLCYCLOHEXANE	0	0	0.0346	0	0.0346
C10 OLEFINS	0	0	0.661	0	0.661
C11 OLEFINS	0	0	0.0194	0	0.0194
C12 OLEFINS	0	0	0.00432	0	0.00432
C8 INTERNAL ALKENES	172	0	0.0403	0	172
C8 OLEFINS	0	0	0.067	0	0.067
CADMIUM & COMPOUNDS	0.105	0.00538	0.0369	0.0000408	0.147
CARBON DIOXIDE	4760000	516000	0	0	5280000
CARBON MONOXIDE	97200	353	0	0	97600
CHROMIUM (III) COMPOUNDS	11.7	0.00621	0.0373	0.0000439	11.8
CHROMIUM (VI) COMPOUNDS	0.0749	0.000302	0.0159	0	0.0912
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0.261	0	0	0.261
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0	0.166	0	0	0.166
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0.166	0	0	0.166
CIS-2-BUTENE	0	0.356	0	0	0.356
CIS-2-PENTENE	0	1.92	0	0	1.92
COBALT & COMPOUNDS	0.61	0.000398	0.0224	0	0.632
COPPER & COMPOUNDS	9.73	0.00407	0.49	0	10.2
CUMENE (1-METHYLETHYLBENZENE)	0.207	0.0192	0.00648	0	0.233
CYCLOHEXANE	617	0.585	0.161	0	618
CYCLOPENTENE	0	0.0356	0	0	0.0356
DECALINS (MIXED CIS,TRANS)	0	0	0.013	0	0.013
DIBROMOETHANE	0	0	0.0742	0	0.0742
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0.985	0	0.985
DIETHYLCYCLOHEXANE	0	0	0.666	0	0.666
DIMETHYLBENZYLALCOHOL	0	0	0.00432	0	0.00432
DIMETHYLCYCLOBUTANONE	0	0	0.013	0	0.013
DIMETHYLCYCLOHEXANES	10800	0	1.26	0	10800
DIMETHYLCYCLOPENTANE	0	0	0.153	0	0.153
DIMETHYLHEPTANES	1790	0	0.184	0	1790
DIMETHYLHEXANES	0	0	0.0713	0	0.0713
DIMETHYLNONANES	0	0	0.0454	0	0.0454
DIMETHYLOCTANES	0	0	0.0648	0	0.0648
ETHYL ACETATE	2340	0	0.548	0	2340

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ETHER	0	0	0.173	0	0.173
ETHYL PROPYLCYCLOHEXANES	0	0	0.013	0	0.013
ETHYLBENZENE	620	0.121	0.221	0	620
ETHYLCYCLOHEXANE	3690	0	0.401	0	3690
ETHYLCYCLOPENTANE	253	0.0356	0.0591	0	253
ETHYLDIMETHYLPHENOL	0	0	0.013	0	0.013
ETHYLHEPTENE	0	0	0.191	0	0.191
ETHYLHEXANE	0	0	0.0108	0	0.0108
ETHYLMETHYLCYCLOHEXANES	0	0	0.149	0	0.149
ETHYLMETHYLOCTANE	0	0	0.0151	0	0.0151
ETHYLOCTANE	0	0	0.00432	0	0.00432
ETHYLOCTENES	0	0	0.00864	0	0.00864
ETHYLTOLUENES {METHYLETHYLBENZENES}	230	0	0.0537	0	230
FLUORIDE COMPOUNDS	7.01	0	0	0	7.01
FORMALDEHYDE	162	4.21	0	0	166
HEXADECANE	0.00123	0.000114	0	0	0.00135
HYDROCHLORIC ACID	1.14	0	0	0	1.14
ISOMERS OF C10H18	0	0	0.363	0	0.363
ISOMERS OF C9H16	0	0	0.0259	0	0.0259
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0.815	0	0.815
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	0.0605	0	0.0605
ISOMERS OF HEXANE	20.2	0.526	0	0	20.7
ISOMERS OF NONANE (C9 PARAFFIN)	6590	0	1.18	0	6590
ISOMERS OF PENTANE	182	63.5	0	0	245
ISOMERS OF PROPYLBENZENE	0	0	0.0605	0	0.0605
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0	0.00648	0	0.00648
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0.00216	0	0.00216
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0.334	0	0.334
ISOMERS OF XYLENE	13000	0.687	3.24	0	13000
ISOPROPYL ALCOHOL	0	0	0.4	0	0.4
LEAD & COMPOUNDS	12.5	0.00443	0.404	0.000128	13
MANGANESE & COMPOUNDS	361	0.552	2.86	0.0352	364
MERCURY & COMPOUNDS	0.14	0.00113	0.0419	0	0.183
METHANE	1130	29.5	0	0	1160
METHYL AMYL KETONE	953	0	0.223	0	953
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	620	0	0.714	0	621
METHYL HEXANE	0	0	0.274	0	0.274
METHYL ISOBUTYL KETONE	413	0	0.0967	0	413
METHYL PROPYLCYCLOHEXANES	0	0	0.0562	0	0.0562
METHYLCYCLOHEXANE	6600	0	2.15	0	6600
METHYLCYCLOPENTANE	0	0.344	0	0	0.344
METHYLDECALINS	0	0	0.00648	0	0.00648
METHYLDECANES	0	0	0.0972	0	0.0972

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDECENES	0	0	0.0173	0	0.0173
METHYLDODECANES	0	0	0.00432	0	0.00432
METHYLHEXENES	0	0	0.0259	0	0.0259
METHYLNONANE	0	0	0.162	0	0.162
METHYLNONENES	0	0	0.00648	0	0.00648
METHYLOCTANES	0	0	0.158	0	0.158
METHYLPROPYLNONANE	0	0	0.00648	0	0.00648
M-ETHYLTOLUENE	0.493	0.117	0	0	0.61
METHYLUNDECANE	0	0	0.00648	0	0.00648
MOLYBDENUM	0.0709	0.0000139	0.0294	0	0.1
NAPHTHALENE	0	0	0.00648	0	0.00648
N-BUTANE	182	20.5	0	0	202
N-BUTYL ACETATE	19200	0	3.31	0	19200
N-DECANE	0	0.0119	0	0	0.0119
N-DODECANE	0.0337	0.00313	0	0	0.0368
N-HEPTADECANE	0.000411	0.000038	0	0	0.000449
N-HEPTANE	5280	0.463	2.86	0	5290
N-HEXANE	0	0.261	0.00864	0	0.27
NICKEL & COMPOUNDS	29.8	0.057	0.11	0.00308	30
NITRIC OXIDE	14300	261	0	0	14600
NITROGEN DIOXIDE	1160	21	0	0	1180
NITROUS OXIDE	9	0.976	0	0	9.98
N-NONANE	0	0.0119	0.188	0	0.2
NONADIENE	0	0	0.00432	0	0.00432
N-PENTADECANE	0.00576	0.000533	0	0	0.00629
N-PENTANE	121	3.16	0	0	124
N-PENTYLCYCLOHEXANE	0	0	0.0108	0	0.0108
N-PROPYLBENZENE	0.252	0.0471	0.0108	0	0.31
N-TETRADECANE	0.0164	0.00152	0	0	0.018
N-TRIDECANE	0.0226	0.0021	0	0	0.0247
N-UNDECANE	0.0111	0.00103	0.205	0	0.217
O-ETHYLTOLUENE	0.424	0.0393	0	0	0.463
OXIDES OF NITROGEN	23100	421	0	0	23600
PARTICULATE MATTER ≤ 10 µm	49000	2380	992	5710	58100
PARTICULATE MATTER ≤ 2.5 µm	12300	547	116	856	13800
PENTAMETHYLBENZENE	0	0	0.00648	0	0.00648
PERCHLOROETHYLENE	0	0	1.6	0	1.6
P-ETHYLTOLUENE	0.813	0.111	0	0	0.923
PHTHALIC ANHYDRIDE	0	0	0.062	0	0.062
POLYCHLORINATED DIOXINS AND FURANS	0.0000968	0.000000005	0	0	0.0000968
POLYCYCLIC AROMATIC HYDROCARBONS	7.65	0.00289	0	0	7.65
PROPANE	80.8	2.1	0	0	82.9
PROPENYLCYCLOHEXANE	0	0	0.00432	0	0.00432
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	0.0856	0	0.0856
SEC-BUTYL ALCOHOL	0	0	0.151	0	0.151

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SELENIUM & COMPOUNDS	2.18	0.000105	0.009	0	2.19
SULFUR DIOXIDE	2520	2.2	0	0	2520
TETRAMETHYLCYCLOPENTANE	0	0	0.0151	0	0.0151
TETRAMETHYLTHIOUREA	0	0	0.00216	0	0.00216
TOLUENE	87100	3.32	13.2	0	87100
TOTAL SUSPENDED PARTICULATE	100000	4160	3370	13700	122000
TOTAL VOLATILE ORGANIC COMPOUNDS	213000	138	56.1	0	213000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0.0119	0	0	0.0119
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0.0356	0	0	0.0356
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0.083	0	0	0.083
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0.0475	0	0	0.0475
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0.0593	0	0	0.0593
TRANS-2-BUTENE	0	3.36	0	0	3.36
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0.0356	0	0	0.0356
TRANS-2-PENTENE	0	3.49	0	0	3.49
TRICHLOROETHYLENE (TCE)	0	0	4.56	0	4.56
TRICHLOROTRIFLUOROETHANE-F113	0	0	0.886	0	0.886
TRIMETHYLBENZENES	126	0	0.0965	0	126
TRIMETHYLCYCLOHEXANES	4290	0	0.498	0	4290
TRIMETHYLCYCLOPENTANE	195	0	0.123	0	195
TRIMETHYLHEPTANES	0	0	0.0475	0	0.0475
TRIMETHYLOCTANES	0	0	0.0108	0	0.0108
VANADIUM & COMPOUNDS	0.0898	0.000185	0.212	0	0.302
ZINC & COMPOUNDS	71.1	0.123	1.4	0	72.6

A.14 CEMENT OR LIME PRODUCTION

Table A-14: Annual emissions from cement or lime production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.3	0	0	0.225	0.525
1,2,4-TRIMETHYLBENZENE	0.161	0	0	0.121	0.282
1,3,5-TRIMETHYLBENZENE	0.226	0	0	0.17	0.395
1-BUTENE	9.7	0	0	43.9	53.6
1-DECENE	32.8	0	0	149	181
1-HEXENE	44.6	0	0	202	247
2,4-DIMETHYLPENTANE	78.5	0	0	355	434
2-METHYL-BUTANE	15	0	0	67.9	82.8
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.000924	0.000924
AMMONIA (TOTAL)	6330	0	0	97000	103000
ANTIMONY & COMPOUNDS	0.143	0	0	31.6	31.7
ARSENIC & COMPOUNDS	0.812	0	0.00438	56.1	56.9
BENZENE	12.3	0	0	0.000238	12.3
BERYLLIUM & COMPOUNDS	0.0000582	0	0.0000469	1.45	1.45

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BORON & COMPOUNDS	0	0	0	0.985	0.985
C7 INTERNAL ALKENES	45.3	0	0	205	251
CADMIUM & COMPOUNDS	0.503	0	0.000611	96.8	97.3
CARBON DIOXIDE	351000000	0	0	1660000000	2010000000
CARBON DISULFIDE	6.43	0	0	90.8	97.2
CARBON MONOXIDE	47200	0	0	1620000	1670000
CHROMIUM (III) COMPOUNDS	1.04	0	0.000658	184	185
CHROMIUM (VI) COMPOUNDS	0.0359	0	0	29	29.1
CIS-2-PENTENE	12.9	0	0	58.4	71.3
COBALT & COMPOUNDS	0.0488	0	0	3.41	3.46
COPPER & COMPOUNDS	0.603	0	0	323	323
CUMENE (1-METHYLETHYLBENZENE)	0.108	0	0	0.081	0.189
CYCLOHEXANE	3.04	0	0	0	3.04
ETHANE	25.7	0	0	116	142
ETHYLBENZENE	138	0	0	626	764
FLUORIDE COMPOUNDS	52.6	0	0	2860	2910
FORMALDEHYDE	24.5	0	0	0	24.5
HEXADECANE	0.000639	0	0	0.000481	0.00112
HYDROCHLORIC ACID	2920	0	0	21500	24500
ISOMERS OF HEPTANE	0	0	0	0.000496	0.000496
ISOMERS OF HEXANE	0	0	0	0.000506	0.000506
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0.000038	0.000038
ISOMERS OF PENTANE	0	0	0	0.00111	0.00111
ISOMERS OF XYLENE	588	0	0	2660	3250
LEAD & COMPOUNDS	42.4	0	0.00192	12100	12200
MANGANESE & COMPOUNDS	53.6	0	0.528	411	465
MERCURY & COMPOUNDS	12.9	0	0	66	78.9
METHANE	109	0	0	0.000874	109
M-ETHYLTOLUENE	0.257	0	0	0.193	0.449
MOLYBDENUM	0.0158	0	0	163	163
N-BUTANE	12	0	0	54.5	66.6
N-DODECANE	0.0175	0	0	0.0132	0.0307
N-HEPTADECANE	0.000211	0	0	0.000159	0.00037
N-HEPTANE	18.4	0	0	83.4	102
N-HEXANE	119	0	0	526	645
NICKEL & COMPOUNDS	0.593	0	0.0461	411	412
NITRIC OXIDE	501000	0	0	2610000	3110000
NITROGEN DIOXIDE	40400	0	0	211000	251000
NITROUS OXIDE	2100	0	0	5130	7230
N-PENTADECANE	0.00299	0	0	0.00225	0.00524
N-PENTANE	0	0	0	0.001	0.001
N-PROPYLBENZENE	0.131	0	0	0.0985	0.23
N-TETRADECANE	0.00855	0	0	0.00643	0.015
N-TRIDECANE	0.0118	0	0	0.00884	0.0206
N-UNDECANE	0.00577	0	0	0.00434	0.0101
O-ETHYLTOLUENE	0.22	0	0	0.166	0.386

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	808000	0	0	4210000	5020000
PARTICULATE MATTER ≤ 10 µm	40800	0	1370	637000	679000
PARTICULATE MATTER ≤ 2.5 µm	37700	0	225	544000	582000
P-ETHYLTOLUENE	0.422	0	0	0.317	0.74
POLYCHLORINATED DIOXINS AND FURANS	0.000089	0	0	0.0000821	0.000091
POLYCYCLIC AROMATIC HYDROCARBONS	153	0	0	476	629
PROPANE	21.9	0	0	99	121
SELENIUM & COMPOUNDS	8.82	0	0	205	214
SULFUR DIOXIDE	8190	0	0	371000	379000
SULFURIC ACID	11700	0	0	37800	49500
TIN & COMPOUNDS	0.623	0	0	39.7	40.3
TOLUENE	75.2	0	0	313	388
TOTAL SUSPENDED PARTICULATE	51900	0	2240	1180000	1240000
TOTAL VOLATILE ORGANIC COMPOUNDS	1280	0	0	5560	6840
VANADIUM & COMPOUNDS	0.902	0	0	111	112
ZINC & COMPOUNDS	34.6	0	0	2350	2390

A.15 CERAMICS PRODUCTION

Table A-15: Annual emissions from ceramics production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	1.1	0	0	0.177	1.28
1,2,4-TRIMETHYLBENZENE	0.59	0	0	0.0949	0.685
1,3,5-TRIMETHYLBENZENE	0.829	0	0	0.133	0.962
2,4-DIMETHYLHEXANE	48.3	0	0	0	48.3
2,4-DIMETHYLPENTANE	11.4	0	0	0	11.4
2-METHYL-3-HEXANONE	25.2	0	0	0	25.2
ACETONE	8.53	0	0	0	8.53
AMMONIA (TOTAL)	0	0	0	348	348
ANTIMONY & COMPOUNDS	18.1	0	0	8.79	26.9
ARSENIC & COMPOUNDS	21.2	0	0	6.22	27.4
BENZENE	2620	0	0	274	2900
BERYLLIUM & COMPOUNDS	0.33	0	0	0.0576	0.388
BORON & COMPOUNDS	6.55	0	0	1.65	8.2
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	43.5	0	0	0	43.5
C8 INTERNAL ALKENES	1.01	0	0	0	1.01
CADMIUM & COMPOUNDS	2.58	0	0	1.51	4.09
CARBON DIOXIDE	89400000	0	0	43600000	133000000
CARBON MONOXIDE	767000	0	0	168000	935000
CHROMIUM (III) COMPOUNDS	25.9	0	0	9.91	35.8
CHROMIUM (VI) COMPOUNDS	1.16	0	0	0.865	2.02
COBALT & COMPOUNDS	4.64	0	0	2.31	6.95

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
COPPER & COMPOUNDS	52	0	0	24.4	76.4
CUMENE (1-METHYLETHYLBENZENE)	0.395	0	0	0.0636	0.459
CYCLOHEXANE	659	0	0	68.6	727
DIMETHYLCYCLOHEXANES	26.9	0	0	0	26.9
DIMETHYLHEPTANES	4.5	0	0	0	4.5
ETHYL ACETATE	13.7	0	0	0	13.7
ETHYLBENZENE	3.67	0	0	0.00744	3.68
ETHYLCYCLOHEXANE	9.6	0	0	0	9.6
ETHYLCYCLOPENTANE	1.48	0	0	0	1.48
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.34	0	0	0	1.34
FLUORIDE COMPOUNDS	251000	0	0	38600	290000
FORMALDEHYDE	5240	0	0	549	5790
HEXADECANE	0.00235	0	0	0.000377	0.00273
HYDROCHLORIC ACID	101000	0	0	10500	112000
ISOMERS OF HEXANE	655	0	0	68.6	724
ISOMERS OF NONANE (C9 PARAFFIN)	18.7	0	0	0	18.7
ISOMERS OF PENTANE	5900	0	0	618	6510
ISOMERS OF XYLENE	55.6	0	0	0.114	55.7
LEAD & COMPOUNDS	40.6	0	0	26.6	67.2
MANGANESE & COMPOUNDS	689	0	0	196	885
MERCURY & COMPOUNDS	7.06	0	0	2.38	9.44
METHANE	36700	0	0	3840	40500
METHYL AMYL KETONE	5.57	0	0	0	5.57
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	3.63	0	0	0	3.63
METHYL ISOBUTYL KETONE	2.42	0	0	0	2.42
METHYLCYCLOHEXANE	24.2	0	0	0	24.2
M-ETHYLTOLUENE	0.942	0	0	0.151	1.09
MOLYBDENUM	2.03	0	0	0.813	2.84
N-BUTANE	5900	0	0	618	6510
N-BUTYL ACETATE	63.8	0	0	0	63.8
N-DODECANE	0.0643	0	0	0.0103	0.0747
N-HEPTADECANE	0.000779	0	0	0.000124	0.000903
N-HEPTANE	19.7	0	0	0	19.7
NICKEL & COMPOUNDS	30.3	0	0	7.16	37.5
NITRIC OXIDE	141000	0	0	42700	183000
NITROGEN DIOXIDE	11300	0	0	3440	14800
NITROUS OXIDE	59600	0	0	10100	69700
N-PENTADECANE	0.011	0	0	0.00177	0.0127
N-PENTANE	3930	0	0	412	4340
N-PROPYLBENZENE	0.481	0	0	0.0773	0.558
N-TETRADECANE	0.0314	0	0	0.00505	0.0364
N-TRIDECANE	0.0432	0	0	0.00694	0.0501
N-UNDECANE	0.0212	0	0	0.00341	0.0246
O-ETHYLTOLUENE	0.809	0	0	0.13	0.939

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	227000	0	0	68800	296000
PARTICULATE MATTER ≤ 10 µm	681000	0	0	174000	855000
PARTICULATE MATTER ≤ 2.5 µm	478000	0	0	115000	593000
P-ETHYLTOLUENE	1.55	0	0	0.249	1.8
POLYCHLORINATED DIOXINS AND FURANS	0.000111	0	0	0.000017	0.000128
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.113	0.113
PROPANE	2620	0	0	274	2900
SELENIUM & COMPOUNDS	2.96	0	0	1.31	4.26
SULFUR DIOXIDE	505000	0	0	76500	581000
SULFUR TRIOXIDE	7520	0	0	0	7520
SULFURIC ACID	21800	0	0	8200	30000
TIN & COMPOUNDS	0	0	0	2.82	2.82
TOLUENE	1560	0	0	137	1700
TOTAL SUSPENDED PARTICULATE	1410000	0	0	390000	1800000
TOTAL VOLATILE ORGANIC COMPOUNDS	29500	0	0	3020	32500
TRIMETHYLBENZENES	0.739	0	0	0	0.739
TRIMETHYLCYCLOHEXANES	11.1	0	0	0	11.1
TRIMETHYLCYCLOPENTANE	1.14	0	0	0	1.14
VANADIUM & COMPOUNDS	15.1	0	0	4.64	19.7
ZINC & COMPOUNDS	145	0	0	88.7	233

A.16 CHEMICAL PRODUCTION

Table A-16: Annual emissions from chemical production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	1860	5.23	0	96.2	1960
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.0303	0	0	0	0.0303
1,2,3-TRIMETHYLBENZENE	1.85	4330	0.252	2.94	4340
1,2,4-TRIMETHYLBENZENE	9.59	2330	0.135	5.27	2340
1,2-DICHLORO-1,1,2,2- TETRAFLUOROETHANE {CFC-114}	10.2	0	0	0	10.2
1,2-DICHLOROETHANE	368	0	0	0	368
1,2-DICHLOROPROPANE	11.7	0	0	0	11.7
1,2-DIETHYLBENZENE (ORTHO)	1.98	0	0	0	1.98
1,2-PROPADIENE	0.726	0	0	0	0.726
1,3,5-TRIMETHYLBENZENE	8.09	3260	0.19	2.22	3270
1,3-BUTADIENE	0	1.92	0	0	1.92
1,3-DICHLOROBENZENE {M- DICHLOROBENZENE}	1.47	0	0	0	1.47
1,3-DIETHYL-5-METHYL CYCLOHEXANE	115	0	0	0	115
1,4-DIETHYLBENZENE (PARA)	1.52	0	0	0	1.52
1,4-DIETHYL-CYCLOHEXANE	6510	0	0	0	6510

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,4-DIOXANE	0.0151	0	0	0	0.0151
1,4-PENTADIENE	0.0219	0	0	12.3	12.3
1-BUTENE	61.5	0.427	0	56.7	119
1-CHLOROBUTANE	0.0399	0	0	0	0.0399
1-DECENE	0	0.147	0	0	0.147
1-ETHOXY-2-PROPANOL	0.0264	0	0	0	0.0264
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.00233	0	0	0.0432	0.0455
1-ETHYL-2-METHYLCYCLOPENTANE	0.00233	0	0	0.0432	0.0455
1-HEXENE	14.2	0.2	0	0	14.4
1-METHYL-2-PYRROLIDINONE	206000	0	0	0	206000
1-METHYL-3N-PROPYLBENZENE	1.06	0	0	0	1.06
1-METHYLCYCLOPENTENE	0.198	0	0	0	0.198
1-PENTENE	5.75	0	0	67.8	73.5
1-PENTYNE	1.25	0	0	0	1.25
1-PROPYNE	1.58	0	0	0	1.58
1-UNDECENE	0.924	0	0	0	0.924
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.0141	0	0	0	0.0141
2,2,3-TRIMETHYLHEXANE	0.00219	0	0	1.23	1.23
2,2,3-TRIMETHYLBUTANE	0.00438	0	0	2.46	2.47
2,2,4-TRIMETHYLPENTANE	10	0	0	60.4	70.4
2,2,5-TRIMETHYLHEXANE	1.58	0	0	0	1.58
2,2-DIMETHYLBUTANE	1.49	0	0	18.5	20
2,2-DIMETHYLHEXANE	0.00438	0	0	2.46	2.47
2,2-DIMETHYLPENTANE	0.011	0	0	6.16	6.17
2,3,3-TRIMETHYLPENTANE	2.78	0	0	6.16	8.95
2,3,4-TRIMETHYLPENTANE	1.73	0	0	6.16	7.89
2,3,5-TRIMETHYLHEXANE	0.528	0	0	0	0.528
2,3-DIMETHYLBUTANE	6.65	0	0	99.8	106
2,3-DIMETHYLHEXANE	0.0175	0	0	9.86	9.88
2,3-DIMETHYLOCTANE	3.43	0	0	0	3.43
2,3-DIMETHYLPENTANE	0.0395	0	0	22.2	22.2
2,4,4-TRIMETHYL-1-PENTENE	11.4	0	0	0	11.4
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	0.528	0	0	0	0.528
2,4-DIMETHYLHEXANE	416	0	0	17.3	433
2,4-DIMETHYLPENTANE	102	0.351	0	19.7	122
2,4-TOLUENE DIISOCYANATE {TDI}	0.4	0	0	0	0.4
2,5-DIMETHYLHEPTANE	0.858	0	0	0	0.858
2,5-DIMETHYLHEXANE	0.0153	0	0	8.63	8.64
2,6-DIMETHYLOCTANE	0.462	0	0	0	0.462
2-BUTYLTETRAHYDROFURAN	0.00271	0	0	0	0.00271
2-ETHYL-1-HEXANOL	0.0182	0	0	0	0.0182
2-METHYL-1-BUTENE	0.248	0	0	139	140
2-METHYL-2-BUTENE	1.7	0	0	546	548
2-METHYL-2-PENTENE	2.24	0	0	0	2.24
2-METHYL-3-HEXANONE	3320	0	0	0	3320

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-BUTANE	7.31	0.0671	0	0	7.37
2-METHYLDECANE	4.16	0	0	0	4.16
2-METHYLHEPTANE	1.75	0	0	18.5	20.2
2-METHYLHEXANE	0.112	0	0	62.9	63
2-METHYLNONANE	0.00219	0	0	1.23	1.23
2-METHYLOCTANE	0.266	0	0	1.23	1.5
2-METHYLPENTANE	19.6	0	0	589	609
2-METHYLPROPANE; ISOBUTANE	10.9	0.023	0	377	388
3-(CHLOROMETHYL)-HEPTANE	0.0112	0	0	0	0.0112
3,3-DIMETHYLPENTANE	0.0132	0	0	7.39	7.41
3-ETHYLPENTANE	0.0219	0	0	12.3	12.3
3-METHYL-1-BUTENE	0.931	0	0	3.7	4.63
3-METHYLHEPTANE	2.34	0	0	17.3	19.6
3-METHYLHEXANE	0.138	0	0	77.6	77.8
3-METHYLOCTANE	2.05	0	0	2.46	4.52
3-METHYLPENTANE	1.5	0	0	288	290
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	3560	0	0	0	3560
4-METHYLHEPTANE	1.67	0	0	9.86	11.5
4-METHYLOCTANE	2.58	0	0	1.23	3.81
4-PHENYL-1-BUTENE	1.72	0	0	0	1.72
ACETALDEHYDE	272	0	0	0	272
ACETIC ACID	215	0	0	0	215
ACETIC ANHYDRIDE	13.2	0	0	0	13.2
ACETONE	4060	0	0	29.8	4090
ACETYLENE	692	4.61	0	0	697
ACROLEIN (2-PROPENAL)	262	0	0	0	262
ACRYLAMIDE	0.27	0	0	0	0.27
ACRYLIC ACID	49.2	0	0	0	49.2
ACRYLONITRILE	139	0	0	0	139
AMMONIA (TOTAL)	1730	3590	6.8	69.2	5390
ANTIMONY & COMPOUNDS	2.69	1.02	0.0000356	2.01	5.72
ARSENIC & COMPOUNDS	0.586	0.397	0.00277	0.421	1.41
BENZALDEHYDE	106	0	0	0	106
BENZENE	1470	17700	6.92	109	19200
BENZOIC ACID	21.9	0	0	0	21.9
BERYLLIUM & COMPOUNDS	0.00593	0.0035	0.000164	0.0381	0.0476
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.00699	0	0	0.13	0.137
BORON & COMPOUNDS	0	0.0123	0	0.183	0.196
BROMINE AND COMPOUNDS	0.0112	0	0	0	0.0112
BUTANE, BRANCHED & LINEAR	9270	0	0	0	9270
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	371	0	0	0	371
BUTYLBENZENE ISOMERS	6.67	0	0	1.77	8.44
BUTYLCYCLOHEXANE	0.0373	0	0	0.691	0.728
BUTYRALDEHYDE	1.46	0	0	0	1.46
C10 ALKYL CYCLOHEXANES	2.66	0	0	0	2.66

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C10 DIALKYL BENZENES	1.51	0	0	0	1.51
C10 OLEFINS	904	0	0	1.51	905
C10H12	6050	0	0	0	6050
C11 OLEFINS	0.021	0	0	0.389	0.41
C12 OLEFINS	0.00466	0	0	0.0864	0.0911
C7 CYCLOPARAFFINS	256	0	0	0	256
C7 INTERNAL ALKENES	0	0.203	0	0	0.203
C8 ALKYL CYCLOHEXANES	1.77	0	0	0	1.77
C8 CYCLOPARAFFINS	4.38	0	0	0	4.38
C8 INTERNAL ALKENES	8.77	0	0	0	8.77
C8 OLEFINS	0.0722	0	0	1.34	1.41
C9 ALKYL CYCLOHEXANES	5.12	0	0	0	5.12
C9 CYCLOPARAFFINS	2620	0	0	0	2620
CADMIUM & COMPOUNDS	0.863	3.03	0.0156	0.294	4.21
CARBON DIOXIDE	142000000	25500000	1700000	2430000	171000000
CARBON DISULFIDE	58.5	0	0	0	58.5
CARBON MONOXIDE	49400	38300	1160	758	89600
CARBON TETRACHLORIDE	43.9	0	0	0	43.9
CARBONYL SULFIDE	19	0	0	0	19
CHLORINE	1.66	0	0	0	1.66
CHLOROETHANE (ETHYL CHLORIDE)	441	0	0	0	441
CHLORODIFLUOROMETHANE (F-22)	105	0	0	0	105
CHLOROETHANE (ETHYL CHLORIDE)	187	0	0	0	187
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	976	3.92	0	0	980
CHLOROPENTAFLUOROETHANE (F115)	10.2	0	0	0	10.2
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	222	0	0	0	222
CHLOROTRIFLUOROMETHANE (F-13)	35.1	0	0	0	35.1
CHROMIUM (III) COMPOUNDS	1.5	0.279	0.0181	0.995	2.79
CHROMIUM (VI) COMPOUNDS	0.204	0.0181	0.000954	0.145	0.368
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0482	0	0	27.1	27.2
CIS-1,4-DIMETHYLCYCLOHEXANE	0.528	0	0	0	0.528
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0.0307	0	0	17.3	17.3
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0307	0	0	17.3	17.3
CIS-2-BUTENE	4.49	0	0	37	41.5
CIS-2-HEXENE	0.726	0	0	0	0.726
CIS-2-PENTENE	6.76	0.0577	0	200	206
COBALT & COMPOUNDS	0.321	0.0291	0.00114	0.364	0.716
COPPER & COMPOUNDS	5.72	0.617	0.0122	4.4	10.8
CUMENE (1-METHYLETHYLBENZENE)	0.0543	1560	0.0906	1.19	1560
CYCLOHEXANE	648	25.4	1.73	8.77	684
CYCLOHEXANOL	23.4	0	0	0	23.4

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANONE	23.4	0	0	0	23.4
CYCLOPENTANE	3.17	0	0	0	3.17
CYCLOPENTENE	1.92	0	0	3.7	5.62
CYCLOPENTYLCYCLOPENTANE	3.04	0	0	0	3.04
DECALINS (MIXED CIS,TRANS)	0.014	0	0	0.259	0.273
DI(2-ETHYLHEXYL)PHTHALATE	0.0227	0	0	0	0.0227
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0.0141	0	0	0	0.0141
DIBROMOETHANE	115	0	0	0	115
DIBUTYL ETHER	0.00434	0	0	0	0.00434
DICHLOROBENZENES	13.2	0	0	0	13.2
DICHLORODIFLUOROMETHANE (F-12)	232	0	0	0	232
DICHLOROMETHANE {METHYLENE CHLORIDE}	1700	5.89	0	17.7	1730
DIETHYLBENZENES	7.31	0	0	0	7.31
DIETHYLCYCLOHEXANE	1000	0	0	0.346	1000
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	966	0	0	0	966
DIMETHOXYMETHANE (METHYLAL)	56	0	0	0	56
DIMETHYL ETHER	1010	0	0	0	1010
DIMETHYLBENZYLALCOHOL	0.00466	0	0	0.0864	0.0911
DIMETHYLCYCLOBUTANONE	0.014	0	0	0.259	0.273
DIMETHYLCYCLOHEXANES	480	0	0	0.475	481
DIMETHYLCYCLOPENTANE	0.165	0	0	3.07	3.23
DIMETHYLHEPTANES	38.4	0	0	0.0864	38.5
DIMETHYLHEXANES	0.0769	0	0	1.43	1.5
DIMETHYLNONANES	0.0489	0	0	0.907	0.956
DIMETHYLOCTANES	0.0699	0	0	1.3	1.37
ETHANE	206	30.8	0	0	237
ETHYL ACETATE	2300	0	0	0	2300
ETHYL ACRYLATE	78.9	0	0	0	78.9
ETHYL ALCOHOL	2430	0	0	0	2430
ETHYL ETHER	83.5	0	0	3.46	86.9
ETHYL ISOPROPYL ETHER	0.0939	0	0	0	0.0939
ETHYL PROPYLCYCLOHEXANES	0.014	0	0	0.259	0.273
ETHYLBENZENE	697	1060	0.0106	12.5	1770
ETHYLCYCLOHEXANE	82.1	0	0	0.346	82.5
ETHYLCYCLOPENTANE	12.9	0	0	3.7	16.6
ETHYLDIMETHYLPHENOL	0.014	0	0	0.259	0.273
ETHYLENE	1240	106	0	0	1350
ETHYLENE GLYCOL	0.695	0	0	0	0.695
ETHYLENE OXIDE	10.2	0	0	0	10.2
ETHYLHEPTENE	284	0	0	0.13	285
ETHYLHEXANE	0.0117	0	0	0.216	0.228
ETHYLMETHYLCYCLOHEXANES	0.161	0	0	2.98	3.14
ETHYLMETHYLOCTANE	0.0163	0	0	0.302	0.319
ETHYLOCTANE	0.00466	0	0	0.0864	0.0911

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLOCTENES	0.00932	0	0	0.173	0.182
ETHYLTOLUENES {METHYLETHYLBENZENES}	178	13000	0	0	13200
FLUORIDE COMPOUNDS	0	16.5	0	1.83	18.3
FORMALDEHYDE	593	204	13.8	31.1	842
FORMIC ACID	14.6	0	0	0	14.6
HEXADECANE	0.000279	6.66	0.000539	0.00629	6.67
HEXAFLUOROETHANE {F-116}	263	0	0	0	263
HEXAMETHYLENEDIAMINE	222	0	0	0	222
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0.0258	0	0	0	0.0258
HEXYNE	0.132	0	0	0	0.132
HYDROCHLORIC ACID	83.8	132	0	0	216
INDAN	2.11	0	0	0	2.11
ISOMERS OF BUTENE	19	0	0	0	19
ISOMERS OF C10H18	560	0	0	0	560
ISOMERS OF C9H16	0.028	0	0	0.518	0.546
ISOMERS OF DECANE (C10 PARAFFINS)	819	0	0	5.75	825
ISOMERS OF DODECANE (C12 PARAFFINS)	0.0652	0	0	1.21	1.27
ISOMERS OF HEPTANE	0.0202	0.0146	0	0.728	0.763
ISOMERS OF HEXANE	356	25.4	1.73	1.54	385
ISOMERS OF NONANE (C9 PARAFFIN)	2740	0	0	0	2740
ISOMERS OF OCTANE (C8 PARAFFIN)	0.034	0.0263	0	1.32	1.38
ISOMERS OF PENTANE	568	229	15.6	6110	6920
ISOMERS OF PROPYLBENZENE	0.0652	1890	0	1.21	1890
ISOMERS OF TETRADECANE (C14 PARAFFINS)	2380	0	0	0.13	2380
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.00233	0	0	0.0432	0.0455
ISOMERS OF UNDECANE (C11 PARAFFINS)	4660	0	0	4.02	4660
ISOMERS OF XYLENE	13100	9600	0.162	88.9	22800
ISOPRENE	0.66	0	0	0	0.66
ISOPROPYL ALCOHOL	2060	0	0	0	2060
LEAD & COMPOUNDS	7.82	0.355	0.00698	3.77	11.9
MALEIC ANHYDRIDE	43.8	0	0	0	43.8
MANGANESE & COMPOUNDS	39.6	0.6	0.0057	32.2	72.3
MERCURY & COMPOUNDS	0.561	0.0696	0.00364	0.358	0.992
METHANE	1610000	8110	96.9	79.3	1620000
METHYL ACETATE	202	0	0	0	202
METHYL ALCOHOL	1650	0	0	0	1650
METHYL AMYL KETONE	732	0	0	0	732
METHYL CHLORIDE	1.47	0	0	0	1.47
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	11900	0	0	4.75	11900
METHYL FORMATE	145	0	0	0	145
METHYL HEXANE	0.296	0	0	5.49	5.78

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYL ISOBUTYL KETONE	2180	0	0	0	2180
METHYL METHACRYLATE	62.8	0	0	0	62.8
METHYL PALMITATE {METHYL HEXADECANOATE}	0.0065	0	0	0	0.0065
METHYL PROPYLCYCLOHEXANES	0.0606	0	0	1.12	1.18
METHYLCYCLOHEXANE	1420	0	0	7.91	1430
METHYLCYCLOOCTANE	2.18	0	0	0	2.18
METHYLCYCLOPENTANE	7.39	0	0	35.7	43.1
METHYLDECALINS	0.00699	0	0	0.13	0.137
METHYLDECANES	0.105	0	0	1.94	2.05
METHYLDECENES	0.0186	0	0	0.346	0.364
METHYLDODECANES	0.00466	0	0	0.0864	0.0911
METHYLENE BROMIDE	21.9	0	0	0	21.9
METHYLHEXENES	0.028	0	0	0.518	0.546
METHYLNONANE	0.175	0	0	3.24	3.41
METHYLNONENES	0.00699	0	0	0.13	0.137
METHYLOCTANES	0.17	0	0	3.15	3.32
METHYLPROPYLNONANE	0.00699	0	0	0.13	0.137
M-ETHYLTOLUENE	1.18	0.0158	0.216	9.91	11.3
METHYLUDECANE	0.00699	0	0	0.13	0.137
MOLYBDENUM	0.312	0.00398	0.00000262	0.221	0.537
NAPHTHALENE	1.57	525	0	0.133	526
N-BUTANE	823	229	15.6	1650	2710
N-BUTYL ACETATE	4930	0	0	0	4930
N-BUTYL ACRYLATE	32.2	0	0	0	32.2
N-BUTYL ALCOHOL	1570	0	0	0	1570
N-DECANE	64.6	0	0	1.35	65.9
N-DODECANE	53.3	258	0.0147	0.283	312
N-HEPTADECANE	0.00009	5.73	0.000179	0.0021	5.73
N-HEPTANE	1120	0.0842	0	84.6	1210
N-HEXANE	19	0.58	0	32.4	52
NICKEL & COMPOUNDS	2.68	0.452	0.0294	1.26	4.42
NITRIC ACID	0	0	0	0	0
NITRIC OXIDE	43100	91300	858	1430	137000
NITROGEN DIOXIDE	3470	7370	69.2	115	11000
NITROUS OXIDE	5110	51.2	3.21	22.8	5190
N-NONANE	21	0	0	5.02	26
N-OCTANE	4.49	0	0	0.00327	4.49
NONADIENE	0.00466	0	0	0.0864	0.0911
N-PENTADECANE	21	43.8	0.00252	0.0731	64.9
N-PENTANE	385	152	10.4	1.84	550
N-PENTYLCYCLOHEXANE	0.0117	0	0	0.216	0.228
N-PROPYL ALCOHOL	240	0	0	0	240
N-PROPYLBENZENE	2.12	0.00807	0.11	3.97	6.21
N-TETRADECANE	34.2	126	0.00719	0.155	160
N-TRIDECANE	51.8	170	0.00989	0.223	222
N-UNDECANE	377	88.1	0.00485	0.18	466
O-DICHLOROBENZENE	23.4	0	0	0	23.4

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
O-ETHYLTOLUENE	0.0969	0.0136	0.185	2.16	2.46
OXIDES OF NITROGEN	69500	147000	1380	2310	221000
PARTICULATE MATTER ≤ 10 µm	12500	4110	105	12600	29300
PARTICULATE MATTER ≤ 2.5 µm	4390	3800	105	2910	11200
P-DICHLOROBENZENE	632	0.654	0	0	633
PENTAMETHYLBENZENE	0.00699	0	0	0.13	0.137
PERCHLOROETHYLENE	1160	4.58	0	32	1190
P-ETHYLTOLUENE	0.192	0.026	0.355	7.84	8.42
PHENOL (CARBOLIC ACID)	227	0	0	0	227
PHOSPHORIC ACID	0	0	0	0	0
PHTHALIC ANHYDRIDE	229	0	0	0	229
POLYCHLORINATED DIOXINS AND FURANS	0.000000503	0.0000013	1.64x10 ⁻⁰⁸	1.45x10 ⁻⁰⁸	0.00000184
POLYCYCLIC AROMATIC HYDROCARBONS	0.291	103	0.00952	0.00789	103
PROPANE	9960	104	6.92	0.687	10100
PROPENYL CYCLOHEXANE	0.00466	0	0	0.0864	0.0911
PROPYL ACETATE	264	0	0	0	264
PROPYLENE	401	7.29	0	0	408
PROPYLENE OXIDE	2.92	0	0	0	2.92
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	132	0	0	0	132
SEC-BUTYL ALCOHOL	222	0	0	3.02	225
SELENIUM & COMPOUNDS	0.111	1.17	0.00033	0.311	1.6
STYRENE (ETHENYLBENZENE)	585	0	0	0	585
SUBSTITUTED C9 ESTER (C12)	0.516	0	0	0	0.516
SULFUR DIOXIDE	920	64500	7.23	63.9	65500
SULFUR TRIOXIDE	1280	251	0	0.84	1530
SULFURIC ACID	0.0000844	22	0.000000642	0	22
TENNECO 500-100	2530	0	0	0	2530
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	2.92	0	0	0	2.92
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	21.9	0	0	0	21.9
TETRAMETHYLCYCLOPENTANE	0.0163	0	0	0.302	0.319
TETRAMETHYLTHIOUREA	0.00233	0	0	0.0432	0.0455
TOLUENE	23400	10900	3.51	276	34600
TOTAL SUSPENDED PARTICULATE	39200	5080	106	36900	81200
TOTAL VOLATILE ORGANIC COMPOUNDS	370000	68000	1540	12500	452000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.00219	0	0	1.23	1.23
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.00658	0	0	3.7	3.7
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0153	0	0	8.63	8.64
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.00877	0	0	4.93	4.94
TRANS-1-2-	0.011	0	0	6.16	6.17

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOPENTANE					
TRANS-1-PHENYLBUTENE	1.52	0	0	0	1.52
TRANS-2-BUTENE	6.5	0	0	349	355
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.00658	0	0	3.7	3.7
TRANS-2-NONENE	1.12	0	0	0	1.12
TRANS-2-PENTENE	6.06	0	0	362	368
TRICHLOROETHYLENE (TCE)	8040	0.654	1460	91.1	9590
TRICHLOROFLUOROMETHANE	168	0	0	0	168
TRICHLOROTRIFLUOROETHANE-F113	14.1	0	0	17.7	31.8
TRIFLUOROMETHANE (F-23)	199	0	0	0	199
TRIMETHYLBENZENES	104	0	0	1.34	105
TRIMETHYLCYCLOHEXANES	95.3	0	0	1.04	96.4
TRIMETHYLCYCLOPENTANE	10	0	0	1.56	11.6
TRIMETHYLHEPTANES	0.0513	0	0	0.95	1
TRIMETHYLOCTANES	0.0117	0	0	0.216	0.228
VANADIUM & COMPOUNDS	2.38	0.0402	0.00000105	1.37	3.79
VINYL ACETATE	360	0	0	0	360
VINYL CHLORIDE MONOMER	235	0	0	0	235
ZINC & COMPOUNDS	28.5	6.43	0.398	16.3	51.6

A.17 CHEMICAL STORAGE

Table A-17: Annual emissions from chemical storage

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	2.79	0	0	0	2.79
AMMONIA (TOTAL)	1.15	0	0	0	1.15
ANTIMONY & COMPOUNDS	0.00208	0	0	0	0.00208
ARSENIC & COMPOUNDS	0.0007	0	0	0	0.0007
BENZENE	0.76	0	0	0	0.76
BERYLLIUM & COMPOUNDS	0.0000181	0	0	0	0.0000181
CADMIUM & COMPOUNDS	0.00184	0	0	0	0.00184
CARBON DIOXIDE	186000	0	0	0	186000
CARBON MONOXIDE	128	0	0	0	128
CHLOROFORM (TRICHLOROMETHANE)	2.09	0	0	0	2.09
CHROMIUM (III) COMPOUNDS	0.00234	0	0	0	0.00234
CHROMIUM (VI) COMPOUNDS	0.000257	0	0	0	0.000257
COBALT & COMPOUNDS	0.000742	0	0	0	0.000742
COPPER & COMPOUNDS	0.00578	0	0	0	0.00578
CYCLOHEXANE	0.19	0	0	0	0.19
DICHLOROMETHANE {METHYLENE CHLORIDE}	3.14	0	0	0	3.14
FORMALDEHYDE	1.87	0	0	0	1.87
ISOMERS OF HEXANE	0.19	0	0	0	0.19
ISOMERS OF PENTANE	1.71	0	0	0	1.71
ISOMERS OF XYLENE	2.09	0	0	0	2.09

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
LEAD & COMPOUNDS	0.00448	0	0	0	0.00448
MANGANESE & COMPOUNDS	0.0249	0	0	0	0.0249
MERCURY & COMPOUNDS	0.000686	0	0	0	0.000686
METHANE	3480	0	0	0	3480
MOLYBDENUM	0.000168	0	0	0	0.000168
N-BUTANE	1.71	0	0	0	1.71
NICKEL & COMPOUNDS	0.00368	0	0	0	0.00368
NITRIC OXIDE	94.2	0	0	0	94.2
NITROGEN DIOXIDE	7.6	0	0	0	7.6
NITROUS OXIDE	0.352	0	0	0	0.352
N-PENTANE	1.14	0	0	0	1.14
OXIDES OF NITROGEN	152	0	0	0	152
PARTICULATE MATTER ≤ 10 µm	17.6	0	0	0	17.6
PARTICULATE MATTER ≤ 2.5 µm	12.9	0	0	0	12.9
P-DICHLOROBENZENE	0.349	0	0	0	0.349
PERCHLOROETHYLENE	2.44	0	0	0	2.44
POLYCHLORINATED DIOXINS AND FURANS	1.81x10 ⁻⁰⁹	0	0	0	1.81x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0.00105	0	0	0	0.00105
PROPANE	0.76	0	0	0	0.76
SELENIUM & COMPOUNDS	0.0000996	0	0	0	0.0000996
SULFUR DIOXIDE	0.794	0	0	0	0.794
TOLUENE	1.78	0	0	0	1.78
TOTAL SUSPENDED PARTICULATE	41.4	0	0	0	41.4
TOTAL VOLATILE ORGANIC COMPOUNDS	23.4	0	0	0	23.4
TRICHLOROETHYLENE (TCE)	0.349	0	0	0	0.349
VANADIUM & COMPOUNDS	0.000342	0	0	0	0.000342
ZINC & COMPOUNDS	0.071	0	0	0	0.071

A.18 COKE PRODUCTION

Table A-18: Annual emissions from coke production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	28.9	0	28.9
1,2,3-TRIMETHYLBENZENE	0.0795	0	0.0964	0	0.176
1,2,4-TRIMETHYLBENZENE	0.0427	0	0.0517	0	0.0944
1,3,5-TRIMETHYLBENZENE	0.0599	0	0.0726	0	0.133
1-BUTENE	24.5	0	21.7	0	46.3
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0	0	0.013	0	0.013
1-ETHYL-2- METHYLCYCLOPENTANE	0	0	0.013	0	0.013
2,4-DIMETHYLHEXANE	0	0	1.96	0	1.96
2,4-DIMETHYLPENTANE	0	0	0.468	0	0.468

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-3-HEXANONE	0	0	0.302	0	0.302
2-METHYLPROPANE; ISOBUTANE	0.00185	0	0.00139	0	0.00324
ACETONE	0	0	1.92	0	1.92
AMMONIA (TOTAL)	12300	0	11000	0	23300
ANTIMONY & COMPOUNDS	3.2	0	0.112	0	3.31
ARSENIC & COMPOUNDS	26.3	0	35.6	0	61.9
BENZENE	165	0	147	0	312
BERYLLIUM & COMPOUNDS	0.697	0	0.822	0	1.52
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0.0389	0	0.0389
BORON & COMPOUNDS	0.475	0	0.097	0	0.572
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0	0	1.78	0	1.78
BUTYLBENZENE ISOMERS	0	0	0.531	0	0.531
BUTYLCYCLOHEXANE	0	0	0.207	0	0.207
C10 OLEFINS	0	0	0.454	0	0.454
C11 OLEFINS	0	0	0.117	0	0.117
C12 OLEFINS	0	0	0.0259	0	0.0259
C8 INTERNAL ALKENES	0	0	0.0121	0	0.0121
C8 OLEFINS	0	0	0.402	0	0.402
CADMIUM & COMPOUNDS	9.91	0	11	0	20.9
CARBON DIOXIDE	55200000	0	51000000	0	106000000
CARBON MONOXIDE	3450	0	3100	0	6550
CHROMIUM (III) COMPOUNDS	15.4	0	18.3	0	33.7
CHROMIUM (VI) COMPOUNDS	6.13	0	8.21	0	14.3
COBALT & COMPOUNDS	0.644	0	0.0256	0	0.669
COPPER & COMPOUNDS	439	0	398	0	837
CUMENE (1- METHYLETHYLBENZENE)	0.0286	0	0.0735	0	0.102
CYCLOHEXANE	0	0	0.171	0	0.171
DECALINS (MIXED CIS,TRANS)	0	0	0.0778	0	0.0778
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	5.31	0	5.31
DIETHYLCYCLOHEXANE	0	0	0.104	0	0.104
DIMETHYLBENZYLALCOHOL	0	0	0.0259	0	0.0259
DIMETHYLCYCLOBUTANONE	0	0	0.0778	0	0.0778
DIMETHYLCYCLOHEXANES	0	0	1.24	0	1.24
DIMETHYLCYCLOPENTANE	0	0	0.92	0	0.92
DIMETHYLHEPTANES	0	0	0.209	0	0.209
DIMETHYLHEXANES	0	0	0.428	0	0.428
DIMETHYLNONANES	0	0	0.272	0	0.272
DIMETHYLOCTANES	0	0	0.389	0	0.389
ETHANE	5.37	0	4.75	0	10.1
ETHYL ACETATE	0	0	0.164	0	0.164
ETHYL ETHER	0	0	1.04	0	1.04
ETHYL PROPYLCYCLOHEXANES	0	0	0.0778	0	0.0778
ETHYLBENZENE	0.00335	0	0.0476	0	0.0509
ETHYLCYCLOHEXANE	0	0	0.478	0	0.478

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOPENTANE	0	0	0.0177	0	0.0177
ETHYLDIMETHYLPHENOL	0	0	0.0778	0	0.0778
ETHYLENE	10.7	0	9.5	0	20.2
ETHYLHEPTENE	0	0	0.0389	0	0.0389
ETHYLHEXANE	0	0	0.0648	0	0.0648
ETHYLMETHYLCYCLOHEXANES	0	0	0.894	0	0.894
ETHYLMETHYLOCTANE	0	0	0.0907	0	0.0907
ETHYLOCTANE	0	0	0.0259	0	0.0259
ETHYLOCTENES	0	0	0.0518	0	0.0518
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	0.0161	0	0.0161
FLUORIDE COMPOUNDS	1.14	0	0.233	0	1.37
HEXADECANE	0.00017	0	0.000205	0	0.000375
ISOMERS OF C ₉ H ₁₆	0	0	0.156	0	0.156
ISOMERS OF DECANE (C ₁₀ PARAFFINS)	0	0	1.72	0	1.72
ISOMERS OF DODECANE (C ₁₂ PARAFFINS)	0	0	0.363	0	0.363
ISOMERS OF HEPTANE	0.000994	0	0.000745	0	0.00174
ISOMERS OF HEXANE	0.00101	0	0.00076	0	0.00177
ISOMERS OF NONANE (C ₉ PARAFFIN)	0	0	0.654	0	0.654
ISOMERS OF OCTANE (C ₈ PARAFFIN)	0.000078	0	0.000058	0	0.000136
ISOMERS OF PENTANE	0.00223	0	0.00167	0	0.0039
ISOMERS OF PROPYLBENZENE	0	0	0.363	0	0.363
ISOMERS OF TETRADECANE (C ₁₄ PARAFFINS)	0	0	0.0389	0	0.0389
ISOMERS OF TRIDECANE (C ₁₃ PARAFFINS)	0	0	0.013	0	0.013
ISOMERS OF UNDECANE (C ₁₁ PARAFFINS)	0	0	1.21	0	1.21
ISOMERS OF XYLENE	0.0512	0	6.1	0	6.15
LEAD & COMPOUNDS	1550	0	418	0	1970
MANGANESE & COMPOUNDS	40.9	0	4.76	0	45.7
MERCURY & COMPOUNDS	1.67	0	1.29	0	2.97
METHANE	157	0	139	0	296
METHYL AMYL KETONE	0	0	0.0669	0	0.0669
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	1.47	0	1.47
METHYL HEXANE	0	0	1.65	0	1.65
METHYL ISOBUTYL KETONE	0	0	0.029	0	0.029
METHYL PROPYLCYCLOHEXANES	0	0	0.337	0	0.337
METHYLCYCLOHEXANE	0	0	2.97	0	2.97
METHYLDECALINS	0	0	0.0389	0	0.0389
METHYLDECANES	0	0	0.583	0	0.583
METHYLDECENES	0	0	0.104	0	0.104
METHYLDODECANES	0	0	0.0259	0	0.0259

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLHEXENES	0	0	0.156	0	0.156
METHYLNONANE	0	0	0.972	0	0.972
METHYLNONENES	0	0	0.0389	0	0.0389
METHYLOCTANES	0	0	0.946	0	0.946
METHYLPROPYLNONANE	0	0	0.0389	0	0.0389
M-ETHYLTOLUENE	0.0681	0	0.0825	0	0.151
METHYLUNDECANE	0	0	0.0389	0	0.0389
MOLYBDENUM	0.317	0	0.0112	0	0.328
NAPHTHALENE	0	0	0.0389	0	0.0389
N-BUTANE	0.00414	0	0.0031	0	0.00724
N-BUTYL ACETATE	0	0	1.81	0	1.81
N-DODECANE	0.00465	0	0.00564	0	0.0103
N-HEPTADECANE	0.000056	0	0.000068	0	0.000124
N-HEPTANE	0.000396	0	11.4	0	11.4
N-HEXANE	0.000934	0	0.0525	0	0.0535
NICKEL & COMPOUNDS	19.9	0	23.8	0	43.6
NITRIC OXIDE	7880	0	7290	0	15200
NITROGEN DIOXIDE	986	0	911	0	1900
N-NONANE	0	0	1.13	0	1.13
NONADIENE	0	0	0.0259	0	0.0259
N-PENTADECANE	0.000794	0	0.000962	0	0.00176
N-PENTANE	0.00201	0	0.00151	0	0.00351
N-PENTYLCYCLOHEXANE	0	0	0.0648	0	0.0648
N-PROPYLBENZENE	0.0348	0	0.107	0	0.142
N-TETRADECANE	0.00227	0	0.00275	0	0.00502
N-TRIDECANE	0.00312	0	0.00378	0	0.0069
N-UNDECANE	0.00153	0	0.00186	0	0.00339
O-ETHYLTOLUENE	0.0585	0	0.0709	0	0.129
OXIDES OF NITROGEN	12800	0	11800	0	24700
PARTICULATE MATTER ≤ 10 µm	43100	0	28400	0	71600
PARTICULATE MATTER ≤ 2.5 µm	31900	0	27600	0	59500
PENTAMETHYLBENZENE	0	0	0.0389	0	0.0389
PERCHLOROETHYLENE	0	0	9.59	0	9.59
P-ETHYLTOLUENE	0.112	0	0.136	0	0.248
POLYCHLORINATED DIOXINS AND FURANS	0.000000788	0	0.000000365	0	0.00000115
POLYCYCLIC AROMATIC HYDROCARBONS	19.7	0	16.4	0	36.1
PROPANE	0.0032	0	0.0024	0	0.0056
PROPENYLCYCLOHEXANE	0	0	0.0259	0	0.0259
PROPYLENE	21.1	0	18.7	0	39.8
SEC-BUTYL ALCOHOL	0	0	0.907	0	0.907
SELENIUM & COMPOUNDS	0.126	0	0.00768	0	0.134
SULFUR DIOXIDE	237000	0	219000	0	455000
SULFURIC ACID	2960	0	2730	0	5690
TETRAMETHYLCYCLOPENTANE	0	0	0.0907	0	0.0907
TETRAMETHYLTHIOUREA	0	0	0.013	0	0.013
TOLUENE	0.016	0	19.3	0	19.3

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL SUSPENDED PARTICULATE	109000	0	54000	0	163000
TOTAL VOLATILE ORGANIC COMPOUNDS	227	0	351	0	578
TRICHLOROETHYLENE (TCE)	0	0	27.3	0	27.3
TRICHLOROTRIFLUOROETHANE-F113	0	0	5.31	0	5.31
TRIMETHYLBENZENES	0	0	0.411	0	0.411
TRIMETHYLCYCLOHEXANES	0	0	0.747	0	0.747
TRIMETHYLCYCLOPENTANE	0	0	0.48	0	0.48
TRIMETHYLHEPTANES	0	0	0.285	0	0.285
TRIMETHYLOCTANES	0	0	0.0648	0	0.0648
VANADIUM & COMPOUNDS	3.15	0	0.0637	0	3.22
ZINC & COMPOUNDS	178	0	129	0	306

A.19 COMPOSTING

Table A-19: Annual emissions from composting

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	404	0	0	0	404
1,2,3-TRIMETHYLBENZENE	6.93	0	0	0.681	7.61
1,2,4-TRIMETHYLBENZENE	5.54	0	0	0.366	5.91
1,3,5-TRIMETHYLBENZENE	10.1	0	0	0.513	10.6
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.162	0	0	0	0.162
1-ETHYL-2-METHYLCYCLOPENTANE	0.162	0	0	0	0.162
1-NONENE	3.94	0	0	0	3.94
1-OCTENE	3.94	0	0	0	3.94
1-PENTENE	3.94	0	0	0	3.94
2,2-DIMETHYLBUTANE	3.94	0	0	0	3.94
2,4-DIMETHYLPENTANE	3.94	0	0	0	3.94
2-METHYL-1-PENTENE	7.87	0	0	0	7.87
2-METHYL-2-BUTENE	3.94	0	0	0	3.94
2-METHYL-3-BUTENENITRILE	1070	0	0	0	1070
2-METHYLPROPANE; ISOBUTANE	169	0	0	0	169
2-METHYLPROPENE (ISOBUTENE)	8180	0	0	2060	10200
3-METHYLHEPTANE	7.87	0	0	0	7.87
3-METHYLHEXANE	3.94	0	0	0	3.94
3-METHYLPENTANE	7.87	0	0	0	7.87
ACETALDEHYDE	11.8	0	0	0	11.8
ACETIC ACID	9980	0	0	1030	11000
ACETONE	341000	0	0	90300	431000
ACETYLENE	126	0	0	0	126
AMMONIA (TOTAL)	419000	0	0	203000	621000
ANTIMONY & COMPOUNDS	11.9	0	0	1.21	13.1
ARSENIC & COMPOUNDS	2.57	0	0	0.219	2.79
BENZENE	59.7	0	0	0	59.7

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BERYLLIUM & COMPOUNDS	0.0776	0	0	0.0099	0.0875
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.486	0	0	0	0.486
BORON & COMPOUNDS	4.93	0	0	0.63	5.56
BROMODICHLOROMETHANE	134000	0	0	36400	170000
BUTYLBENZENE ISOMERS	6.64	0	0	0	6.64
BUTYLCYCLOHEXANE	2.59	0	0	0	2.59
C10 OLEFINS	13.5	0	0	0	13.5
C11 OLEFINS	1.46	0	0	0	1.46
C12 OLEFINS	0.324	0	0	0	0.324
C7 INTERNAL ALKENES	3.94	0	0	0	3.94
C8 OLEFINS	5.02	0	0	0	5.02
C9 OLEFINS	15.7	0	0	0	15.7
CADMIUM & COMPOUNDS	1.68	0	0	0.2	1.88
CARBON DIOXIDE	9130000	0	0	0	9130000
CARBON DISULFIDE	848	0	0	255	1100
CARBON MONOXIDE	24600	0	0	0	24600
CHLORINE	0.418	0	0	0	0.418
CHLOROFORM (TRICHLOROMETHANE)	32.6	0	0	0	32.6
CHROMIUM (III) COMPOUNDS	19.3	0	0	2.42	21.7
CHROMIUM (VI) COMPOUNDS	0.763	0	0	0.0744	0.837
CIS-2-BUTENE	7.87	0	0	0	7.87
COBALT & COMPOUNDS	3.34	0	0	0.326	3.66
COPPER & COMPOUNDS	32.3	0	0	3.46	35.8
CUMENE (1-METHYLETHYLBENZENE)	1.56	0	0	0.245	1.81
CYCLOHEXANE	5.61	0	0	0	5.61
CYCLOPENTANE	7.87	0	0	0	7.87
DECALINS (MIXED CIS,TRANS)	0.972	0	0	0	0.972
DICHLOROMETHANE {METHYLENE CHLORIDE}	115	0	0	0	115
DIETHYLCYCLOHEXANE	1.3	0	0	0	1.3
DIMETHYL DISULFIDE	350	0	0	0	350
DIMETHYL SULFIDE	820	0	0	0	820
DIMETHYLBENZYLALCOHOL	0.324	0	0	0	0.324
DIMETHYLCYCLOBUTANONE	0.972	0	0	0	0.972
DIMETHYLCYCLOHEXANES	1.78	0	0	0	1.78
DIMETHYLCYCLOPENTANE	11.5	0	0	0	11.5
DIMETHYLHEPTANES	0.324	0	0	0	0.324
DIMETHYLHEXANES	5.35	0	0	0	5.35
DIMETHYLNONANES	3.4	0	0	0	3.4
DIMETHYLOCTANES	4.86	0	0	0	4.86
ETHANE	5510	0	0	0	5510
ETHYL ACETATE	127000	0	0	34300	161000
ETHYL ALCOHOL	67500	0	0	10800	78300
ETHYL BUTYRATE	70.2	0	0	0	70.2
ETHYL ETHER	13	0	0	0	13
ETHYL PROPYLCYCLOHEXANES	0.972	0	0	0	0.972

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLBENZENE	4.06	0	0	0.0287	4.09
ETHYLCYCLOHEXANE	1.3	0	0	0	1.3
ETHYLDIMETHYLPHENOL	0.972	0	0	0	0.972
ETHYLENE	248	0	0	0	248
ETHYLHEPTENE	0.486	0	0	0	0.486
ETHYLHEXANE	0.81	0	0	0	0.81
ETHYLMETHYLCYCLOHEXANES	11.2	0	0	0	11.2
ETHYLMETHYLOCTANE	1.13	0	0	0	1.13
ETHYLOCTANE	0.324	0	0	0	0.324
ETHYLOCTENES	0.648	0	0	0	0.648
ETHYLTOLUENES {METHYLETHYLBENZENES}	6.94	0	0	0	6.94
FLUORIDE COMPOUNDS	49.4	0	0	6.3	55.7
FORMALDEHYDE	325	0	0	0	325
FREON	2650	0	0	0	2650
HEXADECANE	0.00639	0	0	0.00145	0.00784
ISOBUTYRALDEHYDE	7.87	0	0	0	7.87
ISOMERS OF BUTENE	102	0	0	0	102
ISOMERS OF C9H16	1.94	0	0	0	1.94
ISOMERS OF DECANE (C10 PARAFFINS)	29.4	0	0	0	29.4
ISOMERS OF DODECANE (C12 PARAFFINS)	4.54	0	0	0	4.54
ISOMERS OF HEPTANE	15.7	0	0	0	15.7
ISOMERS OF HEXANE	7.93	0	0	0	7.93
ISOMERS OF NONANE (C9 PARAFFIN)	3.94	0	0	0	3.94
ISOMERS OF OCTANE (C8 PARAFFIN)	7.87	0	0	0	7.87
ISOMERS OF PENTANE	51.7	0	0	0	51.7
ISOMERS OF PROPYLBENZENE	4.54	0	0	0	4.54
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.486	0	0	0	0.486
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.162	0	0	0	0.162
ISOMERS OF UNDECANE (C11 PARAFFINS)	15.1	0	0	0	15.1
ISOMERS OF XYLENE	112	0	0	0.438	112
ISOPROPYL ALCOHOL	14500	0	0	0	14500
LEAD & COMPOUNDS	27.7	0	0	2.98	30.7
MANGANESE & COMPOUNDS	379	0	0	44.8	424
MERCURY & COMPOUNDS	1.93	0	0	0.206	2.14
METHANE	2810000	0	0	2220000	5030000
METHYL ALCOHOL	95900	0	0	23500	119000
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	41300	0	0	10800	52200
METHYL HEXANE	20.6	0	0	0	20.6
METHYL PROPYLCYCLOHEXANES	4.21	0	0	0	4.21
METHYLCYCLOHEXANE	37.5	0	0	0	37.5
METHYLCYCLOPENTANE	198	0	0	0	198
METHYLDECALINS	0.486	0	0	0	0.486
METHYLDECANES	7.29	0	0	0	7.29

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDECENES	1.3	0	0	0	1.3
METHYLDODECANES	0.324	0	0	0	0.324
METHYLHEXENES	1.94	0	0	0	1.94
METHYLNONANE	12.2	0	0	0	12.2
METHYLNONENES	0.486	0	0	0	0.486
METHYLOCTANES	11.8	0	0	0	11.8
METHYLPROPYLNONANE	0.486	0	0	0	0.486
M-ETHYLTOLUENE	6.5	0	0	0.583	7.08
METHYLUNDECANE	0.486	0	0	0	0.486
MOLYBDENUM	1.32	0	0	0.146	1.47
NAPHTHALENE	0.486	0	0	0	0.486
N-BUTANE	394	0	0	0	394
N-BUTYL ALCOHOL	5940	0	0	1550	7490
N-DECANE	3.94	0	0	0	3.94
N-DODECANE	0.175	0	0	0.0399	0.215
N-HEPTADECANE	0.00212	0	0	0.000482	0.00261
N-HEPTANE	411	0	0	0	411
N-HEXANE	33400	0	0	8530	41900
NICKEL & COMPOUNDS	18.6	0	0	2.32	20.9
NITRIC OXIDE	24300	0	0	0	24300
NITROGEN DIOXIDE	1970	0	0	0	1970
NITROUS OXIDE	17.3	0	0	0	17.3
N-NONANE	18	0	0	0	18
N-OCTANE	71.2	0	0	0	71.2
NONADIENE	0.324	0	0	0	0.324
N-PENTADECANE	0.0299	0	0	0.0068	0.0367
N-PENTANE	51.5	0	0	0	51.5
N-PENTYLCYCLOHEXANE	0.81	0	0	0	0.81
N-PROPYL ALCOHOL	3970	0	0	253	4220
N-PROPYLBENZENE	2.12	0	0	0.298	2.42
N-TETRADECANE	0.0853	0	0	0.0194	0.105
N-TRIDECANES	0.117	0	0	0.0267	0.144
N-UNDECANE	3.99	0	0	0.0131	4.01
OCTAMETHYLCYCLOTETRASILOXANE	27.8	0	0	0	27.8
O-ETHYLTOLUENE	6.14	0	0	0.501	6.64
OXIDES OF NITROGEN	39300	0	0	0	39300
PARTICULATE MATTER ≤ 10 µm	156000	0	0	20000	176000
PARTICULATE MATTER ≤ 2.5 µm	28200	0	0	3580	31700
P-DICHLOROBENZENE	5.43	0	0	0	5.43
PENTAMETHYLBENZENE	0.486	0	0	0	0.486
PERCHLOROETHYLENE	158	0	0	0	158
P-ETHYLTOLUENE	4.22	0	0	0.961	5.18
POLYCHLORINATED DIOXINS AND FURANS	5.36x10 ⁻¹⁰	0	0	0	5.36x10 ⁻¹⁰
POLYCYCLIC AROMATIC HYDROCARBONS	2.04	0	0	0	2.04
PROPANE	1150	0	0	0	1150
PROPENYLCYCLOHEXANE	0.324	0	0	0	0.324

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPYL ACETATE	980	0	0	0	980
PROPYLENE	665	0	0	0	665
SEC-BUTYL ALCOHOL	11.3	0	0	0	11.3
SELENIUM & COMPOUNDS	2.16	0	0	0.269	2.43
SULFUR DIOXIDE	45.8	0	0	0	45.8
TETRAMETHYLCYCLOPENTANE	1.13	0	0	0	1.13
TETRAMETHYLTHIOUREA	0.162	0	0	0	0.162
TOLUENE	172	0	0	0.135	173
TOTAL SUSPENDED PARTICULATE	420000	0	0	46500	466000
TOTAL VOLATILE ORGANIC COMPOUNDS	900000	0	0	220000	1120000
TRANS-2-BUTENE	51.2	0	0	0	51.2
TRANS-2-PENTENE	3.94	0	0	0	3.94
TRICHLOROETHYLENE (TCE)	347	0	0	0	347
TRICHLOROTRIFLUOROETHANE-F113	66.4	0	0	0	66.4
TRIMETHYLBENZENES	5.02	0	0	0	5.02
TRIMETHYLCYCLOHEXANES	3.89	0	0	0	3.89
TRIMETHYLCYCLOPENTANE	5.83	0	0	0	5.83
TRIMETHYLHEPTANES	3.56	0	0	0	3.56
TRIMETHYLOCTANES	0.81	0	0	0	0.81
VANADIUM & COMPOUNDS	8.92	0	0	1.12	10
ZINC & COMPOUNDS	99.8	0	0	8.36	108

A.20 CONCRETE WORKS

Table A-20: Annual emissions from concrete works

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.502	118	28.9	7.74	155
1,2,3-TRIMETHYLBENZENE	2.53	0.516	0.581	0.812	4.44
1,2,4-TRIMETHYLBENZENE	1.36	0.277	0.312	0.436	2.38
1,3,5-TRIMETHYLBENZENE	1.91	0.389	0.438	0.612	3.35
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0.89	0	0.89
1,4-DIETHYL-CYCLOHEXANE	0	0	2.83	74.9	77.7
1-CHLOROBUTANE	102	0	0	51.1	153
1-ETHOXY-2-PROPANOL	67.5	0	0	33.8	101
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0	0.0529	0.013	0	0.0659
1-ETHYL-2- METHYLCYCLOPENTANE	0	0.0529	0.013	0	0.0659
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	36.1	0	0	18	54.1
2-BUTYLTETRAHYDROFURAN	6.94	0	0	3.47	10.4
2-ETHYL-1-HEXANOL	46.7	0	0	23.4	70.1
3-(CHLOROMETHYL)-HEPTANE	28.7	0	0	14.3	43
ACETONE	0	7.41	1.81	9.41	18.6
AMMONIA (TOTAL)	27.6	0	0	18.2	45.8
ANTIMONY & COMPOUNDS	8.75	0.0443	0.00156	2.4	11.2

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	1.88	0.021	0.0064	0.482	2.39
BENZALDEHYDE	0	0	0.743	0	0.743
BENZENE	48.1	5.29	1.3	26.8	81.5
BERYLLIUM & COMPOUNDS	0.00753	0.0000233	0.00000941	0.000696	0.00826
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0.159	0.0389	0	0.198
BUTYLBENZENE ISOMERS	0	2.17	0.531	0	2.7
BUTYLCYCLOHEXANE	0	0.847	0.207	0	1.05
C10 OLEFINS	0	1.85	7.48	0	9.33
C10H12	0	0	0	73.8	73.8
C11 OLEFINS	0	0.476	0.117	0	0.593
C12 OLEFINS	0	0.106	0.0259	0	0.132
C8 OLEFINS	0	1.64	0.402	0	2.04
C9 CYCLOPARAFFINS	0	0	0	32.1	32.1
CADMIUM & COMPOUNDS	0.714	0.00279	0.000554	0.252	0.969
CARBON DIOXIDE	6780000	0	0	4530000	11300000
CARBON MONOXIDE	4620	0	0	3100	7730
CHLOROETHANE (ETHYL CHLORIDE)	28.7	0	0	14.3	43
CHLOROFORM (TRICHLOROMETHANE)	0.377	0	0	0	0.377
CHROMIUM (III) COMPOUNDS	2.51	0.0718	0.0325	0.547	3.16
CHROMIUM (VI) COMPOUNDS	0.634	0.00332	0.000107	0.172	0.81
COBALT & COMPOUNDS	2.36	0.015	0.0003	0.571	2.94
COPPER & COMPOUNDS	18.6	0.0963	0.0032	5.51	24.2
CUMENE (1- METHYLETHYLBENZENE)	0.91	0.344	0.248	0.292	1.79
CYCLOHEXANE	7.86	0.529	0.13	4.62	13.1
DECALINS (MIXED CIS,TRANS)	0	0.318	0.0778	0	0.395
DIACETONE ALCOHOL (4- HYDROXY-4-METHYL-2- PENTANONE)	36.1	0	0	18	54.1
DIBROMOETHANE	0	0	0.89	0	0.89
DIBUTYL ETHER	11.1	0	0	5.55	16.6
DICHLOROMETHANE {METHYLENE CHLORIDE}	256	21.7	6.51	128	412
DIETHYLCYCLOHEXANE	0	0.423	7.89	0	8.31
DIMETHOXYMETHANE (METHYLAL)	1250	0	0	624	1870
DIMETHYLBENZYLALCOHOL	0	0.106	0.0259	0	0.132
DIMETHYLCYCLOBUTANONE	0	0.318	0.0778	0	0.395
DIMETHYLCYCLOHEXANES	0	0.582	2.09	0	2.67
DIMETHYLCYCLOPENTANE	0	3.76	0.92	0	4.68
DIMETHYLHEPTANES	0	0.106	0.0259	0	0.132
DIMETHYLHEXANES	0	1.75	0.428	0	2.17
DIMETHYLNONANES	0	1.11	0.272	0	1.38
DIMETHYLOCTANES	0	1.59	0.389	0	1.98
ETHYL ACETATE	0	0	0	3.25	3.25
ETHYL ALCOHOL	0	0	0	10.7	10.7

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ETHER	0	4.23	1.04	0	5.27
ETHYL ISOPROPYL ETHER	240	0	0	120	361
ETHYL PROPYLCYCLOHEXANES	0	0.318	0.0778	0	0.395
ETHYLBENZENE	0.107	0.0217	0.934	0.0342	1.1
ETHYLCYCLOHEXANE	0	0.423	0.104	0	0.527
ETHYLDIMETHYLPHENOL	0	0.318	0.0778	0	0.395
ETHYLENE GLYCOL	26.8	0	0	13.4	40.2
ETHYLHEPTENE	0	0.159	2.25	0	2.41
ETHYLHEXANE	0	0.265	0.0648	0	0.329
ETHYLMETHYLCYCLOHEXANES	0	3.65	0.894	0	4.55
ETHYLMETHYLOCTANE	0	0.37	0.0907	0	0.461
ETHYLOCTANE	0	0.106	0.0259	0	0.132
ETHYLOCTENES	0	0.212	0.0518	0	0.264
FORMALDEHYDE	63	0	0	37	100
HEXADECANE	0.0054	0.0011	0.00124	0.00173	0.00948
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	66.1	0	0	33.1	99.2
ISOMERS OF C10H18	0	0	4.35	0	4.35
ISOMERS OF C9H16	0	0.635	0.156	0	0.791
ISOMERS OF DECANE (C10 PARAFFINS)	0	7.04	8.05	0	15.1
ISOMERS OF DODECANE (C12 PARAFFINS)	0	1.48	0.363	0	1.84
ISOMERS OF HEXANE	6.63	0	0	4.62	11.3
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	5.13	23.4	28.5
ISOMERS OF PENTANE	59.7	0	0	41.6	101
ISOMERS OF PROPYLBENZENE	0	1.48	0.363	0	1.84
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0.159	0.0389	29.4	29.6
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0.0529	0.013	0	0.0659
ISOMERS OF UNDECANE (C11 PARAFFINS)	46.2	4.92	2.8	77.8	132
ISOMERS OF XYLENE	2.01	20.4	7.96	14.2	44.6
ISOPROPYL ALCOHOL	0	0	4.8	12.5	17.3
LEAD & COMPOUNDS	15.8	0.0988	0.0117	4.23	20.1
MANGANESE & COMPOUNDS	135	3.53	1.5	32.3	172
MERCURY & COMPOUNDS	1.26	0.00586	0.000239	0.363	1.63
METHANE	1040	0	0	259	1300
METHYL ALCOHOL	0	0	0	0.352	0.352
METHYL AMYL KETONE	48.1	0	0	24	72.1
METHYL CHLORIDE	25.4	0	0	12.7	38.2
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	5.82	5.4	18.3	29.5
METHYL HEXANE	0	6.72	1.65	0	8.37
METHYL ISOBUTYL KETONE	0	0	0	6.15	6.15
METHYL PALMITATE {METHYL HEXADECANOATE}	16.6	0	0	8.32	25

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYL PROPYLCYCLOHEXANES	0	1.38	0.337	0	1.71
METHYLCYCLOHEXANE	0	9.68	11.8	0	21.5
METHYLDECALINS	0	0.159	0.0389	0	0.198
METHYLDECANES	0	2.38	0.583	0	2.96
METHYLDECENES	0	0.423	0.104	0	0.527
METHYLDODECANES	0	0.106	0.0259	0	0.132
METHYLHEXENES	0	0.635	0.156	0	0.791
METHYLNONANE	0	3.97	0.972	0	4.94
METHYLNONENES	0	0.159	0.0389	0	0.198
METHYLOCTANES	0	3.86	0.946	0	4.81
METHYLPROPYLNONANE	0	0.159	0.0389	0	0.198
M-ETHYLTOLUENE	2.17	0.442	0.497	0.695	3.8
METHYLUDECANE	0	0.159	0.0389	0	0.198
MOLYBDENUM	0.756	0.00325	0.000155	0.221	0.98
NAPHTHALENE	0	0.159	0.0389	0	0.198
N-BUTANE	59.7	0	0	41.6	101
N-BUTYL ACETATE	0	0	9.07	11.4	20.5
N-BUTYL ALCOHOL	929	0	0	473	1400
N-DECANE	9.71	0	0	4.86	14.6
N-DODECANE	0.148	0.0302	0.034	0.0475	0.26
N-HEPTADECANE	0.00179	0.000367	0.000413	0.000572	0.00314
N-HEPTANE	0	44.7	13.9	0	58.6
N-HEXANE	1.23	0.212	0.0518	0	1.49
NICKEL & COMPOUNDS	4.36	0.178	0.0837	1.46	6.08
NITRIC OXIDE	3490	0	0	2290	5780
NITROGEN DIOXIDE	282	0	0	185	467
NITROUS OXIDE	15.3	0	0	8.57	23.9
N-NONANE	0	4.6	1.13	0	5.73
NONADIENE	0	0.106	0.0259	0	0.132
N-PENTADECANE	0.0253	0.00515	0.0058	0.0081	0.0443
N-PENTANE	39.8	0	0	27.7	67.5
N-PENTYLCYCLOHEXANE	0	0.265	0.0648	0	0.329
N-PROPYLBENZENE	1.11	0.49	0.319	0.355	2.27
N-TETRADECANE	0.0722	0.0147	0.0166	0.0232	0.127
N-TRIDECANE	0.0993	0.0202	0.0228	0.0318	0.174
N-UNDECANE	5.6	0.00994	2.47	2.79	10.9
O-ETHYLTOLUENE	1.86	0.379	0.427	0.597	3.27
OXIDES OF NITROGEN	5640	0	0	3700	9330
PARTICULATE MATTER ≤ 10 µm	100000	6710	3290	19100	129000
PARTICULATE MATTER ≤ 2.5 µm	17000	1040	506	3450	22000
P-DICHLOROBENZENE	0.0628	0	0	0	0.0628
PENTAMETHYLBENZENE	0	0.159	0.0389	0	0.198
PERCHLOROETHYLENE	0.44	39.2	9.59	0	49.2
P-ETHYLTOLUENE	3.57	0.727	0.819	1.14	6.26
PHTHALIC ANHYDRIDE	0	0	0.743	0	0.743
POLYCHLORINATED DIOXINS AND FURANS	6.36x10 ⁻⁰⁸	0	0	4.39x10 ⁻⁰⁸	0.000000108

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
POLYCYCLIC AROMATIC HYDROCARBONS	0.0378	0	0	0.0254	0.0632
PROPANE	26.5	0	0	18.5	45
PROPENYL CYCLOHEXANE	0	0.106	0.0259	0	0.132
PROPYL ACETATE	0	0	0	0.791	0.791
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	1.03	0	1.03
SEC-BUTYL ALCOHOL	0	3.7	0.907	0	4.61
SELENIUM & COMPOUNDS	9.63	0.907	0.456	1.4	12.4
SUBSTITUTED C9 ESTER (C12)	1320	0	0	661	1980
SULFUR DIOXIDE	30.1	0	0	19.3	49.4
TETRAMETHYLCYCLOPENTANE	0	0.37	0.0907	0	0.461
TETRAMETHYLTHIOUREA	0	0.0529	0.013	0	0.0659
TOLUENE	16.5	44	25.8	38.8	125
TOTAL SUSPENDED PARTICULATE	310000	16700	8070	61500	396000
TOTAL VOLATILE ORGANIC COMPOUNDS	4940	533	230	2930	8640
TRICHLOROETHYLENE (TCE)	0.0628	112	27.3	0	139
TRICHLOROTRIFLUOROETHANE-F113	0	21.7	5.31	0	27
TRIMETHYLBENZENES	0	1.64	0.402	0	2.04
TRIMETHYLCYCLOHEXANES	0	1.27	0.311	0	1.58
TRIMETHYLCYCLOPENTANE	0	1.91	0.467	0	2.37
TRIMETHYLHEPTANES	0	1.16	0.285	0	1.45
TRIMETHYLOCTANES	0	0.265	0.0648	0	0.329
VANADIUM & COMPOUNDS	2.78	0.0013	0.0008	0.913	3.69
VINYL ACETATE	5.55	0	0	2.77	8.32
ZINC & COMPOUNDS	107	0.645	0.0145	27.3	135

A.21 CONTAINER RECONDITIONING

Table A-21: Annual emissions from container reconditioning

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	2.85	0	0	0	2.85
1,2,3-TRIMETHYLBENZENE	0.0624	0	0.0134	0	0.0757
1,2,4-TRIMETHYLBENZENE	0.0334	0	0.00717	0	0.0406
1,3,5-TRIMETHYLBENZENE	0.047	0	0.0101	0	0.057
1,3-DIETHYL-5-METHYL CYCLOHEXANE	237	0	11.1	0	248
1,4-DIETHYL-CYCLOHEXANE	752	0	35.3	0	787
2,4-DIMETHYLHEXANE	999	0	174	0	1170
2,4-DIMETHYLPENTANE	236	0	41.1	0	277
2-METHYL-3-HEXANONE	5420	0	90.6	0	5510
2-METHYLPROPANE; ISOBUTANE	0.018	0	0.00525	0	0.0233
ACETONE	1840	0	30.7	0	1870
AMMONIA (TOTAL)	13.4	0	0.307	0	13.7
ANTIMONY & COMPOUNDS	0.306	0	0.00631	0	0.312

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	0.0618	0	0.00142	0	0.0632
BENZALDEHYDE	198	0	9.29	0	207
BENZENE	11.1	0	0	0	11.1
BERYLLIUM & COMPOUNDS	0.000804	0	0.000161	0	0.000964
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	899	0	157	0	1060
C10 OLEFINS	1870	0	87.8	0	1960
C8 INTERNAL ALKENES	20.8	0	3.63	0	24.4
CADMIUM & COMPOUNDS	0.0697	0	0.000439	0	0.0702
CARBON DIOXIDE	2650000	0	8550	0	2660000
CARBON MONOXIDE	1720	0	1.92	0	1720
CHLOROFORM (TRICHLOROMETHANE)	2.13	0	0	0	2.13
CHROMIUM (III) COMPOUNDS	0.0738	0	0.00122	0	0.075
CHROMIUM (VI) COMPOUNDS	0.0215	0	0.000522	0	0.022
COBALT & COMPOUNDS	0.0295	0	0.00213	0	0.0316
COPPER & COMPOUNDS	0.624	0	0.0141	0	0.638
CUMENE (1-METHYLETHYLBENZENE)	0.0224	0	0.0048	0	0.0272
CYCLOHEXANE	752	0	12.6	0	764
CYCLOHEXENE	2050	0	0	0	2050
DIBROMOETHANE	237	0	11.1	0	248
DICHLOROMETHANE {METHYLENE CHLORIDE}	320	0	14.9	0	335
DIETHYLCYCLOHEXANE	2070	0	97.3	0	2170
DIMETHYLCYCLOHEXANES	1070	0	121	0	1200
DIMETHYLHEPTANES	92.9	0	16.2	0	109
ETHANE	0	0	0	0	0
ETHYL ACETATE	2950	0	49.3	0	3000
ETHYLBENZENE	1020	0	24.4	0	1040
ETHYLCYCLOHEXANE	198	0	34.6	0	233
ETHYLCYCLOPENTANE	30.5	0	5.32	0	35.8
ETHYLHEPTENE	588	0	27.6	0	615
ETHYLTOLUENES {METHYLETHYLBENZENES}	290	0	4.83	0	295
FORMALDEHYDE	22.8	0	0.0623	0	22.9
HEXADECANE	0.000133	0	0.000028	0	0.000161
ISOMERS OF C10H18	1160	0	54.4	0	1210
ISOMERS OF DECANE (C10 PARAFFINS)	1680	0	79.1	0	1760
ISOMERS OF HEPTANE	0.0114	0	0.00333	0	0.0148
ISOMERS OF HEXANE	2.54	0	0.00666	0	2.55
ISOMERS OF NONANE (C9 PARAFFIN)	1750	0	132	0	1880
ISOMERS OF OCTANE (C8 PARAFFIN)	0.0207	0	0.00602	0	0.0267
ISOMERS OF PENTANE	22.7	0	0.00704	0	22.7
ISOMERS OF UNDECANE (C11 PARAFFINS)	424	0	19.9	0	444

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF XYLENE	8730	0	231	0	8960
ISOPROPYL ALCOHOL	1280	0	60	0	1340
LEAD & COMPOUNDS	0.51	0	0.012	0	0.522
MANGANESE & COMPOUNDS	3.48	0	0.0746	0	3.55
MERCURY & COMPOUNDS	0.0577	0	0.000996	0	0.0587
METHANE	3690	0	0	0	3690
METHYL AMYL KETONE	1190	0	20.1	0	1210
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1830	0	62.7	0	1900
METHYL ISOBUTYL KETONE	518	0	8.7	0	527
METHYLCYCLOHEXANE	3000	0	205	0	3200
M-ETHYLTOLUENE	0.0534	0	0.0114	0	0.0648
MOLYBDENUM	0.0373	0	0.000464	0	0.0378
N-BUTANE	22.7	0	0.0156	0	22.7
N-BUTYL ACETATE	6530	0	343	0	6880
N-DODECANE	0.00365	0	0.000781	0	0.00443
N-HEPTADECANE	0.000043	0	0.000009	0	0.000052
N-HEPTANE	1670	0	109	0	1780
N-HEXANE	0.308	0	0.0138	0	0.322
NICKEL & COMPOUNDS	0.176	0	0.00127	0	0.178
NITRIC OXIDE	1370	0	4.76	0	1380
NITROGEN DIOXIDE	111	0	0.384	0	111
NITROUS OXIDE	6.59	0	0.08	0	6.67
N-PENTADECANE	0.000622	0	0.000133	0	0.000755
N-PENTANE	15.1	0	0.00602	0	15.1
N-PROPYLBENZENE	0.0273	0	0.00584	0	0.0331
N-TETRADECANE	0.00178	0	0.000381	0	0.00216
N-TRIDECANE	0.00245	0	0.000524	0	0.00297
N-UNDECANE	653	0	30.7	0	683
O-ETHYLTOLUENE	0.0459	0	0.00983	0	0.0557
OXIDES OF NITROGEN	2210	0	7.68	0	2220
PARTICULATE MATTER ≤ 10 µm	1210	0	18.2	0	1230
PARTICULATE MATTER ≤ 2.5 µm	278	0	4.72	0	283
P-DICHLOROBENZENE	0.356	0	0	0	0.356
PERCHLOROETHYLENE	2.49	0	0	0	2.49
P-ETHYLTOLUENE	0.0879	0	0.0188	0	0.107
PHTHALIC ANHYDRIDE	198	0	9.29	0	207
POLYCHLORINATED DIOXINS AND FURANS	2.44x10 ⁻⁰⁸	0	5.76x10 ⁻¹¹	0	2.45x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0147	0	0.0000233	0	0.0147
PROPANE	10.1	0	0.00154	0	10.1
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	273	0	12.8	0	286
SELENIUM & COMPOUNDS	0.0143	0	0.000989	0	0.0153
SULFUR DIOXIDE	11.5	0	0.272	0	11.7
SULFUR TRIOXIDE	0.0132	0	0.00384	0	0.017
TOLUENE	14000	0	1100	0	15100

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL SUSPENDED PARTICULATE	4010	0	93.2	0	4110
TOTAL VOLATILE ORGANIC COMPOUNDS	69500	0	3590	0	73100
TRICHLOROETHYLENE (TCE)	0.356	0	0	0	0.356
TRIMETHYLBENZENES	164	0	2.66	0	167
TRIMETHYLCYCLOHEXANES	230	0	40.1	0	270
TRIMETHYLCYCLOPENTANE	23.6	0	4.11	0	27.7
VANADIUM & COMPOUNDS	0.276	0	0.000186	0	0.276
ZINC & COMPOUNDS	2.34	0	0.0922	0	2.43

A.22 CONTAMINATED SOIL TREATMENT

Table A-22: Annual emissions from contaminated soil treatment

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	6.88	1.54	2.01	0	10.4
1,2,3-TRIMETHYLBENZENE	0.395	0	0	0	0.395
1,2,4-TRIMETHYLBENZENE	0.212	0	0	0	0.212
1,3,5-TRIMETHYLBENZENE	0.297	0	0	0	0.297
1,3-BUTADIENE	0	0.21	0	0	0.21
1-BUTENE	0	0.402	0	0	0.402
ACETYLENE	0	0.339	0	0	0.339
AMMONIA (TOTAL)	687	2.26	2.43	0	691
ANTIMONY & COMPOUNDS	1.26	0.887	0.000927	0	2.15
ARSENIC & COMPOUNDS	0.314	0.18	0.000881	0	0.495
BENZENE	106	0.237	0	0	106
BERYLLIUM & COMPOUNDS	0.00445	0.00291	0.0000363	0	0.00739
BORON & COMPOUNDS	0.129	0.185	0.00242	0	0.317
CADMIUM & COMPOUNDS	0.442	0.137	0.000078	0	0.58
CARBON DIOXIDE	25900000	1340	0	0	25900000
CARBON MONOXIDE	17700	7.8	0	0	17700
CHLOROFORM (TRICHLOROMETHANE)	5.16	1.16	1.51	0	7.82
CHROMIUM (III) COMPOUNDS	0.913	0.806	0.00862	0	1.73
CHROMIUM (VI) COMPOUNDS	0.0938	0.0568	0.0000605	0	0.151
COBALT & COMPOUNDS	0.146	0.148	0.00124	0	0.295
COPPER & COMPOUNDS	2.83	2.02	0.00539	0	4.86
CUMENE (1-METHYLETHYLBENZENE)	0.142	0	0	0	0.142
CYCLOHEXANE	26.4	0	0	0	26.4
DICHLOROMETHANE {METHYLENE CHLORIDE}	7.74	1.73	2.26	0	11.7
ETHANE	0	0.0839	0	0	0.0839
ETHYLBENZENE	0.0166	0	0	0	0.0166
ETHYLENE	0	0.86	0	0	0.86
FLUORIDE COMPOUNDS	1.29	1.85	0.0242	0	3.17
FORMALDEHYDE	212	0.193	0.251	0	213
HEXADECANE	0.000844	0	0	0	0.000844

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEXANE	26.4	0	0	0	26.4
ISOMERS OF PENTANE	238	0	0	0	238
ISOMERS OF XYLENE	5.41	1.16	1.51	0	8.07
LEAD & COMPOUNDS	2.35	1.75	0.00571	0	4.1
MANGANESE & COMPOUNDS	20.7	19.2	0.131	0	40.1
MERCURY & COMPOUNDS	0.273	0.149	0.000114	0	0.423
METHANE	10000	1920	2500	0	14500
M-ETHYLTOLUENE	0.338	0	0	0	0.338
MOLYBDENUM	0.155	0.105	0.0000593	0	0.26
N-BUTANE	238	0	0	0	238
N-DODECANE	0.0231	0	0	0	0.0231
N-HEPTADECANE	0.00028	0	0	0	0.00028
NICKEL & COMPOUNDS	1.35	0.859	0.0062	0	2.21
NITRIC OXIDE	24900	22.5	0	0	24900
NITROGEN DIOXIDE	2010	1.81	0	0	2010
NITROUS OXIDE	49.1	0.0125	0	0	49.1
N-PENTADECANE	0.00394	0	0	0	0.00394
N-PENTANE	159	0	0	0	159
N-PROPYLBENZENE	0.172	0	0	0	0.172
N-TETRADECANE	0.0113	0	0	0	0.0113
N-TRIDECANE	0.0155	0	0	0	0.0155
N-UNDECANE	0.0076	0	0	0	0.0076
O-ETHYLTOLUENE	0.29	0	0	0	0.29
OXIDES OF NITROGEN	40200	36.3	0	0	40200
PARTICULATE MATTER ≤ 10 µm	8550	7800	59.4	0	16400
PARTICULATE MATTER ≤ 2.5 µm	2430	1280	11.4	0	3720
P-DICHLOROBENZENE	0.86	0.193	0.251	0	1.3
PERCHLOROETHYLENE	6.02	1.35	1.76	0	9.12
P-ETHYLTOLUENE	0.556	0	0	0	0.556
POLYCHLORINATED DIOXINS AND FURANS	0.000000251	0	0	0	0.000000251
POLYCYCLIC AROMATIC HYDROCARBONS	0.145	0.00138	0	0	0.147
PROPANE	106	0	0	0	106
PROPYLENE	0	0.519	0	0	0.519
SELENIUM & COMPOUNDS	0.0968	0.0994	0.000872	0	0.197
SULFUR DIOXIDE	111	0.0423	0	0	111
TIN & COMPOUNDS	0	0.00135	0	0	0.00135
TOLUENE	56.4	0.77	1	0	58.2
TOTAL SUSPENDED PARTICULATE	23600	20800	133	0	44500
TOTAL VOLATILE ORGANIC COMPOUNDS	1200	10.9	10.8	0	1230
TRICHLOROETHYLENE (TCE)	0.86	0.193	0.251	0	1.3
VANADIUM & COMPOUNDS	1.2	0.77	0.0000237	0	1.97
ZINC & COMPOUNDS	12.5	5.61	0.0227	0	18.1

A.23 CRUSHING, GRINDING OR SEPARATING**Table A-23: Annual emissions from crushing, grinding or separating**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	930	0	0	0	930
1,2,3-TRIMETHYLBENZENE	2.78	0.207	0	0.0305	3.02
1,2,4-TRIMETHYLBENZENE	1.49	0.111	0	0.0164	1.62
1,3,5-TRIMETHYLBENZENE	2.09	0.156	0	0.023	2.27
1,3-DIETHYL-5-METHYL CYCLOHEXANE	3.41	0	0	0	3.41
1,4-DIETHYL-CYCLOHEXANE	10.8	0	0	0	10.8
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.417	0	0	0	0.417
1-ETHYL-2- METHYLCYCLOPENTANE	0.417	0	0	0	0.417
2,4-DIMETHYLHEXANE	10.8	48.3	0	0	59.1
2,4-DIMETHYLPENTANE	2.54	11.4	0	0	14
2-METHYL-3-HEXANONE	6.77	25.2	0	0	31.9
2-METHYLPROPANE; ISOBUTANE	0.0189	0	0	0	0.0189
ACETONE	60.7	8.53	0	0	69.3
AMMONIA (TOTAL)	879	0.0000602	0	2.44	882
ANTIMONY & COMPOUNDS	44.3	0.0493	0.0876	2.28	46.7
ARSENIC & COMPOUNDS	17.8	0.0431	0.0162	0.428	18.2
BENZALDEHYDE	2.85	0	0	0	2.85
BENZENE	371	0	0	2.48	373
BERYLLIUM & COMPOUNDS	0.226	0.00515	0	0.00962	0.241
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	1.25	0	0	0	1.25
BORON & COMPOUNDS	420	0.33	0	0.398	421
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	9.7	43.5	0	0	53.2
BUTYLBENZENE ISOMERS	17.1	0	0	0	17.1
BUTYLCYCLOHEXANE	6.68	0	0	0	6.68
C10 OLEFINS	41.5	0	0	0	41.5
C11 OLEFINS	3.76	0	0	0	3.76
C12 OLEFINS	0.835	0	0	0	0.835
C8 INTERNAL ALKENES	0.201	1.01	0	0	1.21
C8 OLEFINS	12.9	0	0	0	12.9
CADMIUM & COMPOUNDS	12.8	0.011	0.0141	0.355	13.2
CARBON DIOXIDE	714000	6.14	0	608000	775000
CARBON MONOXIDE	221000	0.00385	0	417	222000
CHLORINE	34.1	0	0	0	34.1
CHROMIUM (III) COMPOUNDS	37.4	1.19	0.0129	1.31	39.9
CHROMIUM (VI) COMPOUNDS	8.22	0.00205	0.00552	0.145	8.37
COBALT & COMPOUNDS	4.62	0.135	0.00541	0.271	5.04
COPPER & COMPOUNDS	376	8.26	2.25	15.1	401
CUMENE (1- METHYLETHYLBENZENE)	2.25	0.0743	0	0.011	2.34
CYCLOHEXANE	87.4	3.49	0	0.62	91.5

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DECALINS (MIXED CIS,TRANS)	2.5	0	0	0	2.5
DIBROMOETHANE	3.41	0	0	0	3.41
DICHLOROMETHANE {METHYLENE CHLORIDE}	176	0	0	0	176
DIETHYLCYCLOHEXANE	33.2	0	0	0	33.2
DIMETHYLBENZYLALCOHOL	0.835	0	0	0	0.835
DIMETHYLCYCLOBUTANONE	2.5	0	0	0	2.5
DIMETHYLCYCLOHEXANES	18.1	26.9	0	0	45
DIMETHYLCYCLOPENTANE	29.6	0	0	0	29.6
DIMETHYLHEPTANES	1.84	4.5	0	0	6.34
DIMETHYLHEXANES	13.8	0	0	0	13.8
DIMETHYLNONANES	8.77	0	0	0	8.77
DIMETHYLOCTANES	12.5	0	0	0	12.5
ETHANE	0.00547	0.000103	0	0	0.00558
ETHYL ACETATE	3.68	13.7	0	0	17.4
ETHYL ETHER	33.4	0	0	0	33.4
ETHYL PROPYLCYCLOHEXANES	2.5	0	0	0	2.5
ETHYLBENZENE	4.58	3.63	0	0.00129	8.21
ETHYLCYCLOHEXANE	5.46	9.6	0	0	15.1
ETHYLCYCLOPENTANE	0.295	1.48	0	0	1.77
ETHYLDIMETHYLPHENOL	2.5	0	0	0	2.5
ETHYLHEPTENE	9.73	0	0	0	9.73
ETHYLHEXANE	2.09	0	0	0	2.09
ETHYLMETHYLCYCLOHEXANES	28.8	0	0	0	28.8
ETHYLMETHYLOCTANE	2.92	0	0	0	2.92
ETHYLOCTANE	0.835	0	0	0	0.835
ETHYLOCTENES	1.67	0	0	0	1.67
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.361	1.34	0	0	1.7
FLUORIDE COMPOUNDS	59.9	3.34	0	3.23	66.5
FORMALDEHYDE	658	0.000069	0	4.96	663
HEXADECANE	0.00594	0.000442	0	0.000065	0.00645
HYDROCHLORIC ACID	2.67	0	0	0	2.67
ISOMERS OF C10H18	16.7	0	0	0	16.7
ISOMERS OF C9H16	5.01	0	0	0	5.01
ISOMERS OF DECANE (C10 PARAFFINS)	79.8	0	0	0	79.8
ISOMERS OF DODECANE (C12 PARAFFINS)	11.7	0	0	0	11.7
ISOMERS OF HEPTANE	0.0101	0	0	0	0.0101
ISOMERS OF HEXANE	82.3	0	0	0.62	82.9
ISOMERS OF NONANE (C9 PARAFFIN)	23.7	18.7	0	0	42.5
ISOMERS OF OCTANE (C8 PARAFFIN)	0.000811	0	0	0	0.000811
ISOMERS OF PENTANE	740	0	0	5.58	746
ISOMERS OF PROPYLBENZENE	11.7	0	0	0	11.7
ISOMERS OF TETRADECANE (C14 PARAFFINS)	1.25	0	0	0	1.25

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.417	0	0	0	0.417
ISOMERS OF UNDECANE (C11 PARAFFINS)	44.9	0	0	0	44.9
ISOMERS OF XYLENE	184	55	0	0.0197	239
ISOPROPYL ALCOHOL	18.4	0	0	0	18.4
LEAD & COMPOUNDS	102	0.629	0.141	4.1	107
MANGANESE & COMPOUNDS	1450	17	0.99	39.1	1510
MERCURY & COMPOUNDS	7.64	0.00664	0.0151	0.389	8.05
METHANE	4610	0.000069	0	34.7	4640
METHYL AMYL KETONE	1.5	5.57	0	0	7.07
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	62.1	3.63	0	0	65.7
METHYL HEXANE	53	0	0	0	53
METHYL ISOBUTYL KETONE	0.649	2.42	0	0	3.07
METHYL PROPYLCYCLOHEXANES	10.9	0	0	0	10.9
METHYLCYCLOHEXANE	118	24.2	0	0	142
METHYLDECALINS	1.25	0	0	0	1.25
METHYLDECANES	18.8	0	0	0	18.8
METHYLDECENES	3.34	0	0	0	3.34
METHYLDODECANES	0.835	0	0	0	0.835
METHYLHEXENES	5.01	0	0	0	5.01
METHYLNONANE	31.3	0	0	0	31.3
METHYLNONENES	1.25	0	0	0	1.25
METHYLOCTANES	30.5	0	0	0	30.5
METHYLPROPYLNONANE	1.25	0	0	0	1.25
M-ETHYLTOLUENE	2.38	0.177	0	0.0261	2.58
METHYLUNDECANE	1.25	0	0	0	1.25
MOLYBDENUM	11.1	0.00402	0.0108	0.272	11.4
NAPHTHALENE	1.25	0	0	0	1.25
N-BUTANE	740	0	0	5.58	746
N-BUTYL ACETATE	49.3	63.8	0	0	113
N-DODECANE	0.163	0.0121	0	0.00179	0.176
N-HEPTADECANE	0.00198	0.000147	0	0.000021	0.00215
N-HEPTANE	368	19.7	0	0	388
N-HEXANE	1.68	0	0	0	1.68
NICKEL & COMPOUNDS	361	8.54	2.12	11.7	383
NITRIC OXIDE	23200	0.00204	0	308	23500
NITROGEN DIOXIDE	1870	0.000165	0	24.8	1900
NITROUS OXIDE	0.63	0.0000116	0	1.15	1.78
N-NONANE	36.3	0	0	0	36.3
NONADIENE	0.835	0	0	0	0.835
N-PENTADECANE	0.0278	0.00207	0	0.000304	0.0301
N-PENTANE	494	0	0	3.72	497
N-PENTYLCYCLOHEXANE	2.09	0	0	0	2.09
N-PROPYLBENZENE	3.3	0.0904	0	0.0134	3.41
N-TETRADECANE	0.0793	0.0059	0	0.000871	0.0861

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	0.109	0.00811	0	0.0012	0.118
N-UNDECANE	9.47	0.00398	0	0.000588	9.47
O-ETHYLTOLUENE	2.04	0.152	0	0.0225	2.22
OXIDES OF NITROGEN	37400	0.0033	0	496	37900
PARTICULATE MATTER ≤ 10 µm	372000	11900	1530	19400	405000
PARTICULATE MATTER ≤ 2.5 µm	80600	2350	268	3380	86600
PENTAMETHYLBENZENE	1.25	0	0	0	1.25
PERCHLOROETHYLENE	309	0	0	0	309
P-ETHYLTOLUENE	3.92	0.291	0	0.043	4.25
PHTHALIC ANHYDRIDE	2.85	0	0	0	2.85
POLYCHLORINATED DIOXINS AND FURANS	4.67x10 ⁻⁰⁹	3.5x10 ⁻¹¹	0	5.89x10 ⁻⁰⁹	1.06x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	17.9	3.48x10 ⁻⁰⁸	0	0.00341	17.9
PROPANE	329	0.000103	0	2.48	332
PROPENYLCYCLOHEXANE	0.835	0	0	0	0.835
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	3.94	0	0	0	3.94
SEC-BUTYL ALCOHOL	29.2	0	0	0	29.2
SELENIUM & COMPOUNDS	6.53	0.119	0.00325	0.158	6.81
SULFUR DIOXIDE	5880	0.0000225	0	2.59	5880
TETRAMETHYLCYCLOPENTANE	2.92	0	0	0	2.92
TETRAMETHYLTHIOUREA	0.417	0	0	0	0.417
TOLUENE	625	254	0	1.25	881
TOTAL SUSPENDED PARTICULATE	1450000	34600	6070	65500	1560000
TOTAL VOLATILE ORGANIC COMPOUNDS	8330	664	0	27.5	9030
TRICHLOROETHYLENE (TCE)	880	0	0	0	880
TRICHLOROTRIFLUOROETHANE- F113	171	0	0	0	171
TRIMETHYLBENZENES	13.1	0.739	0	0	13.9
TRIMETHYLCYCLOHEXANES	12.5	11.1	0	0	23.6
TRIMETHYLCYCLOPENTANE	15.3	1.14	0	0	16.4
TRIMETHYLHEPTANES	9.18	0	0	0	9.18
TRIMETHYLOCTANES	2.09	0	0	0	2.09
VANADIUM & COMPOUNDS	41.5	0.031	0.0833	2.01	43.6
ZINC & COMPOUNDS	372	1.67	0.405	14.5	389

A.24 DAIRY ANIMAL ACCOMMODATION

Table A-24: Annual emissions from dairy animal accommodation

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.473	0	0	0	0.473
1,2,4-TRIMETHYLBENZENE	0.26	0	0	0	0.26
1,3,5-TRIMETHYLBENZENE	0.356	0	0	0	0.356
1,4-PENTADIENE	0.0219	0	0	0	0.0219

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-BUTENE	0.101	0	0	0	0.101
1-PENTENE	0.121	0	0	0	0.121
2,2,3,TRIMETHYLHEXANE	0.00219	0	0	0	0.00219
2,2,3-TRIMETHYLBUTANE	0.00438	0	0	0	0.00438
2,2,4-TRIMETHYLPENTANE	0.107	0	0	0	0.107
2,2-DIMETHYLBUTANE	0.0329	0	0	0	0.0329
2,2-DIMETHYLHEXANE	0.00438	0	0	0	0.00438
2,2-DIMETHYLPENTANE	0.011	0	0	0	0.011
2,3,3-TRIMETHYLPENTANE	0.011	0	0	0	0.011
2,3,4-TRIMETHYLPENTANE	0.011	0	0	0	0.011
2,3-DIMETHYLBUTANE	0.178	0	0	0	0.178
2,3-DIMETHYLHEXANE	0.0175	0	0	0	0.0175
2,3-DIMETHYLPENTANE	0.0395	0	0	0	0.0395
2,4-DIMETHYLHEXANE	0.0307	0	0	0	0.0307
2,4-DIMETHYLPENTANE	0.0351	0	0	0	0.0351
2,5-DIMETHYLHEXANE	0.0153	0	0	0	0.0153
2-METHYL-1-BUTENE	0.248	0	0	0	0.248
2-METHYL-2-BUTENE	0.971	0	0	0	0.971
2-METHYLHEPTANE	0.0329	0	0	0	0.0329
2-METHYLHEXANE	0.112	0	0	0	0.112
2-METHYLNONANE	0.00219	0	0	0	0.00219
2-METHYLOCTANE	0.00219	0	0	0	0.00219
2-METHYLPENTANE	1.05	0	0	0	1.05
2-METHYLPROPANE; ISOBUTANE	0.669	0	0	0	0.669
3,3-DIMETHYLPENTANE	0.0132	0	0	0	0.0132
3-ETHYLPENTANE	0.0219	0	0	0	0.0219
3-METHYL-1-BUTENE	0.00658	0	0	0	0.00658
3-METHYLHEPTANE	0.0307	0	0	0	0.0307
3-METHYLHEXANE	0.138	0	0	0	0.138
3-METHYLOCTANE	0.00438	0	0	0	0.00438
3-METHYLPENTANE	0.513	0	0	0	0.513
4-METHYLHEPTANE	0.0175	0	0	0	0.0175
4-METHYLOCTANE	0.00219	0	0	0	0.00219
AMMONIA (TOTAL)	274000	0	0	0	274000
BENZENE	0.171	0	0	0	0.171
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0482	0	0	0	0.0482
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0.0307	0	0	0	0.0307
CIS-1-2-DIMETHYLCYCLOPENTANE	0.0307	0	0	0	0.0307
CIS-2-BUTENE	0.0658	0	0	0	0.0658
CIS-2-PENTENE	0.355	0	0	0	0.355
CUMENE (1-METHYLETHYLBENZENE)	0.17	0	0	0	0.17
CYCLOHEXANE	0.011	0	0	0	0.011
CYCLOPENTENE	0.00658	0	0	0	0.00658
ETHYLBENZENE	0.0418	0	0	0	0.0418

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLCYCLOPENTANE	0.00658	0	0	0	0.00658
HEXADECANE	0.00101	0	0	0	0.00101
ISOMERS OF PENTANE	10.9	0	0	0	10.9
ISOMERS OF XYLENE	0.425	0	0	0	0.425
METHYLCYCLOPENTANE	0.0636	0	0	0	0.0636
M-ETHYLTOLUENE	0.418	0	0	0	0.418
N-BUTANE	2.92	0	0	0	2.92
N-DECANE	0.00219	0	0	0	0.00219
N-DODECANE	0.0277	0	0	0	0.0277
N-HEPTADECANE	0.000336	0	0	0	0.000336
N-HEPTANE	0.0855	0	0	0	0.0855
N-HEXANE	0.0482	0	0	0	0.0482
N-NONANE	0.00219	0	0	0	0.00219
N-PENTADECANE	0.00472	0	0	0	0.00472
N-PROPYLBENZENE	0.211	0	0	0	0.211
N-TETRADECANE	0.0135	0	0	0	0.0135
N-TRIDECANE	0.0185	0	0	0	0.0185
N-UNDECANE	0.0091	0	0	0	0.0091
O-ETHYLTOLUENE	0.348	0	0	0	0.348
PARTICULATE MATTER ≤ 10 µm	23400	0	0	0	23400
PARTICULATE MATTER ≤ 2.5 µm	3000	0	0	0	3000
P-ETHYLTOLUENE	0.673	0	0	0	0.673
TOLUENE	0.51	0	0	0	0.51
TOTAL SUSPENDED PARTICULATE	48800	0	0	0	48800
TOTAL VOLATILE ORGANIC COMPOUNDS	24.6	0	0	0	24.6
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.00219	0	0	0	0.00219
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.00658	0	0	0	0.00658
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0153	0	0	0	0.0153
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.00877	0	0	0	0.00877
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.011	0	0	0	0.011
TRANS-2-BUTENE	0.62	0	0	0	0.62
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.00658	0	0	0	0.00658
TRANS-2-PENTENE	0.645	0	0	0	0.645

A.25 DAIRY PROCESSING**Table A-25: Annual emissions from dairy processing**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.281	0	0	0	0.281
(2-METHYLBUTYL)CYCLOHEXANE	0.375	0	0	0	0.375
1,1,1-TRICHLOROETHANE	301	76.2	0	0	378
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.0937	0	0	0	0.0937
1,1,2-TRIMETHYLCYCLOHEXANE	0.187	0	0	0	0.187
1,1,2-TRIMETHYLCYCLOPENTANE	0.562	0	0	0	0.562
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.468	0	0	0	0.468
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	1.87	0	0	0	1.87
1,1,3-TRIMETHYLCYCLOPENTANE	1.87	0	0	0	1.87
1,1,4-TRIMETHYLCYCLOHEXANE	0.375	0	0	0	0.375
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.767	0.0643	0	0	0.832
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.187	0	0	0	0.187
1,1-DIMETHYLCYCLOHEXANE	0.749	0	0	0	0.749
1,1-DIMETHYLCYCLOPENTANE	0.281	0	0	0	0.281
1,1-METHYLETHYLCYCLOPENTANE	0.187	0	0	0	0.187
1,2,3,5-TETRAMETHYLBENZENE	0.843	0	0	0	0.843
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	1.78	0.0134	0	0	1.79
1,2,3-TRIMETHYLCYCLOHEXANE	1.12	0	0	0	1.12
1,2,4,5-TETRAMETHYLBENZENE	0.562	0	0	0	0.562
1,2,4-TRIMETHYLBENZENE	3.93	0.00717	0	0	3.94
1,2,4-TRIMETHYLCYCLOPENTENE	3.84	0	0	0	3.84
1,2-DICHLOROETHANE	0.575	0.0483	0	0	0.624
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.375	0	0	0	0.375
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.468	0	0	0	0.468
1,2-DIMETHYL-4-ETHYLBENZENE	0.937	0	0	0	0.937
1,2-DIMETHYLCYCLOPENTANE	3.28	0	0	0	3.28
1,3,5-TRIETHYL CYCLOHEXANE	0.187	0	0	0	0.187
1,3,5-TRIMETHYLBENZENE	0.281	0.0101	0	0	0.291
1,3-BUTADIENE	0	0	0	0	0
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.192	0.0161	0	0	0.208
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0.297	0	0	0.297
1,3-DIETHYL-CYCLOHEXANE	0.281	0	0	0	0.281
1,3-DIMETHYL-2-ETHYLBENZENE	0.749	0	0	0	0.749
1,3-DIMETHYL-4-ETHYLBENZENE	0.375	0	0	0	0.375
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.0937	0	0	0	0.0937
1,3-DIMETHYL-5-ETHYLBENZENE	0.749	0	0	0	0.749
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.375	0.942	0	0	1.32
1,4-DIMETHYL-2-ETHYLBENZENE	0.562	0	0	0	0.562
1,4-DIOXANE	0.384	0.0322	0	0	0.416
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.187	0.00432	0	0	0.192

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0.187	0	0	0	0.187
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0.0937	0	0	0	0.0937
1-ETHYL-2-METHYLCYCLOPENTANE	0	0.00432	0	0	0.00432
1-ETHYL-2-PROPYL CYCLOHEXANE	3.18	0	0	0	3.18
1-ETHYL-4-ISOPROPYLBENZENE	0.375	0	0	0	0.375
1-METHYL INDAN	1.12	0	0	0	1.12
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.843	0	0	0	0.843
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	1.12	0	0	0	1.12
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.937	0	0	0	0.937
1-METHYL-4-ISOBUTYLBENZENE	0.0937	0	0	0	0.0937
1-METHYL-4-ISOPROPYLBENZENE	0.0937	0	0	0	0.0937
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	1.41	0	0	0	1.41
1-METHYL-4-PENTYL CYCLOHEXANE	0.187	0	0	0	0.187
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	5.06	0	0	0	5.06
2,2,3,3-TETRAMETHYLPENTANE	0.0937	0	0	0	0.0937
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.281	0	0	0	0.281
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.187	0	0	0	0.187
2,3,5-TRIMETHYLHEPTANE	0.0937	0	0	0	0.0937
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.843	0	0	0	0.843
2,3-DIMETHYLOCTANE	1.41	0	0	0	1.41
2,3-DIMETHYLPENTANE	0.468	0	0	0	0.468
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	0.843	0	0	0	0.843
2,4-DIMETHYLHEXANE	1.31	14.3	0	0	15.6
2,4-DIMETHYLNONANE	0.0937	0	0	0	0.0937
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0.187	3.37	0	0	3.56
2,5-DIMETHYLHEPTANE	1.22	0	0	0	1.22
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	1.03	0	0	0	1.03
2,5-DIMETHYLOCTANE	0.0937	0	0	0	0.0937
2,6-DIMETHYLDECANE	0.749	0	0	0	0.749
2,6-DIMETHYLHEPTANE	2.15	0	0	0	2.15
2,6-DIMETHYLNONANE	4.12	0	0	0	4.12
2,6-DIMETHYLOCTANE	1.59	0	0	0	1.59
2,6-DIMETHYLUDECANE	0.187	0	0	0	0.187
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.187	0	0	0	0.187
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	2.25	0	0	0	2.25
2-ETHOXYETHYL ACETATE {CELLOSOLVE}	3.37	0	0	0	3.37

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ACETATE}					
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	0.281	0	0	0	0.281
2-METHYL-3-ETHYLPENTANE	0.187	0	0	0	0.187
2-METHYL-3-HEXANONE	0	7.43	0	0	7.43
2-METHYLDECALIN	0.375	0	0	0	0.375
2-METHYLDECANE	2.34	0	0	0	2.34
2-METHYLHEPTANE	6.28	0	0	0	6.28
2-METHYLHEXANE	3.75	0	0	0	3.75
2-METHYLNAPHTHALENE	0.0937	0	0	0	0.0937
2-METHYLNONANE	1.59	0	0	0	1.59
2-METHYLOCTANE	0.937	0	0	0	0.937
2-METHYLUNDECANE {ISODODECANE}	0.843	0	0	0	0.843
3,3,5-TRIMETHYLHEPTANE	0.0937	0	0	0	0.0937
3,4-DIMETHYLHEXANE	0.375	0	0	0	0.375
3,4-DIMETHYLOCTANE	0.281	0	0	0	0.281
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.281	0	0	0	0.281
3,6-DIMETHYL DECANE	0.281	0	0	0	0.281
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.375	0	0	0	0.375
3,7-DIMETHYLNONANE	1.22	0	0	0	1.22
3-ETHYL-2-METHYLHEPTANE	0.468	0	0	0	0.468
3-ETHYL-3-METHYLOCTANE	0.375	0	0	0	0.375
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.0937	0	0	0	0.0937
3-ETHYLHEPTANE	0.375	0	0	0	0.375
3-ETHYLHEXANE	0.843	0	0	0	0.843
3-ETHYLOCTANE	0.281	0	0	0	0.281
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	2.15	0	0	0	2.15
3-METHYLHEPTANE	3.93	0	0	0	3.93
3-METHYLHEXANE	0.375	0	0	0	0.375
3-METHYLNONANE	0.937	0	0	0	0.937
3-METHYLOCTANE	1.12	0	0	0	1.12
3-METHYLUNDECANE	0.468	0	0	0	0.468
3-PHENYLPENTANE	0.468	0	0	0	0.468
4,5-DIMETHYLDECANE	0.0937	0	0	0	0.0937
4,5-DIMETHYLOCTANE	0.468	0	0	0	0.468
4-ETHYLDECANE	0.375	0	0	0	0.375
4-METHYLDECANE	1.87	0	0	0	1.87
4-METHYLHEPTANE	1.69	0	0	0	1.69
4-METHYLINDAN	0.187	0	0	0	0.187
4-METHYLNONANE	2.72	0	0	0	2.72
4-METHYLOCTANE	1.41	0	0	0	1.41
4-METHYLUNDECANE	0.281	0	0	0	0.281
5-ISOPROPYLNONANE	0.281	0	0	0	0.281
5-METHYL DODECANE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
5-METHYLDECANE	1.78	0	0	0	1.78
5-METHYLINDAN	1.5	0	0	0	1.5
5-METHYLUNDECANE	0.375	0	0	0	0.375
6-ETHYL-2-METHYLOCTANE	0.468	0	0	0	0.468
6-METHYLUNDECANE	0.468	0	0	0	0.468
ACETALDEHYDE	2.49	0.209	0	0	2.7
ACETONE	35.1	3.36	0	0	38.5
AMMONIA (TOTAL)	524	97	0	0	621
ANTIMONY & COMPOUNDS	12.1	0.128	0	0	12.2
ARSENIC & COMPOUNDS	2.34	0.0312	0	0	2.37
BENZALDEHYDE	0	0.248	0	0	0.248
BENZENE	55.7	17.9	0	0	73.6
BERYLLIUM & COMPOUNDS	0.00115	0.000399	0	0	0.00154
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0.013	0	0	0.013
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	28.9	12.8	0	0	41.7
BUTYLBENZENE ISOMERS	0	0.177	0	0	0.177
BUTYLCYCLOHEXANE	1.69	0.0691	0	0	1.76
C10 OLEFINS	0	2.49	0	0	2.49
C11 OLEFINS	0	0.0389	0	0	0.0389
C12 OLEFINS	0	0.00864	0	0	0.00864
C5 KETONES	4.12	0	0	0	4.12
C8 INTERNAL ALKENES	0	0.297	0	0	0.297
C8 OLEFINS	0	0.134	0	0	0.134
CADMIUM & COMPOUNDS	0.643	0.0434	0	0	0.687
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	1.12	0	0	0	1.12
CARBON DIOXIDE	11800000	4120000	0	0	15900000
CARBON MONOXIDE	8100	2820	0	0	10900
CARBON TETRACHLORIDE	1.15	0.0965	0	0	1.25
CHLOROBENZENE	0.192	0.0161	0	0	0.208
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	219	49.9	0	0	269
CHROMIUM (III) COMPOUNDS	2.25	0.0663	0	0	2.31
CHROMIUM (VI) COMPOUNDS	0.916	0.0119	0	0	0.928
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.375	0	0	0	0.375
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.281	0	0	0	0.281
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.749	0	0	0	0.749
CIS-1,2-DIMETHYLCYCLOHEXANE	0.281	0	0	0	0.281
CIS-1,3-DIMETHYLCYCLOHEXANE	7.12	0	0	0	7.12
CIS-1,3-DIMETHYLCYCLOPENTANE	1.12	0	0	0	1.12
CIS-1,4-DIMETHYLCYCLOHEXANE	0.375	0	0	0	0.375
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.937	0	0	0	0.937
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	1.97	0	0	0	1.97
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.937	0	0	0	0.937
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.0937	0	0	0	0.0937
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.0937	0	0	0	0.0937
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	1.22	0	0	0	1.22

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.281	0	0	0	0.281
CIS-BICYCLO[3.3.0]OCTANE	0.0937	0	0	0	0.0937
CIS-BICYCLO[4.3.0]NONANE	0.375	0	0	0	0.375
CIS-DECALIN	0.0937	0	0	0	0.0937
COBALT & COMPOUNDS	4.11	0.046	0	0	4.15
COPPER & COMPOUNDS	26.5	0.308	0	0	26.8
CUMENE (1-METHYLETHYLBENZENE)	0.656	0.0178	0	0	0.673
CYCLOHEXANE	12.4	5.27	0	0	17.7
DECALINS (MIXED CIS,TRANS)	0	0.0259	0	0	0.0259
DI(2-ETHYLHEXYL)PHTHALATE	0.575	0.0483	0	0	0.624
DI(PROPYLENE GLYCOL) METHYL ETHER	2.81	0	0	0	2.81
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	27.5	0	0	0	27.5
DIBROMOETHANE	0.384	0.329	0	0	0.713
DICHLOROMETHANE {METHYLENE CHLORIDE}	328	77.1	0	0	405
DIETHYLCYCLOHEXANE	0	2.63	0	0	2.63
DIMETHYLBENZYLALCOHOL	0	0.00864	0	0	0.00864
DIMETHYLCYCLOBUTANONE	0	0.0259	0	0	0.0259
DIMETHYLCYCLOHEXANES	0	8.64	0	0	8.64
DIMETHYLCYCLOPENTANE	0	0.307	0	0	0.307
DIMETHYLHEPTANES	0	1.34	0	0	1.34
DIMETHYLHEXANES	0	0.143	0	0	0.143
DIMETHYLNONANES	0	0.0907	0	0	0.0907
DIMETHYLOCTANES	0	0.13	0	0	0.13
ETHYL ACETATE	14.1	4.04	0	0	18.1
ETHYL ALCOHOL	22.7	0	0	0	22.7
ETHYL ETHER	0	0.346	0	0	0.346
ETHYL PROPYLCYCLOHEXANES	0	0.0259	0	0	0.0259
ETHYLBENZENE	1.22	1.37	0	0	2.59
ETHYLCYCLOHEXANE	2.9	2.87	0	0	5.77
ETHYLCYCLOPENTANE	1.59	0.436	0	0	2.03
ETHYLDIMETHYLPHENOL	0	0.0259	0	0	0.0259
ETHYLENE GLYCOL	31.4	0	0	0	31.4
ETHYLHEPTENE	0	0.75	0	0	0.75
ETHYLHEXANE	0	0.0216	0	0	0.0216
ETHYLMETHYLCYCLOHEXANES	0	0.298	0	0	0.298
ETHYLMETHYLOCTANE	0	0.0302	0	0	0.0302
ETHYLOCTANE	0	0.00864	0	0	0.00864
ETHYLOCTENES	0	0.0173	0	0	0.0173
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0.396	0	0	0.396
FORMALDEHYDE	133	41.9	0	0	175
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0	0.000028	0	0	0.000028
HEXYLCYCLOHEXANE	0.187	0	0	0	0.187
HEXYLCYCLOPENTANE	0.281	0	0	0	0.281
INDAN	0.562	0	0	0	0.562
ISOBUTYL ALCOHOL	19.3	0	0	0	19.3
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL	0.843	0	0	0	0.843

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE)					
ISOMERS OF C10H18	0	1.45	0	0	1.45
ISOMERS OF C9H16	0	0.0518	0	0	0.0518
ISOMERS OF DECANE (C10 PARAFFINS)	0	2.68	0	0	2.68
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0.121	0	0	0.121
ISOMERS OF HEXANE	12.1	4.2	0	0	16.3
ISOMERS OF NONANE (C9 PARAFFIN)	0	7.24	0	0	7.24
ISOMERS OF PENTANE	109	37.8	0	0	146
ISOMERS OF PROPYL BENZENE	0	0.121	0	0	0.121
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0.013	0	0	0.013
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0.00432	0	0	0.00432
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0.933	0	0	0.933
ISOMERS OF XYLENE	383	68.7	0	0	452
ISOPROPYL ALCOHOL	14.1	1.6	0	0	15.7
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.843	0	0	0	0.843
LEAD & COMPOUNDS	22.1	0.25	0	0	22.4
MANGANESE & COMPOUNDS	143	1.52	0	0	144
MERCURY & COMPOUNDS	1.63	0.0257	0	0	1.66
METHANE	364000	83100	0	0	447000
METHYL ALCOHOL	1.03	0	0	0	1.03
METHYL AMYL KETONE	2.44	1.65	0	0	4.08
METHYL CARBITOL {2-(2- METHOXYETHOXY)ETHANOL}	1.12	0	0	0	1.12
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	39	2.87	0	0	41.8
METHYL HEXANE	0	0.549	0	0	0.549
METHYL ISOBUTYL KETONE	29.5	0.714	0	0	30.2
METHYL PROPYLCYCLOHEXANES	0	0.112	0	0	0.112
METHYLCYCLOHEXANE	28.5	11.1	0	0	39.6
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
METHYLDECALINS	0	0.013	0	0	0.013
METHYLDECANES	0	0.194	0	0	0.194
METHYLDECENES	0	0.0346	0	0	0.0346
METHYLDODECANES	0	0.00864	0	0	0.00864
METHYLHEXENES	0	0.0518	0	0	0.0518
METHYLNONANE	0	0.324	0	0	0.324
METHYLNONENES	0	0.013	0	0	0.013
METHYLOCTANES	0	0.315	0	0	0.315
METHYLPROPYLNONANE	0	0.013	0	0	0.013
M-ETHYLTOLUENE	0.937	0.0114	0	0	0.948
METHYLUDECANE	0	0.013	0	0	0.013
MOLYBDENUM	0.891	0.0094	0	0	0.901
NAPHTHALENE	0.656	0.013	0	0	0.669
N-BUTANE	109	37.8	0	0	146
N-BUTYL ACETATE	39.8	21.9	0	0	61.7
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-DECANE	12.6	0	0	0	12.6
N-DODECANE	1.59	0.000781	0	0	1.59
N-HEPTADECANE	0	0.000009	0	0	0.000009
N-HEPTANE	14.8	10.5	0	0	25.3
N-HEXANE	0	0.0173	0	0	0.0173
NICKEL & COMPOUNDS	2.34	0.094	0	0	2.44
NITRIC OXIDE	5340	2080	0	0	7420
NITROGEN DIOXIDE	431	168	0	0	599
NITROUS OXIDE	22.4	7.79	0	0	30.2
N-NONANE	3.37	0.376	0	0	3.75
N-OCTANE	11.1	0	0	0	11.1
NONADIENE	0	0.00864	0	0	0.00864
N-PENTADECANE	0	0.000133	0	0	0.000133
N-PENTANE	72.3	25.2	0	0	97.5
N-PENTYLCYCLOHEXANE	0.562	0.0216	0	0	0.584
N-PROPYLBENZENE	0.0937	0.0274	0	0	0.121
N-TETRADECANE	0	0.000381	0	0	0.000381
N-TRIDECANE	0.0937	0.000524	0	0	0.0942
N-UNDECANE	12.9	0.819	0	0	13.7
O-DICHLOROBENZENE	0.575	0.0483	0	0	0.624
O-ETHYLTOLUENE	1.03	0.00983	0	0	1.04
OXIDES OF NITROGEN	8610	3360	0	0	12000
PARTICULATE MATTER ≤ 10 µm	34900	616	0	0	35600
PARTICULATE MATTER ≤ 2.5 µm	9010	343	0	0	9350
P-DICHLOROBENZENE	36.5	8.32	0	0	44.8
PENTAMETHYLBENZENE	0	0.013	0	0	0.013
PENTYLCYCLOPENTANE	0.843	0	0	0	0.843
PERCHLOROETHYLENE	255	61.5	0	0	317
P-ETHYLTOLUENE	1.22	0.0188	0	0	1.24
PHENOL (CARBOLIC ACID)	4.8	0.402	0	0	5.2
PHTHALIC ANHYDRIDE	0	0.248	0	0	0.248
POLYCHLORINATED DIOXINS AND FURANS	0.000000115	3.99×10 ⁻⁰⁸	0	0	0.000000154
POLYCYCLIC AROMATIC HYDROCARBONS	0.0663	0.0231	0	0	0.0894
PROPANE	48.2	16.8	0	0	65
PROPENYLCYCLOHEXANE	0	0.00864	0	0	0.00864
PROPYL ACETATE	5.62	0	0	0	5.62
PROPYLCYCLOHEXANE	1.22	0	0	0	1.22
PROPYLCYCLOPENTANE	0.187	0	0	0	0.187
PROPYLENE GLYCOL	11.6	0	0	0	11.6
PROPYLENE GLYCOL METHYL ETHER	2.81	0	0	0	2.81
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	5.62	0	0	0	5.62
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0.342	0	0	0.342
SEC-BUTYL ALCOHOL	27.4	0.302	0	0	27.7
SELENIUM & COMPOUNDS	0.359	0.00456	0	0	0.363
STYRENE (ETHENYLBENZENE)	0.192	0.0161	0	0	0.208
SULFUR DIOXIDE	50.4	17.6	0	0	68
TETRAMETHYLCYCLOPENTANE	0	0.0302	0	0	0.0302

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TETRAMETHYLTHIOUREA	0	0.00432	0	0	0.00432
TOLUENE	298	125	0	0	423
TOTAL SUSPENDED PARTICULATE	179000	2140	0	0	181000
TOTAL VOLATILE ORGANIC COMPOUNDS	3010	814	0	0	3830
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	2.34	0	0	0	2.34
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.843	0	0	0	0.843
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	1.87	0	0	0	1.87
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	3.47	0	0	0	3.47
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	1.78	0	0	0	1.78
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.187	0	0	0	0.187
TRANS-1,3-DIMETHYLCYCLOHEXANE	2.34	0	0	0	2.34
TRANS-1,3-DIMETHYLCYCLOPENTANE	1.5	0	0	0	1.5
TRANS-1,4-DIMETHYLCYCLOHEXANE	2.44	0	0	0	2.44
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.375	0	0	0	0.375
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.656	0	0	0	0.656
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.281	0	0	0	0.281
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.468	0	0	0	0.468
TRICHLOROETHYLENE (TCE)	36.5	17.4	0	0	53.9
TRICHLOROTRIFLUOROETHANE-F113	0	1.77	0	0	1.77
TRIMETHYLBENZENES	0	0.352	0	0	0.352
TRIMETHYLCYCLOHEXANES	0	3.39	0	0	3.39
TRIMETHYLCYCLOPENTANE	0	0.492	0	0	0.492
TRIMETHYLHEPTANES	0	0.095	0	0	0.095
TRIMETHYLOCTANES	0	0.0216	0	0	0.0216
VANADIUM & COMPOUNDS	12.7	0.00376	0	0	12.7
VINYL CHLORIDE MONOMER	0.767	0.0643	0	0	0.832
ZINC & COMPOUNDS	179	2.83	0	0	182

A.26 EXPLOSIVES PRODUCTION

Table A-26: Annual emissions from explosives production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	14.6	14.6
1,2,3-TRIMETHYLBENZENE	0	0	0	0.014	0.014
1,2,4-TRIMETHYLBENZENE	0	0	0	0.00751	0.00751
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0105	0.0105
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.00648	0.00648
1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0.00648	0.00648
2,4-DIMETHYLHEXANE	0	0	0	5.92	5.92
2,4-DIMETHYLPENTANE	0	0	0	1.39	1.39
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.00328	0.00328
ACETONE	0	0	0	0.907	0.907
AMMONIA (TOTAL)	0	0	0	0.35	0.35
ANTIMONY & COMPOUNDS	0	0	0	0.0621	0.0621
ARSENIC & COMPOUNDS	0	0	0	0.0118	0.0118
BENZENE	0	0	0	0.648	0.648
BERYLLIUM & COMPOUNDS	0	0	0	0.0001	0.0001

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0	0.0194	0.0194
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0	0	0	5.31	5.31
BUTYLBENZENE ISOMERS	0	0	0	0.266	0.266
BUTYLCYCLOHEXANE	0	0	0	0.104	0.104
C10 OLEFINS	0	0	0	0.227	0.227
C11 OLEFINS	0	0	0	0.0583	0.0583
C12 OLEFINS	0	0	0	0.013	0.013
C8 INTERNAL ALKENES	0	0	0	0.167	0.167
C8 OLEFINS	0	0	0	0.201	0.201
CADMIUM & COMPOUNDS	0	0	0	0.00678	0.00678
CARBON DIOXIDE	0	0	0	11100	11100
CARBON MONOXIDE	0	0	0	173	173
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	0.098	0.098
CHROMIUM (III) COMPOUNDS	0	0	0	0.00999	0.00999
CHROMIUM (VI) COMPOUNDS	0	0	0	0.00428	0.00428
COBALT & COMPOUNDS	0	0	0	0.0117	0.0117
COPPER & COMPOUNDS	0	0	0	0.128	0.128
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.0245	0.0245
CYCLOHEXANE	0	0	0	0.0648	0.0648
DECALINS (MIXED CIS,TRANS)	0	0	0	0.0389	0.0389
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	2.8	2.8
DIETHYLCYCLOHEXANE	0	0	0	0.0518	0.0518
DIMETHYLBENZYLALCOHOL	0	0	0	0.013	0.013
DIMETHYLCYCLOBUTANONE	0	0	0	0.0389	0.0389
DIMETHYLCYCLOHEXANES	0	0	0	3.35	3.35
DIMETHYLCYCLOPENTANE	0	0	0	0.46	0.46
DIMETHYLHEPTANES	0	0	0	0.558	0.558
DIMETHYLHEXANES	0	0	0	0.214	0.214
DIMETHYLNONANES	0	0	0	0.136	0.136
DIMETHYLOCTANES	0	0	0	0.194	0.194
ETHYL ALCOHOL	0	0	0	16	16
ETHYL ETHER	0	0	0	0.518	0.518
ETHYL PROPYLCYCLOHEXANES	0	0	0	0.0389	0.0389
ETHYLBENZENE	0	0	0	0.000589	0.000589
ETHYLCYCLOHEXANE	0	0	0	1.26	1.26
ETHYLCYCLOPENTANE	0	0	0	0.246	0.246
ETHYLDIMETHYLPHENOL	0	0	0	0.0389	0.0389
ETHYLHEPTENE	0	0	0	0.0194	0.0194
ETHYLHEXANE	0	0	0	0.0324	0.0324
ETHYLMETHYLCYCLOHEXANES	0	0	0	0.447	0.447
ETHYLMETHYLOCTANE	0	0	0	0.0454	0.0454
ETHYLOCTANE	0	0	0	0.013	0.013
ETHYLOCTENES	0	0	0	0.0259	0.0259
FORMALDEHYDE	0	0	0	0.0553	0.0553
HEXADECANE	0	0	0	0.000029	0.000029

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROGEN SULFIDE	0	0	0	24.2	24.2
ISOMERS OF C9H16	0	0	0	0.0778	0.0778
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0	0.862	0.862
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	0	0.181	0.181
ISOMERS OF HEPTANE	0	0	0	0.00208	0.00208
ISOMERS OF HEXANE	0	0	0	0.00416	0.00416
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	0	2.46	2.46
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0.00376	0.00376
ISOMERS OF PENTANE	0	0	0	0.0044	0.0044
ISOMERS OF PROPYLBENZENE	0	0	0	0.181	0.181
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0	0	0.0194	0.0194
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0	0.00648	0.00648
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0	0.603	0.603
ISOMERS OF XYLENE	0	0	0	5.11	5.11
LEAD & COMPOUNDS	0	0	0	0.106	0.106
MANGANESE & COMPOUNDS	0	0	0	0.715	0.715
MERCURY & COMPOUNDS	0	0	0	0.00969	0.00969
METHANE	0	0	0	163	163
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	13.5	13.5
METHYL HEXANE	0	0	0	0.823	0.823
METHYL PROPYLCYCLOHEXANES	0	0	0	0.168	0.168
METHYLCYCLOHEXANE	0	0	0	4.73	4.73
METHYLDECALINS	0	0	0	0.0194	0.0194
METHYLDECANES	0	0	0	0.292	0.292
METHYLDECENES	0	0	0	0.0518	0.0518
METHYLDODECANES	0	0	0	0.013	0.013
METHYLHEXENES	0	0	0	0.0778	0.0778
METHYLNONANE	0	0	0	0.486	0.486
METHYLNONENES	0	0	0	0.0194	0.0194
METHYLOCTANES	0	0	0	0.473	0.473
METHYLPROPYLNONANE	0	0	0	0.0194	0.0194
M-ETHYLTOLUENE	0	0	0	0.012	0.012
METHYLUNDECANE	0	0	0	0.0194	0.0194
MOLYBDENUM	0	0	0	0.00626	0.00626
NAPHTHALENE	0	0	0	0.0194	0.0194
N-BUTANE	0	0	0	0.00976	0.00976
N-BUTYL ACETATE	0	0	0	6.59	6.59
N-DODECANE	0	0	0	0.000818	0.000818
N-HEPTADECANE	0	0	0	0.000009	0.000009
N-HEPTANE	0	0	0	7.97	7.97
N-HEXANE	0	0	0	0.0346	0.0346
NICKEL & COMPOUNDS	0	0	0	0.0206	0.0206
NITRIC OXIDE	0	0	0	110	110
NITROGEN DIOXIDE	0	0	0	8.86	8.86

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NITROUS OXIDE	0	0	0	0.0852	0.0852
N-NONANE	0	0	0	0.564	0.564
NONADIENE	0	0	0	0.013	0.013
N-PENTADECANE	0	0	0	0.000139	0.000139
N-PENTANE	0	0	0	0.00376	0.00376
N-PENTYLCYCLOHEXANE	0	0	0	0.0324	0.0324
N-PROPYLBENZENE	0	0	0	0.0385	0.0385
N-TETRADECANE	0	0	0	0.000399	0.000399
N-TRIDECANE	0	0	0	0.000549	0.000549
N-UNDECANE	0	0	0	0.000269	0.000269
O-ETHYLTOLUENE	0	0	0	0.0103	0.0103
OXIDES OF NITROGEN	0	0	0	177	177
PARTICULATE MATTER ≤ 10 µm	0	0	0	199	199
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	31.5	31.5
P-DICHLOROBENZENE	0	0	0	0.0163	0.0163
PENTAMETHYLBENZENE	0	0	0	0.0194	0.0194
PERCHLOROETHYLENE	0	0	0	4.91	4.91
P-ETHYLTOLUENE	0	0	0	0.0197	0.0197
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	3.6x10 ⁻¹¹	3.6x10 ⁻¹¹
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.0000145	0.0000145
PROPANE	0	0	0	0.00096	0.00096
PROPENYLCYCLOHEXANE	0	0	0	0.013	0.013
SEC-BUTYL ALCOHOL	0	0	0	0.454	0.454
SELENIUM & COMPOUNDS	0	0	0	0.00259	0.00259
SULFUR DIOXIDE	0	0	0	0.17	0.17
SULFUR TRIOXIDE	0	0	0	0.0024	0.0024
TETRAMETHYLCYCLOPENTANE	0	0	0	0.0454	0.0454
TETRAMETHYLTHIOUREA	0	0	0	0.00648	0.00648
TOLUENE	0	0	0	35.2	35.2
TOTAL SUSPENDED PARTICULATE	0	0	0	834	834
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	161	161
TRICHLOROETHYLENE (TCE)	0	0	0	13.7	13.7
TRICHLOROTRIFLUOROETHANE-F113	0	0	0	2.66	2.66
TRIMETHYLBENZENES	0	0	0	0.201	0.201
TRIMETHYLCYCLOHEXANES	0	0	0	1.55	1.55
TRIMETHYLCYCLOPENTANE	0	0	0	0.422	0.422
TRIMETHYLHEPTANES	0	0	0	0.143	0.143
TRIMETHYLOCTANES	0	0	0	0.0324	0.0324
VANADIUM & COMPOUNDS	0	0	0	0.033	0.033
ZINC & COMPOUNDS	0	0	0	0.569	0.569

A.27 GENERAL AGRICULTURAL PROCESSING

Table A-27: Annual emissions from general agricultural processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0	0	0	0	0
(2-METHYLBUTYL)CYCLOHEXANE	0	0	0	0	0
1,1,1-TRICHLOROETHANE	35	0	0	5.98	40.9
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,2-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,2-TRIMETHYLCYCLOPENTANE	0	0	0	0	0
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.236	0	0	0	0.236
1,1,3-TRIMETHYLCYCLOPENTANE	0.158	0	0	0	0.158
1,1,4-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0	0	0	0	0
1,1-DIMETHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
1,1-DIMETHYLCYCLOPENTANE	0	0	0	0	0
1,1-METHYLETHYLCYCLOPENTANE	0	0	0	0	0
1,2,3,5-TETRAMETHYLBENZENE	0.0788	0	0	0	0.0788
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.233	0.0127	0	0.0191	0.265
1,2,3-TRIMETHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
1,2,4,5-TETRAMETHYLBENZENE	0	0	0	0	0
1,2,4-TRIMETHYLBENZENE	0.513	0.00683	0	0.0102	0.531
1,2,4-TRIMETHYLCYCLOPENTENE	0.394	0	0	0	0.394
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0	0	0	0	0
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0	0	0	0	0
1,2-DIMETHYL-4-ETHYLBENZENE	0.0788	0	0	0	0.0788
1,2-DIMETHYLCYCLOPENTANE	0.394	0	0	0	0.394
1,3,5-TRIETHYL CYCLOHEXANE	0	0	0	0	0
1,3,5-TRIMETHYLBENZENE	0.057	0.00959	0	0.0144	0.081
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0	0	0	0	0
1,3-DIMETHYL-2-ETHYLBENZENE	0.0788	0	0	0	0.0788
1,3-DIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0	0	0	0	0
1,3-DIMETHYL-5-ETHYLBENZENE	0.0788	0	0	0	0.0788
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	24.4	0	0	0	24.4
1,4-DIMETHYL-2-ETHYLBENZENE	0	0	0	0	0
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0	0
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0	0	0	0	0
1-ETHYL-2-PROPYL CYCLOHEXANE	0.315	0	0	0	0.315
1-ETHYL-4-ISOPROPYLBENZENE	0	0	0	0	0
1-HEXENE	0	0.155	0	0	0.155
1-METHYL INDAN	0.0788	0	0	0	0.0788

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.0788	0	0	0	0.0788
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0.0788	0	0	0	0.0788
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.0788	0	0	0	0.0788
1-METHYL-4-ISOBUTYLBENZENE	0	0	0	0	0
1-METHYL-4-ISOPROPYLBENZENE	0	0	0	0	0
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0.158	0	0	0	0.158
1-METHYL-4-PENTYL CYCLOHEXANE	0	0	0	0	0
2,2,3,3-TETRAMETHYLPENTANE	0	0	0	0	0
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0	0	0	0	0
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,2-DIMETHYLPROPANAL (PIVALDEHYDE)	0	0.246	0	0	0.246
2,3,4-TRIMETHYLPENTANE	0	0	0	0	0
2,3,5-TRIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.0788	0	0	0	0.0788
2,3-DIMETHYLOCTANE	0.158	0	0	0	0.158
2,3-DIMETHYLPENTANE	0	0	0	0	0
2,4-DIMETHYLHEPTANE	0.0788	0	0	0	0.0788
2,4-DIMETHYLHEXANE	0.158	0	0	0	0.158
2,4-DIMETHYLNONANE	0	0	0	0	0
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0	0	0	0	0
2,5-DIMETHYLHEPTANE	0.0788	0	0	0	0.0788
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0.0788	0	0	0	0.0788
2,5-DIMETHYLOCTANE	0	0	0	0	0
2,6-DIMETHYLDECANE	0.0788	0	0	0	0.0788
2,6-DIMETHYLHEPTANE	0.236	0	0	0	0.236
2,6-DIMETHYLNONANE	0.473	0	0	0	0.473
2,6-DIMETHYLOCTANE	0.158	0	0	0	0.158
2,6-DIMETHYLUNDECANE	0	0	0	0	0
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0	0	0	0	0
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	0	0	0	0	0
2-METHYL-2-PROPENAL (METHACROLEIN)	0	0.446	0	0	0.446
2-METHYL-3-ETHYLPENTANE	0	0	0	0	0
2-METHYLDECALIN	0	0	0	0	0
2-METHYLDECANE	0.236	0	0	0	0.236
2-METHYLHEPTANE	0.709	0	0	0	0.709
2-METHYLHEXANE	0.394	0	0	0	0.394
2-METHYLNAPHTHALENE	0	0	0	0	0
2-METHYLNONANE	0.158	0	0	0	0.158
2-METHYLOCTANE	0.0788	0	0	0	0.0788

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLPENTANE	0	825	0	0	825
2-METHYLPROPANE; ISOBUTANE	41.8	0	0	0	41.8
2-METHYLUNDECANE {ISODODECANE}	0.0788	0	0	0	0.0788
3,3,5-TRIMETHYLHEPTANE	0	0	0	0	0
3,4-DIMETHYLHEXANE	0	0	0	0	0
3,4-DIMETHYLOCTANE	0	0	0	0	0
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0	0	0	0	0
3,6-DIMETHYL DECANE	0	0	0	0	0
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0	0	0	0	0
3,7-DIMETHYLNONANE	0.0788	0	0	0	0.0788
3-ETHYL-2-METHYLHEPTANE	0	0	0	0	0
3-ETHYL-3-METHYLOCTANE	0	0	0	0	0
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0	0	0	0	0
3-ETHYLHEPTANE	0	0	0	0	0
3-ETHYLHEXANE	0.0788	0	0	0	0.0788
3-ETHYLOCTANE	0	0	0	0	0
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.236	0	0	0	0.236
3-METHYLHEPTANE	0.473	0	0	0	0.473
3-METHYLHEXANE	0	0	0	0	0
3-METHYLNONANE	0.0788	0	0	0	0.0788
3-METHYLOCTANE	0.0788	0	0	0	0.0788
3-METHYLPENTANE	0	620	0	0	620
3-METHYLUNDECANE	0	0	0	0	0
3-PHENYLPENTANE	0	0	0	0	0
4,5-DIMETHYLDECANE	0	0	0	0	0
4,5-DIMETHYLOCTANE	0	0	0	0	0
4-ETHYLDECANE	0	0	0	0	0
4-METHYLDECANE	0.158	0	0	0	0.158
4-METHYLHEPTANE	0.158	0	0	0	0.158
4-METHYLINDAN	0	0	0	0	0
4-METHYLNONANE	0.315	0	0	0	0.315
4-METHYLOCTANE	0.158	0	0	0	0.158
4-METHYLUNDECANE	0	0	0	0	0
5-ISOPROPYLNONANE	0	0	0	0	0
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.158	0	0	0	0.158
5-METHYLINDAN	0.158	0	0	0	0.158
5-METHYLUNDECANE	0	0	0	0	0
6-ETHYL-2-METHYLOCTANE	0	0	0	0	0
6-METHYLUNDECANE	0	0	0	0	0
ACETALDEHYDE	0	0.931	0	0	0.931
ACETONE	25.2	4.39	0	0	29.6
AMMONIA (TOTAL)	324	74.7	0	36.3	435

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	1.11	0.0074	0	0.0133	1.13
ARSENIC & COMPOUNDS	0.257	0.0318	0	0.0144	0.303
BENZENE	143	76.6	0	29.6	249
BERYLLIUM & COMPOUNDS	0.00269	0.00181	0	0.000702	0.0052
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0.158	0	0	0	0.158
BUTYLCYCLOHEXANE	0.158	0	0	0	0.158
C10H12	23.9	0	0	0	23.9
C9 CYCLOPARAFFINS	10.1	0	0	0	10.1
CADMIUM & COMPOUNDS	0.304	0.172	0	0.0671	0.543
CARBON DIOXIDE	27800000	18600000	0	7250000	53600000
CARBON MONOXIDE	23300	12800	0	4970	41100
CARBONYL SULFIDE	0	0.0453	0	0	0.0453
CHLOROFORM (TRICHLOROMETHANE)	26.2	0	0	4.48	30.7
CHROMIUM (III) COMPOUNDS	0.49	0.2	0	0.0796	0.769
CHROMIUM (VI) COMPOUNDS	0.0986	0.0109	0	0.00506	0.115
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
CIS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0	0
CIS-1,3-DIMETHYLCYCLOHEXANE	0.867	0	0	0	0.867
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0788	0	0	0	0.0788
CIS-1,4-DIMETHYLCYCLOHEXANE	0	0	0	0	0
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0788	0	0	0	0.0788
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0.236	0	0	0	0.236
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.0788	0	0	0	0.0788
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0	0	0	0	0
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0	0
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0	0	0	0	0
CIS-BICYCLO[3.3.0]OCTANE	0	0	0	0	0
CIS-BICYCLO[4.3.0]NONANE	0	0	0	0	0
CIS-DECALIN	0	0	0	0	0
COBALT & COMPOUNDS	0.393	0.0129	0	0.0093	0.415
COPPER & COMPOUNDS	2.61	0.148	0	0.0807	2.84
CUMENE (1-METHYLETHYLBENZENE)	0.106	0.00457	0	0.00686	0.117
CYCLOHEXANE	35.7	38	0	7.39	81
DICHLOROMETHANE {METHYLENE CHLORIDE}	39.3	0	0	6.72	46
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	93.1	0	0	0	93.1
DIMETHYL DISULFIDE	0	1.6	0	0	1.6
DIMETHYL SULFIDE	0	0.466	0	0	0.466
ETHYL ACETATE	8.4	0	0	0	8.4
ETHYL ALCOHOL	303	1.55	0	0	304
ETHYLBENZENE	0.082	0.0912	0	0.000803	0.174
ETHYLCYCLOHEXANE	0.315	0	0	0	0.315
ETHYLCYCLOPENTANE	0.158	0	0	0	0.158
FORMALDEHYDE	294	152	0	59.9	506
HEPTYL CYCLOHEXANE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXADECANE	0.000162	0.000027	0	0.00004	0.000229
HEXANAL (HEXANALADEHYDE)	0	0.511	0	0	0.511
HEXYLCYCLOHEXANE	0	0	0	0	0
HEXYLCYCLOPENTANE	0	0	0	0	0
INDAN	0	0	0	0	0
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0.0788	0	0	0	0.0788
ISOMERS OF HEXANE	35.7	19	0	7.39	62.1
ISOMERS OF NONANE (C9 PARAFFIN)	7.56	0	0	0	7.56
ISOMERS OF PENTANE	321	171	0	66.5	559
ISOMERS OF TETRADECANE (C14 PARAFFINS)	8.4	0	0	0	8.4
ISOMERS OF UNDECANE (C11 PARAFFINS)	16.8	0	0	0	16.8
ISOMERS OF XYLENE	93.2	0.707	0	4.5	98.4
ISOPROPYL ALCOHOL	318	1.22	0	0	319
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.0788	0	0	0	0.0788
ISOVALERALDEHYDE (3-METHYLBUTANAL)	0	0.712	0	0	0.712
LEAD & COMPOUNDS	2.15	0.088	0	0.0538	2.3
MANGANESE & COMPOUNDS	13.1	0.142	0	0.179	13.4
MERCURY & COMPOUNDS	0.206	0.0412	0	0.0173	0.264
METHANE	45500	1060	0	7850	54400
METHYL ALCOHOL	0.0788	56.2	0	0	56.3
METHYL AMYL KETONE	0.236	0	0	0	0.236
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	34	0	0	0	34
METHYL ISOBUTYL KETONE	24.8	0	0	0	24.8
METHYLCYCLOHEXANE	3.47	0	0	0	3.47
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	469	0	0	469
M-ETHYLTOLUENE	0.144	0.0109	0	0.0163	0.171
MOLYBDENUM	0.0814	0.000895	0	0.000978	0.0833
NAPHTHALENE	0.0788	0	0	0	0.0788
N-BUTANE	321	171	0	66.5	559
N-BUTYL ACETATE	23.7	0	0	0	23.7
N-BUTYL ALCOHOL	26.9	0	0	0	26.9
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	1.5	0	0	0	1.5
N-DODECANE	0.162	0.000744	0	0.00112	0.164
N-HEPTADECANE	0.000054	0.000009	0	0.000013	0.000076
N-HEPTANE	1.73	0	0	0	1.73
NICKEL & COMPOUNDS	0.677	0.326	0	0.128	1.13
NITRIC OXIDE	17300	9420	0	3670	30400
NITROGEN DIOXIDE	1390	760	0	296	2450
NITROUS OXIDE	52.5	35.2	0	13.7	101
N-NONANE	0.394	0	0	0	0.394
N-OCTANE	1.34	0.246	0	0	1.59
N-PENTADECANE	0.000756	0.000127	0	0.00019	0.00107
N-PENTANE	214	114	0	44.4	372
N-PENTYLCYCLOHEXANE	0.0788	0	0	0	0.0788

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PROPYLBENZENE	0.0331	0.00556	0	0.00835	0.047
N-TETRADECANE	0.00216	0.000363	0	0.000544	0.00307
N-TRIDECANE	0.00297	0.000499	0	0.000748	0.00422
N-UNDECANE	1.58	0.000245	0	0.000367	1.58
O-ETHYLTOLUENE	0.134	0.00936	0	0.014	0.158
OXIDES OF NITROGEN	27900	15200	0	5910	49000
PARTICULATE MATTER ≤ 10 µm	85800	9170	0	5690	101000
PARTICULATE MATTER ≤ 2.5 µm	40800	3560	0	1920	46300
P-DICHLOROBENZENE	4.37	0	0	0.747	5.12
PENTYLCYCLOPENTANE	0.0788	0	0	0	0.0788
PERCHLOROETHYLENE	30.6	0	0	5.23	35.8
P-ETHYLTOLUENE	0.264	0.0179	0	0.0269	0.309
POLYCHLORINATED DIOXINS AND FURANS	0.000000269	0.000000181	0	7.02x10 ⁻⁰⁸	0.00000052
POLYCYCLIC AROMATIC HYDROCARBONS	0.194	0.105	0	0.0407	0.339
PROPANE	143	76	0	29.6	248
PROPYL ACETATE	6.72	0	0	0	6.72
PROPYLCYCLOHEXANE	0.158	0	0	0	0.158
PROPYLCYCLOPENTANE	0	0	0	0	0
PROPYLENE GLYCOL	25.2	0	0	0	25.2
SELENIUM & COMPOUNDS	0.0379	0.00388	0	0.0018	0.0436
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	213	79.4	0	30.9	324
TOLUENE	152	39.8	0	17.8	210
TOTAL SUSPENDED PARTICULATE	161000	17400	0	11400	190000
TOTAL VOLATILE ORGANIC COMPOUNDS	2940	2840	0	358	6140
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.236	0	0	0	0.236
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.236	0	0	0	0.236
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.394	0	0	0	0.394
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.158	0	0	0	0.158
TRANS-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0	0
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.236	0	0	0	0.236
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.158	0	0	0	0.158
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.236	0	0	0	0.236
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0	0	0	0	0
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0788	0	0	0	0.0788
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0	0	0	0	0
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0	0
TRICHLOROETHYLENE (TCE)	4.37	0	0	0.747	5.12
VANADIUM & COMPOUNDS	1.15	0.00707	0	0.0048	1.17
ZINC & COMPOUNDS	22.6	4.41	0	1.89	29

A.28 GENERAL ANIMAL PRODUCTS PRODUCTION

Table A-28: Annual emissions from general animal products production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	144	0	0	14.1	158
1,2,3-TRIMETHYLBENZENE	0.633	0	0	0	0.633
1,2,4-TRIMETHYLBENZENE	0.339	0	0	0	0.339
1,3,5-TRIMETHYLBENZENE	0.476	0	0	0	0.476
AMMONIA (TOTAL)	2240	0	0	2080	4320
ANTIMONY & COMPOUNDS	0.0228	0	0	0.0591	0.0819
ARSENIC & COMPOUNDS	0.0692	0	0	0.017	0.0863
BENZENE	162	0	0	21.8	184
BERYLLIUM & COMPOUNDS	0.00385	0	0	0.000342	0.00419
CADMIUM & COMPOUNDS	0.366	0	0	0.0348	0.401
CARBON DIOXIDE	39700000	0	0	3600000	43300000
CARBON MONOXIDE	27200	0	0	2420	29600
CHLOROFORM (TRICHLOROMETHANE)	108	0	0	10.5	119
CHROMIUM (III) COMPOUNDS	0.428	0	0	0.0474	0.475
CHROMIUM (VI) COMPOUNDS	0.024	0	0	0.00702	0.031
COBALT & COMPOUNDS	0.0341	0	0	0.0223	0.0564
COPPER & COMPOUNDS	0.333	0	0	0.154	0.487
CUMENE (1- METHYLETHYLBENZENE)	0.227	0	0	0	0.227
CYCLOHEXANE	40.5	0	0	5.42	46
DICHLOROMETHANE {METHYLENE CHLORIDE}	162	0	0	15.8	178
ETHYLBENZENE	0.0266	0	0	0	0.0266
FORMALDEHYDE	342	0	0	45.3	388
HEXADECANE	0.00135	0	0	0	0.00135
ISOMERS OF DECANE (C10 PARAFFINS)	272	0	0	0	272
ISOMERS OF HEXANE	40.5	0	0	3.14	43.7
ISOMERS OF NONANE (C9 PARAFFIN)	107	0	0	0	107
ISOMERS OF OCTANE (C8 PARAFFIN)	3.14	0	0	0	3.14
ISOMERS OF PENTANE	365	0	0	28.3	393
ISOMERS OF UNDECANE (C11 PARAFFINS)	10.2	0	0	0	10.2
ISOMERS OF XYLENE	108	0	0	10.5	119
LEAD & COMPOUNDS	0.204	0	0	0.122	0.326
MANGANESE & COMPOUNDS	0.392	0	0	0.706	1.1
MERCURY & COMPOUNDS	0.0881	0	0	0.0154	0.103
METHANE	182000	0	0	17800	199000
M-ETHYLTOLUENE	0.541	0	0	0	0.541
MOLYBDENUM	0.00168	0	0	0.00832	0.01
N-BUTANE	365	0	0	28.3	393
N-DODECANE	0.037	0	0	0	0.037

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEPTADECANE	0.000451	0	0	0	0.000451
N-HEXANE	0	0	0	2.28	2.28
NICKEL & COMPOUNDS	0.693	0	0	0.0714	0.764
NITRIC OXIDE	31500	0	0	1930	33400
NITROGEN DIOXIDE	2540	0	0	156	2690
NITROUS OXIDE	75.2	0	0	11.4	86.6
N-PENTADECANE	0.00632	0	0	0	0.00632
N-PENTANE	243	0	0	18.8	262
N-PROPYLBENZENE	0.277	0	0	0	0.277
N-TETRADECANE	0.018	0	0	0	0.018
N-TRIDECANE	0.0248	0	0	0	0.0248
N-UNDECANE	0.0122	0	0	0	0.0122
O-ETHYLTOLUENE	0.465	0	0	0	0.465
OXIDES OF NITROGEN	50800	0	0	3120	53900
PARTICULATE MATTER ≤ 10 µm	2530	0	0	386	2910
PARTICULATE MATTER ≤ 2.5 µm	2480	0	0	260	2740
P-DICHLOROBENZENE	18	0	0	1.76	19.8
PERCHLOROETHYLENE	126	0	0	12.3	138
P-ETHYLTOLUENE	0.891	0	0	0	0.891
POLYCHLORINATED DIOXINS AND FURANS	0.000000385	0	0	0.000000031	0.000000416
POLYCYCLIC AROMATIC HYDROCARBONS	0.223	0	0	0.0198	0.243
PROPANE	162	0	0	12.6	175
SELENIUM & COMPOUNDS	0.00837	0	0	0.00242	0.0108
SULFUR DIOXIDE	169	0	0	17.6	187
TOLUENE	153	0	0	17.9	171
TOTAL SUSPENDED PARTICULATE	2800	0	0	1090	3890
TOTAL VOLATILE ORGANIC COMPOUNDS	2960	0	0	250	3210
TRICHLOROETHYLENE (TCE)	18	0	0	1.76	19.8
VANADIUM & COMPOUNDS	0.0221	0	0	0.0101	0.0321
ZINC & COMPOUNDS	9.65	0	0	1.69	11.3

A.29 GENERAL CHEMICALS STORAGE

Table A-29: Annual emissions from general chemicals storage

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	5.12	0	0	0	5.12
1,2,3-TRIMETHYLBENZENE	0.738	0.0134	0	0	0.751
1,2,4-TRIMETHYLBENZENE	0.396	0.00717	0	0	0.403
1,3,5-TRIMETHYLBENZENE	0.556	0.0101	0	0	0.566
1,4-DIETHYL-CYCLOHEXANE	2.47	0	0	0	2.47
2,6-DIMETHYLOCTANE	38.7	0	0	0	38.7
2-METHYL-3-HEXANONE	1030	0	0	0	1030
2-METHYLPROPANE; ISOBUTANE	0.00584	0	0	0	0.00584

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ACETONE	688	0	0	0	688
AMMONIA (TOTAL)	0.743	0	20.1	0.102	21
ANTIMONY & COMPOUNDS	4.44	0.0449	0.00381	0.00159	4.49
ARSENIC & COMPOUNDS	0.849	0.00858	0.00816	0.000346	0.866
BENZENE	3.86	0	21.2	0.104	25.2
BERYLLIUM & COMPOUNDS	0	0	0.000441	0.00000247	0.000444
BUTYLCYCLOHEXANE	65.6	0	0	0	65.6
C10H12	2.43	0	0	0	2.43
C9 CYCLOPARAFFINS	1.02	0	0	0	1.02
CADMIUM & COMPOUNDS	0.196	0.00198	0.042	0.000304	0.24
CARBON DIOXIDE	0	0	4560000	25500	4580000
CARBON MONOXIDE	0	0	3120	17.5	3140
CHLOROFORM (TRICHLOROMETHANE)	3.84	0	0	0	3.84
CHROMIUM (III) COMPOUNDS	0.777	0.00785	0.0492	0.000551	0.835
CHROMIUM (VI) COMPOUNDS	0.333	0.00337	0.00284	0.000134	0.339
COBALT & COMPOUNDS	1.5	0.0152	0.00431	0.000556	1.52
COPPER & COMPOUNDS	9.67	0.0977	0.0408	0.00365	9.81
CUMENE (1- METHYLETHYLBENZENE)	0.265	0.0048	0	0	0.27
CYCLOHEXANE	142	0	5.3	0.026	148
DICHLOROMETHANE {METHYLENE CHLORIDE}	5.76	0	0	0	5.76
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	2.82	0	0	0	2.82
ETHANE	0.0017	0	0	0	0.0017
ETHYL ACETATE	764	0	0	0	764
ETHYL ALCOHOL	1.15	0	0	0	1.15
ETHYLBENZENE	152	0.000562	0	0	152
ETHYLTOLUENES {METHYLETHYLBENZENES}	55.2	0	0	0	55.2
FORMALDEHYDE	0.64	0	42.4	0.208	43.3
HEXADECANE	0.00158	0.000028	0	0	0.00161
ISOMERS OF HEPTANE	0.00314	0	0	0	0.00314
ISOMERS OF HEXANE	0.0032	0	5.3	0.026	5.33
ISOMERS OF NONANE (C9 PARAFFIN)	0.768	0	0	0	0.768
ISOMERS OF OCTANE (C8 PARAFFIN)	0.000249	0	0	0	0.000249
ISOMERS OF PENTANE	0.00704	0	47.7	0.234	48
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.853	0	0	0	0.853
ISOMERS OF UNDECANE (C11 PARAFFINS)	1.71	0	0	0	1.71
ISOMERS OF XYLENE	1970	0.0086	0	0	1970
ISOPROPYL ALCOHOL	1.49	0	0	0	1.49
LEAD & COMPOUNDS	8.1	0.0818	0.0255	0.00301	8.21
MANGANESE & COMPOUNDS	52.2	0.528	0.059	0.0188	52.9
MERCURY & COMPOUNDS	0.588	0.00594	0.0103	0.000265	0.604

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHANE	6370	0	297	1.46	6670
METHYL AMYL KETONE	227	0	0	0	227
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	151	0	0	0	151
METHYL ISOBUTYL KETONE	101	0	0	0	101
METHYLNONANE	70.6	0	0	0	70.6
M-ETHYLTOLUENE	0.631	0.0114	0	0	0.643
MOLYBDENUM	0.327	0.0033	0.00028	0.000117	0.33
NAPHTHALENE	3.86	0	0	0	3.86
N-BUTANE	0.0131	0	47.7	0.234	48
N-BUTYL ACETATE	592	0	0	0	592
N-BUTYL ALCOHOL	2.73	0	0	0	2.73
N-BUTYLCYCLOPENTANE	72.3	0	0	0	72.3
N-DECANE	251	0	0	0	251
N-DODECANE	131	0.000781	0	0	131
N-HEPTADECANE	0.000525	0.000009	0	0	0.000534
N-HEPTANE	165	0	0	0	165
N-HEXANE	0.00295	0	0	0	0.00295
NICKEL & COMPOUNDS	0.784	0.00792	0.0797	0.000723	0.872
NITRIC OXIDE	0	0	2380	12.9	2390
NITROGEN DIOXIDE	0	0	192	1.04	193
NITROUS OXIDE	0	0	8.62	0.0482	8.67
N-NONANE	197	0	0	0	197
N-OCTANE	3.86	0	0	0	3.86
N-PENTADECANE	51.7	0.000133	0	0	51.7
N-PENTANE	0.00635	0	31.8	0.156	32
N-PROPYLBENZENE	0.322	0.00584	0	0	0.328
N-TETRADECANE	84.1	0.000381	0	0	84.1
N-TRIDECANE	127	0.000524	0	0	127
N-UNDECANE	185	0.000257	0	0	185
O-ETHYLTOLUENE	0.542	0.00983	0	0	0.552
OXIDES OF NITROGEN	0	0	3840	20.8	3860
PARTICULATE MATTER ≤ 10 µm	12500	127	293	6.08	13000
PARTICULATE MATTER ≤ 2.5 µm	3030	30.7	285	2.67	3350
P-DICHLOROBENZENE	0.64	0	0	0	0.64
PERCHLOROETHYLENE	4.48	0	0	0	4.48
P-ETHYLTOLUENE	1.04	0.0188	0	0	1.06
POLYCHLORINATED DIOXINS AND FURANS	0	0	4.41x10 ⁻⁰⁸	2.47x10 ⁻¹⁰	4.44x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0.0256	0.000143	0.0257
PROPANE	0.0101	0	21.2	0.104	21.3
PROPYL ACETATE	0.683	0	0	0	0.683
SEC-BUTYLCYCLOHEXANE	30.3	0	0	0	30.3
SELENIUM & COMPOUNDS	0.131	0.00132	0.000995	0.0000518	0.133
SULFUR DIOXIDE	0	0	31200	0.109	31200
SULFUR TRIOXIDE	0	0	0.003	0	0.003
SULFURIC ACID	0	0	0.00371	0	0.00371

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOLUENE	1100	0.00264	10.6	0.052	1110
TOTAL SUSPENDED PARTICULATE	65300	660	339	25	66300
TOTAL VOLATILE ORGANIC COMPOUNDS	8590	0.0953	233	1.14	8830
TRICHLOROETHYLENE (TCE)	0.64	0	0	0	0.64
TRIMETHYLBENZENES	31.4	0	0	0	31.4
TRIMETHYLCYCLOHEXANES	67.3	0	0	0	67.3
VANADIUM & COMPOUNDS	4.6	0.00132	0.000112	0.00166	4.6
ZINC & COMPOUNDS	64.7	0.654	1.12	0.0292	66.5

A.30 GENERATION OF ELECTRICAL POWER FROM COAL

Table A-30: Annual emissions from generation of electrical power from coal

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	56.5	56.5
1,2,3-TRIMETHYLBENZENE	0	0	0	18.1	18.1
1,2,4-TRIMETHYLBENZENE	0	0	0	9.77	9.77
1,3,5-TRIMETHYLBENZENE	0	0	0	13.6	13.6
1,3-BUTADIENE	0	0	0	10.7	10.7
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	12	12
1,4-DIETHYL-CYCLOHEXANE	0	0	0	38.1	38.1
1,4-PENTADIENE	0	0	0	0.201	0.201
1-BUTENE	0	0	0	7130	7130
1-DECENE	0	0	0	24000	24000
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0	0	0	0.0225	0.0225
1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0.0225	0.0225
1-HEXENE	0	0	0	32700	32700
1-PENTENE	0	0	0	1.1	1.1
2,2,3,TRIMETHYLHEXANE	0	0	0	0.0201	0.0201
2,2,3-TRIMETHYLBUTANE	0	0	0	0.0401	0.0401
2,2,4-TRIMETHYLPENTANE	0	0	0	0.983	0.983
2,2-DIMETHYLBUTANE	0	0	0	0.301	0.301
2,2-DIMETHYLHEXANE	0	0	0	0.0401	0.0401
2,2-DIMETHYLPENTANE	0	0	0	0.1	0.1
2,3,3-TRIMETHYLPENTANE	0	0	0	0.1	0.1
2,3,4-TRIMETHYLPENTANE	0	0	0	0.1	0.1
2,3-DIMETHYLBUTANE	0	0	0	1.63	1.63
2,3-DIMETHYLHEXANE	0	0	0	0.161	0.161
2,3-DIMETHYLPENTANE	0	0	0	0.361	0.361
2,4-DIMETHYLHEXANE	0	0	0	27.6	27.6
2,4-DIMETHYLPENTANE	0	0	0	57500	57500
2,5-DIMETHYLHEXANE	0	0	0	0.14	0.14
2-METHYL-1-BUTENE	0	0	0	2.27	2.27
2-METHYL-2-BUTENE	0	0	0	8.89	8.89

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-3-HEXANONE	0	0	0	198	198
2-METHYL-BUTANE	0	0	0	11000	11000
2-METHYLHEPTANE	0	0	0	0.301	0.301
2-METHYLHEXANE	0	0	0	1.02	1.02
2-METHYLNONANE	0	0	0	0.0201	0.0201
2-METHYLOCTANE	0	0	0	0.0201	0.0201
2-METHYLPENTANE	0	0	0	9.59	9.59
2-METHYLPROPANE; ISOBUTANE	0	0	0	26.6	26.6
3,3-DIMETHYLPENTANE	0	0	0	0.12	0.12
3-ETHYLPENTANE	0	0	0	0.201	0.201
3-METHYL-1-BUTENE	0	0	0	0.0602	0.0602
3-METHYLHEPTANE	0	0	0	0.281	0.281
3-METHYLHEXANE	0	0	0	1.26	1.26
3-METHYLOCTANE	0	0	0	0.0401	0.0401
3-METHYLPENTANE	0	0	0	4.7	4.7
4-METHYLHEPTANE	0	0	0	0.161	0.161
4-METHYLOCTANE	0	0	0	0.0201	0.0201
ACETONE	0	0	0	74	74
ACETYLENE	0	0	0	17.3	17.3
AMMONIA (TOTAL)	0	0	0	10900	10900
ANTIMONY & COMPOUNDS	0	0	0	88.9	88.9
ARSENIC & COMPOUNDS	0	0	0	265	265
BENZALDEHYDE	0	0	0	10	10
BENZENE	0	0	0	16	16
BERYLLIUM & COMPOUNDS	0	0	0	90.4	90.4
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0	0.0675	0.0675
BORON & COMPOUNDS	0	0	0	383000	383000
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0	0	0	24.6	24.6
BUTYLBENZENE ISOMERS	0	0	0	0.923	0.923
BUTYLCYCLOHEXANE	0	0	0	0.36	0.36
C10 OLEFINS	0	0	0	95.6	95.6
C11 OLEFINS	0	0	0	0.203	0.203
C12 OLEFINS	0	0	0	0.045	0.045
C7 INTERNAL ALKENES	0	0	0	33200	33200
C8 INTERNAL ALKENES	0	0	0	0.53	0.53
C8 OLEFINS	0	0	0	0.698	0.698
CADMIUM & COMPOUNDS	0	0	0	99.9	99.9
CARBON DIOXIDE	0	0	0	6510000000	6510000000
CARBON MONOXIDE	0	0	0	7530000	7530000
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	4.78	4.78
CHROMIUM (III) COMPOUNDS	0	0	0	1250	1250
CHROMIUM (VI) COMPOUNDS	0	0	0	65.9	65.9
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.441	0.441
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0	0	0	0.281	0.281

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.281	0.281
CIS-2-BUTENE	0	0	0	0.602	0.602
CIS-2-PENTENE	0	0	0	9460	9460
COBALT & COMPOUNDS	0	0	0	1330	1330
COPPER & COMPOUNDS	0	0	0	776	776
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	6.58	6.58
CYANIDE (INORGANIC) COMPOUNDS	0	0	0	39100	39100
CYCLOHEXANE	0	0	0	27.6	27.6
CYCLOPENTENE	0	0	0	0.0602	0.0602
DECALINS (MIXED CIS,TRANS)	0	0	0	0.135	0.135
DIBROMOETHANE	0	0	0	12	12
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	32.5	32.5
DIETHYLCYCLOHEXANE	0	0	0	105	105
DIMETHYLBENZYLALCOHOL	0	0	0	0.045	0.045
DIMETHYLCYCLOBUTANONE	0	0	0	0.135	0.135
DIMETHYLCYCLOHEXANES	0	0	0	41.8	41.8
DIMETHYLCYCLOPENTANE	0	0	0	1.6	1.6
DIMETHYLHEPTANES	0	0	0	2.59	2.59
DIMETHYLHEXANES	0	0	0	0.743	0.743
DIMETHYLNONANES	0	0	0	0.473	0.473
DIMETHYLOCTANES	0	0	0	0.675	0.675
ETHANE	0	0	0	18800	18800
ETHYL ACETATE	0	0	0	108	108
ETHYL ETHER	0	0	0	1.8	1.8
ETHYL PROPYLCYCLOHEXANES	0	0	0	0.135	0.135
ETHYLBENZENE	0	0	0	101000	101000
ETHYLCYCLOHEXANE	0	0	0	5.59	5.59
ETHYLCYCLOPENTANE	0	0	0	0.837	0.837
ETHYLDIMETHYLPHENOL	0	0	0	0.135	0.135
ETHYLENE	0	0	0	44	44
ETHYLHEPTENE	0	0	0	29.9	29.9
ETHYLHEXANE	0	0	0	0.113	0.113
ETHYLMETHYLCYCLOHEXANES	0	0	0	1.55	1.55
ETHYLMETHYLOCTANE	0	0	0	0.158	0.158
ETHYLOCTANE	0	0	0	0.045	0.045
ETHYLOCTENES	0	0	0	0.09	0.09
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	0	10.6	10.6
FLUORIDE COMPOUNDS	0	0	0	2240000	2240000
FORMALDEHYDE	0	0	0	247	247
HEXADECANE	0	0	0	0.0387	0.0387
HYDROCHLORIC ACID	0	0	0	7460000	7460000
ISOMERS OF C10H18	0	0	0	58.7	58.7
ISOMERS OF C9H16	0	0	0	0.27	0.27
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0	88.4	88.4
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	0	0.63	0.63

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEPTANE	0	0	0	13	13
ISOMERS OF HEXANE	0	0	0	25.8	25.8
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	0	79.6	79.6
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	23.2	23.2
ISOMERS OF PENTANE	0	0	0	127	127
ISOMERS OF PROPYLBENZENE	0	0	0	0.63	0.63
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0	0	0.0675	0.0675
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0	0.0225	0.0225
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0	23.6	23.6
ISOMERS OF XYLENE	0	0	0	431000	431000
ISOPROPYL ALCOHOL	0	0	0	64.8	64.8
LEAD & COMPOUNDS	0	0	0	1140	1140
MANGANESE & COMPOUNDS	0	0	0	5070	5070
MERCURY & COMPOUNDS	0	0	0	431	431
METHANE	0	0	0	7950	7950
METHYL AMYL KETONE	0	0	0	43.6	43.6
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	84.5	84.5
METHYL HEXANE	0	0	0	2.86	2.86
METHYL ISOBUTYL KETONE	0	0	0	18.9	18.9
METHYL PROPYLCYCLOHEXANES	0	0	0	0.585	0.585
METHYLCYCLOHEXANE	0	0	0	144	144
METHYLCYCLOPENTANE	0	0	0	0.582	0.582
METHYLDECALINS	0	0	0	0.0675	0.0675
METHYLDECANES	0	0	0	1.01	1.01
METHYLDECENES	0	0	0	0.18	0.18
METHYLDODECANES	0	0	0	0.045	0.045
METHYLHEXENES	0	0	0	0.27	0.27
METHYLNONANE	0	0	0	1.69	1.69
METHYLNONENES	0	0	0	0.0675	0.0675
METHYLOCTANES	0	0	0	1.64	1.64
METHYLPROPYLNONANE	0	0	0	0.0675	0.0675
M-ETHYLTOLUENE	0	0	0	15.6	15.6
METHYLUDECANE	0	0	0	0.0675	0.0675
MOLYBDENUM	0	0	0	0.939	0.939
NAPHTHALENE	0	0	0	0.0675	0.0675
N-BUTANE	0	0	0	8910	8910
N-BUTYL ACETATE	0	0	0	263	263
N-DECANE	0	0	0	0.0201	0.0201
N-DODECANE	0	0	0	1.06	1.06
N-HEPTADECANE	0	0	0	0.0129	0.0129
N-HEPTANE	0	0	0	13600	13600
N-HEXANE	0	0	0	85100	85100
NICKEL & COMPOUNDS	0	0	0	1530	1530
NITRIC OXIDE	0	0	0	103000000	103000000

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NITROGEN DIOXIDE	0	0	0	7760000	7760000
NITROUS OXIDE	0	0	0	476000	476000
N-NONANE	0	0	0	1.98	1.98
NONADIENE	0	0	0	0.045	0.045
N-PENTADECANE	0	0	0	0.181	0.181
N-PENTANE	0	0	0	23.5	23.5
N-PENTYLCYCLOHEXANE	0	0	0	0.113	0.113
N-PROPYLBENZENE	0	0	0	8.07	8.07
N-TETRADECANE	0	0	0	0.517	0.517
N-TRIDECANE	0	0	0	0.71	0.71
N-UNDECANE	0	0	0	33.5	33.5
O-ETHYLTOLUENE	0	0	0	13.3	13.3
OXIDES OF NITROGEN	0	0	0	166000000	166000000
PARTICULATE MATTER ≤ 10 µm	0	0	0	6520000	6520000
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	3340000	3340000
P-DICHLOROBENZENE	0	0	0	0.796	0.796
PENTAMETHYLBENZENE	0	0	0	0.0675	0.0675
PERCHLOROETHYLENE	0	0	0	22.2	22.2
P-ETHYLTOLUENE	0	0	0	25.6	25.6
PHTHALIC ANHYDRIDE	0	0	0	10	10
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	0.00745	0.00745
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	301	301
PROPANE	0	0	0	16000	16000
PROPENYLCYCLOHEXANE	0	0	0	0.045	0.045
PROPYLENE	0	0	0	26.5	26.5
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	0	13.9	13.9
SEC-BUTYL ALCOHOL	0	0	0	1.58	1.58
SELENIUM & COMPOUNDS	0	0	0	19600	19600
SULFUR DIOXIDE	0	0	0	251000000	251000000
SULFUR TRIOXIDE	0	0	0	111	111
SULFURIC ACID	0	0	0	3960000	3960000
TETRAMETHYLCYCLOPENTANE	0	0	0	0.158	0.158
TETRAMETHYLTHIOUREA	0	0	0	0.0225	0.0225
TIN & COMPOUNDS	0	0	0	0.0739	0.0739
TOLUENE	0	0	0	51100	51100
TOTAL SUSPENDED PARTICULATE	0	0	0	8280000	8280000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	904000	904000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0	0.0201	0.0201
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0	0	0.0602	0.0602
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.14	0.14
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.0803	0.0803

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.1	0.1
TRANS-2-BUTENE	0	0	0	5.68	5.68
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0.0602	0.0602
TRANS-2-PENTENE	0	0	0	5.9	5.9
TRICHLOROETHYLENE (TCE)	0	0	0	48.2	48.2
TRICHLOROTRIFLUOROETHANE-F113	0	0	0	9.23	9.23
TRIMETHYLBENZENES	0	0	0	6.7	6.7
TRIMETHYLCYCLOHEXANES	0	0	0	6.82	6.82
TRIMETHYLCYCLOPENTANE	0	0	0	1.41	1.41
TRIMETHYLHEPTANES	0	0	0	0.495	0.495
TRIMETHYLOCTANES	0	0	0	0.113	0.113
VANADIUM & COMPOUNDS	0	0	0	7.64	7.64
ZINC & COMPOUNDS	0	0	0	2320	2320

A.31 GENERATION OF ELECTRICAL POWER FROM GAS

Table A-31: Annual emissions from generation of electrical power from gas

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.00281	0	0	0	0.00281
1,2,3-TRIMETHYLBENZENE	147	13.8	0	6.46	167
1,2,4-TRIMETHYLBENZENE	147	13.8	0	6.46	167
1,3,5-TRIMETHYLBENZENE	294	27.5	0	12.9	335
1-NONENE	147	13.8	0	6.46	167
1-OCTENE	147	13.8	0	6.46	167
1-PENTENE	147	13.8	0	6.46	167
2,2-DIMETHYLBUTANE	147	13.8	0	6.46	167
2,4-DIMETHYLPENTANE	147	13.8	0	6.46	167
2-METHYL-1-PENTENE	294	27.5	0	12.9	335
2-METHYL-2-BUTENE	147	13.8	0	6.46	167
2-METHYLPROPANE; ISOBUTANE	6320	592	0	278	7190
2-METHYLPROPENE (ISOBUTENE)	294	27.5	0	12.9	335
3-METHYLHEPTANE	294	27.5	0	12.9	335
3-METHYLHEXANE	147	13.8	0	6.46	167
3-METHYLPENTANE	294	27.5	0	12.9	335
ACETALDEHYDE	441	41.3	0	19.4	502
ACETYLENE	4710	441	0	207	5350
AMMONIA (TOTAL)	63500	156	82700	73	146000
ANTIMONY & COMPOUNDS	0.0000449	0	0	0	0.0000449
ARSENIC & COMPOUNDS	0.847	0	1.09	0	1.94
BENZENE	1710	152	0	71	1930
BERYLLIUM & COMPOUNDS	0.0513	0	0.0664	0	0.118
C10 OLEFINS	294	27.5	0	12.9	335
C7 INTERNAL ALKENES	147	13.8	0	6.46	167
C9 OLEFINS	588	55.1	0	25.8	669
CADMIUM & COMPOUNDS	4.63	0	5.97	0	10.6

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CARBON DIOXIDE	899000000	31800000	130000000	14900000	1080000000
CARBON MONOXIDE	1640000	86000	445000	40300	2220000
CHLORINE	469	1.46	0	0.686	471
CHLOROFORM (TRICHLOROMETHANE)	0.00211	0	0	0	0.00211
CHROMIUM (III) COMPOUNDS	7.99	0.00732	7.3	0.00343	15.3
CHROMIUM (VI) COMPOUNDS	1.31	0.00314	0.398	0.00147	1.71
CIS-2-BUTENE	294	27.5	0	12.9	335
COBALT & COMPOUNDS	3.36	0.0105	0	0.0049	3.38
COPPER & COMPOUNDS	6.95	0.0105	4.65	0.0049	11.6
CUMENE (1- METHYLETHYLBENZENE)	0.0181	0	0	0	0.0181
CYCLOHEXANE	170	13.8	0	6.46	190
CYCLOPENTANE	294	27.5	0	12.9	335
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.00316	0	0	0	0.00316
ETHANE	206000	19300	0	9040	234000
ETHYLBENZENE	147	13.8	0	6.46	167
ETHYLENE	9270	868	0	407	10500
FORMALDEHYDE	20700	1120	11600	523	33900
HEXADECANE	0.000106	0	0	0	0.000106
ISOBUTYRALDEHYDE	294	27.5	0	12.9	335
ISOMERS OF BUTENE	3820	358	0	168	4350
ISOMERS OF DECANE (C10 PARAFFINS)	294	27.5	0	12.9	335
ISOMERS OF HEPTANE	589	55.1	0	25.8	669
ISOMERS OF HEXANE	317	27.5	0	12.9	357
ISOMERS OF NONANE (C9 PARAFFIN)	147	13.8	0	6.46	167
ISOMERS OF OCTANE (C8 PARAFFIN)	294	27.5	0	12.9	335
ISOMERS OF PENTANE	2120	179	0	83.9	2380
ISOMERS OF XYLENE	588	55.1	0	25.8	669
LEAD & COMPOUNDS	2.38	0	3.09	0	5.46
MANGANESE & COMPOUNDS	3.42	0.0105	0	0.0049	3.43
MERCURY & COMPOUNDS	1.1	0	1.43	0	2.53
METHANE	1150000	106000	27100	49500	1330000
METHYLCYCLOHEXANE	294	27.5	0	12.9	335
METHYLCYCLOPENTANE	588	55.1	0	25.8	669
M-ETHYLTOLUENE	147	13.8	0	6.46	167
MOLYBDENUM	0.0000033	0	0	0	0.0000033
N-BUTANE	14900	1380	0	646	16900
N-DECANE	147	13.8	0	6.46	167
N-DODECANE	0.00294	0	0	0	0.00294
N-HEPTADECANE	0.000035	0	0	0	0.000035
N-HEPTANE	294	27.5	0	12.9	335
N-HEXANE	294	27.5	0	12.9	335
NICKEL & COMPOUNDS	12.1	0.0105	11.3	0.0049	23.4
NITRIC OXIDE	1290000	37300	110000	29200	1460000

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NITROGEN DIOXIDE	104000	3080	8900	2350	118000
NITROUS OXIDE	1590	60.1	1230	28.1	2910
N-NONANE	147	13.8	0	6.46	167
N-OCTANE	294	27.5	0	12.9	335
N-PENTADECANE	0.000501	0	0	0	0.000501
N-PENTANE	2050	179	0	83.9	2310
N-PROPYLBENZENE	0.022	0	0	0	0.022
N-TETRADECANE	0.00143	0	0	0	0.00143
N-TRIDECANE	0.00197	0	0	0	0.00197
N-UNDECANE	147	13.8	0	6.46	167
O-ETHYLTOLUENE	147	13.8	0	6.46	167
OXIDES OF NITROGEN	2080000	61600	178000	47100	2360000
PARTICULATE MATTER ≤ 10 µm	49300	20.9	35600	9.8	84900
PARTICULATE MATTER ≤ 2.5 µm	49300	20.9	35600	9.8	84900
P-DICHLOROBENZENE	0.000351	0	0	0	0.000351
PERCHLOROETHYLENE	0.00246	0	0	0	0.00246
P-ETHYLTOLUENE	0.0708	0	0	0	0.0708
POLYCHLORINATED DIOXINS AND FURANS	0.000123	0	0.000166	0	0.000289
POLYCYCLIC AROMATIC HYDROCARBONS	85.6	7.13	11.9	3.34	108
PROPANE	42900	4010	0	1880	48800
PROPYLENE	24900	2330	0	1090	28300
SELENIUM & COMPOUNDS	0.00431	0	0	0	0.00431
SULFUR DIOXIDE	14800	159	2760	74.7	17800
TOLUENE	634	55.1	0	25.8	715
TOTAL SUSPENDED PARTICULATE	49300	20.9	35600	9.8	84900
TOTAL VOLATILE ORGANIC COMPOUNDS	352000	32100	11600	15000	411000
TRANS-2-BUTENE	1910	179	0	83.9	2180
TRANS-2-PENTENE	147	13.8	0	6.46	167
TRICHLOROETHYLENE (TCE)	0.000351	0	0	0	0.000351
VANADIUM & COMPOUNDS	0.00000132	0	0	0	0.00000132
ZINC & COMPOUNDS	8.57	0.0105	0	0.0049	8.58

A.32 GENERATION OF ELECTRICITY NOT COAL OR GAS

Table A-32: Generation of electrical power from not coal or gas

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	8.15	0	0	0	8.15
1,2,3-TRIMETHYLBENZENE	14.1	0	0	0.37	14.5
1,2,4-TRIMETHYLBENZENE	14.1	0	0	0.199	14.3
1,3,5-TRIMETHYLBENZENE	28.2	0	0	0.279	28.5
1,3-BUTADIENE	0	0	0	3.17	3.17
1-BUTENE	0	0	0	6.06	6.06
1-NONENE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-OCTENE	14.1	0	0	0	14.1
1-PENTENE	14.1	0	0	0	14.1
2,2-DIMETHYLBUTANE	14.1	0	0	0	14.1
2,4-DIMETHYLPENTANE	14.1	0	0	0	14.1
2-METHYL-1-PENTENE	28.2	0	0	0	28.2
2-METHYL-2-BUTENE	14.1	0	0	0	14.1
2-METHYLPROPANE; ISOBUTANE	606	0	0	0	606
2-METHYLPROPENE (ISOBUTENE)	42.8	0	0	0	42.8
3-METHYLHEPTANE	28.2	0	0	0	28.2
3-METHYLHEXANE	14.1	0	0	0	14.1
3-METHYLPENTANE	28.2	0	0	0	28.2
ACETALDEHYDE	42.3	0	0	0	42.3
ACETIC ACID	7.68	0	0	0	7.68
ACETONE	640	0	0	0	640
ACETYLENE	451	0	0	5.11	456
AMMONIA (TOTAL)	14300	0	0	239	14500
ANTIMONY & COMPOUNDS	0.0109	0	0	0	0.0109
ARSENIC & COMPOUNDS	0.00256	0	0	0.267	0.269
BENZENE	156	0	0	3.57	160
BERYLLIUM & COMPOUNDS	0.0000279	0	0	0	0.0000279
BROMODICHLOROMETHANE	257	0	0	0	257
C10 OLEFINS	28.2	0	0	0	28.2
C7 INTERNAL ALKENES	14.1	0	0	0	14.1
C9 OLEFINS	56.4	0	0	0	56.4
CADMIUM & COMPOUNDS	0.00313	0	0	0.0251	0.0283
CARBON DIOXIDE	49200000	0	0	809000	50000000
CARBON DISULFIDE	1.54	0	0	0	1.54
CARBON MONOXIDE	282000	0	0	424	283000
CHLORINE	136	0	0	0	136
CHLOROFORM (TRICHLOROMETHANE)	6.11	0	0	0	6.11
CHROMIUM (III) COMPOUNDS	0.683	0	0	0.255	0.937
CHROMIUM (VI) COMPOUNDS	0.292	0	0	0.0133	0.305
CIS-2-BUTENE	28.2	0	0	0	28.2
COBALT & COMPOUNDS	0.972	0	0	0	0.972
COPPER & COMPOUNDS	0.994	0	0	0	0.994
CUMENE (1- METHYLETHYLBENZENE)	0	0	0	0.133	0.133
CYCLOHEXANE	14.4	0	0	0	14.4
CYCLOPENTANE	28.2	0	0	0	28.2
DICHLOROMETHANE {METHYLENE CHLORIDE}	9.17	0	0	0	9.17
ETHANE	19700	0	0	1.27	19700
ETHYL ACETATE	244	0	0	0	244
ETHYL ALCOHOL	76.5	0	0	0	76.5
ETHYLBENZENE	14.1	0	0	0.0156	14.1
ETHYLENE	888	0	0	13	901

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
FORMALDEHYDE	1150	0	0	0	1150
HEXADECANE	0	0	0	0.000792	0.000792
ISOBUTYRALDEHYDE	28.2	0	0	0	28.2
ISOMERS OF BUTENE	366	0	0	0	366
ISOMERS OF DECANE (C10 PARAFFINS)	28.2	0	0	0	28.2
ISOMERS OF HEPTANE	56.4	0	0	0	56.4
ISOMERS OF HEXANE	28.5	0	0	0	28.5
ISOMERS OF NONANE (C9 PARAFFIN)	14.1	0	0	0	14.1
ISOMERS OF OCTANE (C8 PARAFFIN)	28.2	0	0	0	28.2
ISOMERS OF PENTANE	186	0	0	0	186
ISOMERS OF XYLENE	62.5	0	0	0.238	62.7
LEAD & COMPOUNDS	0.0211	0	0	0.279	0.3
MANGANESE & COMPOUNDS	1.1	0	0	0	1.1
MERCURY & COMPOUNDS	0.00206	0	0	0	0.00206
METHANE	119000	0	0	5.25	119000
METHYL ALCOHOL	167	0	0	0	167
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	76.5	0	0	0	76.5
METHYLCYCLOHEXANE	28.2	0	0	0	28.2
METHYLCYCLOPENTANE	56.4	0	0	0	56.4
M-ETHYLTOLUENE	14.1	0	0	0.317	14.4
MOLYBDENUM	0.000803	0	0	0	0.000803
N-BUTANE	1410	0	0	0	1410
N-BUTYL ALCOHOL	11.1	0	0	0	11.1
N-DECANE	14.1	0	0	0	14.1
N-DODECANE	0	0	0	0.0217	0.0217
N-HEPTADECANE	0	0	0	0.000262	0.000262
N-HEPTANE	28.2	0	0	0	28.2
N-HEXANE	91	0	0	0	91
NICKEL & COMPOUNDS	0.975	0	0	0.0251	1
NITRIC OXIDE	80100	0	0	494	80600
NITROGEN DIOXIDE	6470	0	0	39.8	6510
NITROUS OXIDE	62	0	0	7.58	69.6
N-NONANE	14.1	0	0	0	14.1
N-OCTANE	28.2	0	0	0	28.2
N-PENTADECANE	0	0	0	0.0037	0.0037
N-PENTANE	185	0	0	0	185
N-PROPYL ALCOHOL	1.15	0	0	0	1.15
N-PROPYLBENZENE	0	0	0	0.162	0.162
N-TETRADECANE	0	0	0	0.0106	0.0106
N-TRIDECANE	0	0	0	0.0145	0.0145
N-UNDECANE	14.1	0	0	0.00713	14.1
O-ETHYLTOLUENE	14.1	0	0	0.272	14.4
OXIDES OF NITROGEN	129000	0	0	797	130000
PARTICULATE MATTER ≤ 10 µm	1990	0	0	49.7	2040

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE MATTER ≤ 2.5 µm	1960	0	0	49.1	2010
P-DICHLOROBENZENE	1.02	0	0	0	1.02
PERCHLOROETHYLENE	7.13	0	0	0	7.13
P-ETHYLTOLUENE	0	0	0	0.522	0.522
POLYCHLORINATED DIOXINS AND FURANS	2.79x10 ⁻⁰⁹	0	0	0	2.79x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	7.46	0	0	0.836	8.3
PROPANE	4100	0	0	0	4100
PROPYLENE	2380	0	0	7.83	2390
SELENIUM & COMPOUNDS	0.000377	0	0	0.0251	0.0255
SULFUR DIOXIDE	10900	0	0	25.6	10900
SULFUR TRIOXIDE	390	0	0	0	390
TIN & COMPOUNDS	0	0	0	0.0251	0.0251
TOLUENE	61	0	0	0.0732	61.1
TOTAL SUSPENDED PARTICULATE	2120	0	0	50.9	2170
TOTAL VOLATILE ORGANIC COMPOUNDS	34400	0	0	42.6	34500
TRANS-2-BUTENE	183	0	0	0	183
TRANS-2-PENTENE	14.1	0	0	0	14.1
TRICHLOROETHYLENE (TCE)	1.02	0	0	0	1.02
VANADIUM & COMPOUNDS	0.0114	0	0	0	0.0114
ZINC & COMPOUNDS	1.2	0	0	0.279	1.47

A.33 GLASS PRODUCTION (CONTAINER)

Table A-33: Annual emissions from glass production (container)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.193	0	0	0	0.193
1,2,4-TRIMETHYLBENZENE	0.104	0	0	0	0.104
1,3,5-TRIMETHYLBENZENE	0.146	0	0	0	0.146
1-BUTENE	1110	0	0	0	1110
1-PENTENE	276	0	0	0	276
2,2-DICHLORONITROANILINE	341	0	0	0	341
2-METHYLPROPANE; ISOBUTANE	1720	0	0	0	1720
ANTIMONY & COMPOUNDS	0.349	0	0	0	0.349
ARSENIC & COMPOUNDS	35.2	0	0	0	35.2
BENZENE	1240	0	0	0	1240
BERYLLIUM & COMPOUNDS	0.000616	0	0	0	0.000616
BORON & COMPOUNDS	0.0185	0	0	0	0.0185
C2 ALKYL INDAN	968	0	0	0	968
C4 SUBSTITUTED CYCLOHEXANONE	207	0	0	0	207
C5 SUBSTITUTED CYCLOHEXANE	359	0	0	0	359
C6 SUBSTITUTED CYCLOHEXANE	268	0	0	0	268
C7 CYCLOPARAFFINS	570	0	0	0	570

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C8 CYCLOPARAFFINS	34.6	0	0	0	34.6
C9 CYCLOPARAFFINS	130	0	0	0	130
CADMIUM & COMPOUNDS	52.8	0	0	0	52.8
CARBON DIOXIDE	89200000	0	0	0	89200000
CARBON MONOXIDE	35200	0	0	0	35200
CHROMIUM (III) COMPOUNDS	879	0	0	0	879
CHROMIUM (VI) COMPOUNDS	0.0262	0	0	0	0.0262
COBALT & COMPOUNDS	0.118	0	0	0	0.118
COPPER & COMPOUNDS	177	0	0	0	177
CUMENE (1-METHYLETHYLBENZENE)	0.0695	0	0	0	0.0695
CYCLOHEXANE	86.4	0	0	0	86.4
CYCLOPENTANE	216	0	0	0	216
ETHANE	950	0	0	0	950
ETHYLBENZENE	0.00814	0	0	0	0.00814
ETHYLENE	371	0	0	0	371
FLUORIDE COMPOUNDS	0.111	0	0	0	0.111
FORMALDEHYDE	691	0	0	0	691
HEXADECANE	0.000413	0	0	0	0.000413
ISOMERS OF DODECANE (C12 PARAFFINS)	829	0	0	0	829
ISOMERS OF HEPTANE	950	0	0	0	950
ISOMERS OF HEXANE	2120	0	0	0	2120
ISOMERS OF OCTANE (C8 PARAFFIN)	726	0	0	0	726
ISOMERS OF PENTANE	1360	0	0	0	1360
ISOMERS OF PENTENE	43.2	0	0	0	43.2
ISOMERS OF TETRADECANE (C14 PARAFFINS)	268	0	0	0	268
ISOMERS OF XYLENE	0.124	0	0	0	0.124
LEAD & COMPOUNDS	1570	0	0	0	1570
MANGANESE & COMPOUNDS	4.39	0	0	0	4.39
MERCURY & COMPOUNDS	17.6	0	0	0	17.6
METHANE	8030	0	0	0	8030
METHYLNAPHTHALENES	881	0	0	0	881
M-ETHYLTOLUENE	0.166	0	0	0	0.166
MOLYBDENUM	0.0257	0	0	0	0.0257
NAPHTHALENE	566	0	0	0	566
N-BUTANE	4210	0	0	0	4210
N-DECANE	246	0	0	0	246
N-DODECANE	1600	0	0	0	1600
N-HEPTADECANE	0.000137	0	0	0	0.000137
N-HEPTANE	1380	0	0	0	1380
N-HEXANE	1360	0	0	0	1360
NICKEL & COMPOUNDS	703	0	0	0	703
NITRIC OXIDE	676000	0	0	0	676000
NITROGEN DIOXIDE	54500	0	0	0	54500
NITROUS OXIDE	475	0	0	0	475

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-OCTANE	233	0	0	0	233
N-PENTADECANE	0.00193	0	0	0	0.00193
N-PENTANE	3080	0	0	0	3080
N-PENTYLCYCLOHEXANE	177	0	0	0	177
N-PROPYLBENZENE	0.0846	0	0	0	0.0846
N-TETRADECANE	0.00552	0	0	0	0.00552
N-TRIDECANE	0.00759	0	0	0	0.00759
N-UNDECANE	674	0	0	0	674
O-ETHYLTOLUENE	0.142	0	0	0	0.142
OXIDES OF NITROGEN	1090000	0	0	0	1090000
PARTICULATE MATTER ≤ 10 µm	118000	0	0	0	118000
PARTICULATE MATTER ≤ 2.5 µm	114000	0	0	0	114000
P-ETHYLTOLUENE	0.273	0	0	0	0.273
POLYCHLORINATED DIOXINS AND FURANS	0.0000352	0	0	0	0.0000352
PROPANE	2820	0	0	0	2820
PROPYLENE	510	0	0	0	510
SELENIUM & COMPOUNDS	6330	0	0	0	6330
SULFUR DIOXIDE	327000	0	0	0	327000
TOLUENE	337	0	0	0	337
TOTAL SUSPENDED PARTICULATE	125000	0	0	0	125000
TOTAL VOLATILE ORGANIC COMPOUNDS	35200	0	0	0	35200
TRIMETHYLBENZENES	769	0	0	0	769
TRIMETHYLDECENES	484	0	0	0	484
VANADIUM & COMPOUNDS	0.364	0	0	0	0.364
ZINC & COMPOUNDS	3070	0	0	0	3070

A.34 GLASS PRODUCTION (FLOAT)

Table A-34: Annual emissions from glass production (float)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.54	0	0	0	0.54
1,2,4-TRIMETHYLBENZENE	0.379	0	0	0	0.379
1,3,5-TRIMETHYLBENZENE	0.648	0	0	0	0.648
1-BUTENE	156	0	0	0	156
1-NONENE	0.194	0	0	0	0.194
1-OCTENE	0.194	0	0	0	0.194
1-PENTENE	38.9	0	0	0	38.9
2,2-DICHLORONITROANILINE	47.7	0	0	0	47.7
2,2-DIMETHYLBUTANE	0.194	0	0	0	0.194
2,4-DIMETHYLPENTANE	0.194	0	0	0	0.194
2-METHYL-1-PENTENE	0.388	0	0	0	0.388
2-METHYL-2-BUTENE	0.194	0	0	0	0.194
2-METHYLPROPANE; ISOBUTANE	249	0	0	0	249
2-METHYLPROPENE	0.388	0	0	0	0.388

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(ISOBUTENE)					
3-METHYLHEPTANE	0.388	0	0	0	0.388
3-METHYLHEXANE	0.194	0	0	0	0.194
3-METHYLPENTANE	0.388	0	0	0	0.388
ACETALDEHYDE	0.581	0	0	0	0.581
ACETYLENE	6.2	0	0	0	6.2
AMMONIA (TOTAL)	2.19	0	0	0	2.19
ANTIMONY & COMPOUNDS	0.373	0	0	0	0.373
ARSENIC & COMPOUNDS	2.62	0	0	0	2.62
BENZENE	175	0	0	0	175
BERYLLIUM & COMPOUNDS	0.000503	0	0	0	0.000503
BORON & COMPOUNDS	0.000214	0	0	0	0.000214
C10 OLEFINS	0.388	0	0	0	0.388
C2 ALKYL INDAN	135	0	0	0	135
C4 SUBSTITUTED CYCLOHEXANONE	29	0	0	0	29
C5 SUBSTITUTED CYCLOHEXANE	50.2	0	0	0	50.2
C6 SUBSTITUTED CYCLOHEXANE	37.5	0	0	0	37.5
C7 CYCLOPARAFFINS	79.8	0	0	0	79.8
C7 INTERNAL ALKENES	0.194	0	0	0	0.194
C8 CYCLOPARAFFINS	4.83	0	0	0	4.83
C9 CYCLOPARAFFINS	18.1	0	0	0	18.1
C9 OLEFINS	0.775	0	0	0	0.775
CADMIUM & COMPOUNDS	4.15	0	0	0	4.15
CARBON DIOXIDE	75800000	0	0	0	75800000
CARBON MONOXIDE	41000	0	0	0	41000
CHLORINE	0.0206	0	0	0	0.0206
CHROMIUM (III) COMPOUNDS	61.4	0	0	0	61.4
CHROMIUM (VI) COMPOUNDS	0.028	0	0	0	0.028
CIS-2-BUTENE	0.388	0	0	0	0.388
COBALT & COMPOUNDS	0.163	0	0	0	0.163
COPPER & COMPOUNDS	13.3	0	0	0	13.3
CUMENE (1- METHYLETHYLBENZENE)	0.124	0	0	0	0.124
CYCLOHEXANE	12.3	0	0	0	12.3
CYCLOPENTANE	30.6	0	0	0	30.6
ETHANE	404	0	0	0	404
ETHYLBENZENE	0.208	0	0	0	0.208
ETHYLENE	64.2	0	0	0	64.2
FLUORIDE COMPOUNDS	0.00214	0	0	0	0.00214
FORMALDEHYDE	112	0	0	0	112
HEXADECANE	0.00074	0	0	0	0.00074
ISOBUTYRALDEHYDE	0.388	0	0	0	0.388
ISOMERS OF BUTENE	5.04	0	0	0	5.04
ISOMERS OF DECANE (C10 PARAFFINS)	0.388	0	0	0	0.388
ISOMERS OF DODECANE (C12 PARAFFINS)	116	0	0	0	116

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEPTANE	134	0	0	0	134
ISOMERS OF HEXANE	297	0	0	0	297
ISOMERS OF NONANE (C9 PARAFFIN)	0.194	0	0	0	0.194
ISOMERS OF OCTANE (C8 PARAFFIN)	102	0	0	0	102
ISOMERS OF PENTANE	193	0	0	0	193
ISOMERS OF PENTENE	6.04	0	0	0	6.04
ISOMERS OF TETRADECANE (C14 PARAFFINS)	37.5	0	0	0	37.5
ISOMERS OF XYLENE	0.998	0	0	0	0.998
LEAD & COMPOUNDS	292	0	0	0	292
MANGANESE & COMPOUNDS	4.57	0	0	0	4.57
MERCURY & COMPOUNDS	1.38	0	0	0	1.38
METHANE	2610	0	0	0	2610
METHYLCYCLOHEXANE	0.388	0	0	0	0.388
METHYLCYCLOPENTANE	0.775	0	0	0	0.775
METHYLNAPHTHALENES	123	0	0	0	123
M-ETHYLTOLUENE	0.49	0	0	0	0.49
MOLYBDENUM	0.0274	0	0	0	0.0274
NAPHTHALENE	79.2	0	0	0	79.2
N-BUTANE	608	0	0	0	608
N-DECANE	34.6	0	0	0	34.6
N-DODECANE	224	0	0	0	224
N-HEPTADECANE	0.000242	0	0	0	0.000242
N-HEPTANE	194	0	0	0	194
N-HEXANE	190	0	0	0	190
NICKEL & COMPOUNDS	51.1	0	0	0	51.1
NITRIC OXIDE	139000	0	0	0	139000
NITROGEN DIOXIDE	11200	0	0	0	11200
NITROUS OXIDE	143	0	0	0	143
N-NONANE	0.194	0	0	0	0.194
N-OCTANE	33	0	0	0	33
N-PENTADECANE	0.00345	0	0	0	0.00345
N-PENTANE	433	0	0	0	433
N-PENTYLCYCLOHEXANE	24.8	0	0	0	24.8
N-PROPYLBENZENE	0.151	0	0	0	0.151
N-TETRADECANE	0.00987	0	0	0	0.00987
N-TRIDECANE	0.0136	0	0	0	0.0136
N-UNDECANE	94.5	0	0	0	94.5
O-ETHYLTOLUENE	0.448	0	0	0	0.448
OXIDES OF NITROGEN	225000	0	0	0	225000
PARTICULATE MATTER ≤ 10 µm	31600	0	0	0	31600
PARTICULATE MATTER ≤ 2.5 µm	27700	0	0	0	27700
P-ETHYLTOLUENE	0.488	0	0	0	0.488
POLYCHLORINATED DIOXINS AND FURANS	0.0000149	0	0	0	0.0000149
POLYCYCLIC AROMATIC	0.1	0	0	0	0.1

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCARBONS					
PROPANE	452	0	0	0	452
PROPYLENE	104	0	0	0	104
SELENIUM & COMPOUNDS	2680	0	0	0	2680
SULFUR DIOXIDE	223000	0	0	0	223000
TOLUENE	48	0	0	0	48
TOTAL SUSPENDED PARTICULATE	40800	0	0	0	40800
TOTAL VOLATILE ORGANIC COMPOUNDS	5370	0	0	0	5370
TRANS-2-BUTENE	2.52	0	0	0	2.52
TRANS-2-PENTENE	0.194	0	0	0	0.194
TRIMETHYLBENZENES	108	0	0	0	108
TRIMETHYLDECENES	67.7	0	0	0	67.7
VANADIUM & COMPOUNDS	0.0149	0	0	0	0.0149
ZINC & COMPOUNDS	286	0	0	0	286

A.35 HAZARDOUS, INDUSTRIAL OR GROUP A WASTE DISPOSAL

Table A-35: Annual emissions from hazardous, industrial or group A waste disposal

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	6.01	0	0	0	6.01
ARSENIC & COMPOUNDS	1.11	0	0	0	1.11
CADMIUM & COMPOUNDS	0.964	0	0	0	0.964
CHROMIUM (III) COMPOUNDS	0.882	0	0	0	0.882
CHROMIUM (VI) COMPOUNDS	0.378	0	0	0	0.378
COBALT & COMPOUNDS	0.371	0	0	0	0.371
COPPER & COMPOUNDS	11.7	0	0	0	11.7
LEAD & COMPOUNDS	9.64	0	0	0	9.64
MANGANESE & COMPOUNDS	67.8	0	0	0	67.8
MERCURY & COMPOUNDS	1.04	0	0	0	1.04
MOLYBDENUM	0.742	0	0	0	0.742
NICKEL & COMPOUNDS	2.74	0	0	0	2.74
PARTICULATE MATTER ≤ 10 µm	21100	0	0	0	21100
PARTICULATE MATTER ≤ 2.5 µm	2110	0	0	0	2110
SELENIUM & COMPOUNDS	0.222	0	0	0	0.222
TOTAL SUSPENDED PARTICULATE	74200	0	0	0	74200
VANADIUM & COMPOUNDS	5.71	0	0	0	5.71
ZINC & COMPOUNDS	27.7	0	0	0	27.7

A.36 HAZARDOUS, INDUSTRIAL OR GROUP A WASTE GENERATION

Table A-36: Annual emissions from hazardous, industrial or group A waste generation

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	0.000198	0.000374	0	0	0.000572
ARSENIC & COMPOUNDS	0.0000378	0.0000715	0	0	0.000109
CADMIUM & COMPOUNDS	0.00000872	0.0000165	0	0	0.0000252
CHROMIUM (III) COMPOUNDS	0.0000346	0.0000654	0	0	0.0001
CHROMIUM (VI) COMPOUNDS	0.0000148	0.000028	0	0	0.0000429
COBALT & COMPOUNDS	0.0000669	0.000126	0	0	0.000193
COPPER & COMPOUNDS	0.00043	0.000814	0	0	0.00124
LEAD & COMPOUNDS	0.000361	0.000682	0	0	0.00104
MANGANESE & COMPOUNDS	0.00233	0.0044	0	0	0.00672
MERCURY & COMPOUNDS	0.0000262	0.0000495	0	0	0.0000756
MOLYBDENUM	0.0000145	0.0000275	0	0	0.000042
NICKEL & COMPOUNDS	0.0000349	0.000066	0	0	0.000101
PARTICULATE MATTER ≤ 10 µm	0.558	1.06	0	0	1.61
PARTICULATE MATTER ≤ 2.5 µm	0.135	0.255	0	0	0.39
SELENIUM & COMPOUNDS	0.00000581	0.000011	0	0	0.0000168
TOTAL SUSPENDED PARTICULATE	2.91	5.5	0	0	8.4
VANADIUM & COMPOUNDS	0.00000581	0.000011	0	0	0.0000168
ZINC & COMPOUNDS	0.00288	0.00545	0	0	0.00833

A.37 HELICOPTER-RELATED ACTIVITY

Table A-37: Annual emissions from helicopter related activity

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-DECANE	0.457	0.154	0	0.0249	0.636
N-DODECANE	0.424	0.143	0	0.0231	0.59
N-HEPTANE	0.00233	0.000783	0	0.000127	0.00324
N-NONANE	0.11	0.0369	0	0.00597	0.152
N-OCTANE	0.0117	0.00392	0	0.000635	0.0162
N-PENTADECANE	0.168	0.0565	0	0.00914	0.234
N-TETRADECANE	0.273	0.0918	0	0.0149	0.379
N-TRIDECANE	0.413	0.139	0	0.0225	0.574
N-UNDECANE	0.473	0.159	0	0.0258	0.658
TOTAL VOLATILE ORGANIC COMPOUNDS	2.33	0.785	0	0.127	3.24

A.38 INERT WASTE LANDFILLING

Table A-38: Annual emissions from inert waste landfilling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	0	0	0	25700	25700
ANTIMONY & COMPOUNDS	0	0.0527	0	0.105	0.158
ARSENIC & COMPOUNDS	0	0.00144	0	0.0162	0.0177
BENZENE	0	0	0	291	291
BERYLLIUM & COMPOUNDS	0	0.0166	0	0.0055	0.0221

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BORON & COMPOUNDS	0	1.05	0	0.35	1.4
BROMODICHLOROMETHANE	0	0	0	145	145
CADMIUM & COMPOUNDS	0	0.0181	0	0.0201	0.0382
CARBON DIOXIDE	0	0	0	2880000	2880000
CARBON MONOXIDE	0	0	0	1610	1610
CHROMIUM (III) COMPOUNDS	0	3.77	0	1.26	5.03
CHROMIUM (VI) COMPOUNDS	0	0	0	0.00552	0.00552
COBALT & COMPOUNDS	0	0.422	0	0.145	0.567
COPPER & COMPOUNDS	0	1.66	0	0.925	2.58
DICHLORODIFLUOROMETHANE (F-12)	0	0	0	581	581
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	291	291
DIMETHYL SULFIDE	0	0	0	145	145
ETHANE	0	0	0	9160	9160
ETHYL ALCOHOL	0	0	0	291	291
ETHYLBENZENE	0	0	0	145	145
FLUORIDE COMPOUNDS	0	10.5	0	3.5	14
HYDROGEN SULFIDE	0	0	0	495	495
ISOMERS OF XYLENE	0	0	0	436	436
ISOPROPYL ALCOHOL	0	0	0	1020	1020
LEAD & COMPOUNDS	0	1.81	0	0.741	2.55
MANGANESE & COMPOUNDS	0	52.7	0	18.5	71.2
MERCURY & COMPOUNDS	0	0.00316	0	0.0401	0.0432
METHANE	0	0	0	3520000	3520000
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	145	145
MOLYBDENUM	0	0	0	0.0108	0.0108
N-HEXANE	0	0	0	145	145
NICKEL & COMPOUNDS	0	2.71	0	1.14	3.86
PARTICULATE MATTER ≤ 10 µm	0	26400	0	9150	35500
PARTICULATE MATTER ≤ 2.5 µm	0	5270	0	1800	7070
PERCHLOROETHYLENE	0	0	0	145	145
PROPANE	0	0	0	145	145
SELENIUM & COMPOUNDS	0	0.377	0	0.128	0.505
TOLUENE	0	0	0	5090	5090
TOTAL SUSPENDED PARTICULATE	0	52800	0	19000	71800
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	18300	18300
VANADIUM & COMPOUNDS	0	0	0	0.0833	0.0833
VINYL CHLORIDE MONOMER	0	0	0	145	145
ZINC & COMPOUNDS	0	4.82	0	2	6.83

A.39 IRON OR STEEL PRODUCTION (IRON ORE)

Table A-39: Annual emissions from iron and steel production (iron ore)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	108	0	108
1,1,2-TRICHLOROETHANE	0	0	83.1	0	83.1
1,3-BUTADIENE	0	0	1500	0	1500
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	4.64	0	4.64
1,4-DIETHYL-CYCLOHEXANE	0	0	14.7	0	14.7
1-BUTENE	0	0	314	0	314
2,4-DIMETHYLHEXANE	0	0	58.9	0	58.9
2,4-DIMETHYLPENTANE	0	0	13.9	0	13.9
2-METHYL-3-HEXANONE	0	0	121	0	121
ACETALDEHYDE	0	0	132	0	132
ACETONE	0	0	65.8	0	65.8
ACETONITRILE	0	0	98.2	0	98.2
ACETYLENE	0	0	5450	0	5450
ACRYLONITRILE	0	0	484	0	484
AMMONIA (TOTAL)	0	0	340000	0	340000
ANTIMONY & COMPOUNDS	0	0	72.4	0	72.4
ARSENIC & COMPOUNDS	0	0	49	0	49
BENZALDEHYDE	0	0	3.87	0	3.87
BENZENE	0	0	250000	0	250000
BERYLLIUM & COMPOUNDS	0	0	2.23	0	2.23
BIPHENYL {PHENYL BENZENE}	0	0	63	0	63
BORON & COMPOUNDS	0	0	144	0	144
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0	0	53	0	53
C10 OLEFINS	0	0	36.6	0	36.6
C8 INTERNAL ALKENES	0	0	1.23	0	1.23
CADMIUM & COMPOUNDS	0	0	187	0	187
CARBON DIOXIDE	0	0	2590000000	0	2590000000
CARBON DISULFIDE	0	0	15.1	0	15.1
CARBON MONOXIDE	0	0	528000000	0	528000000
CHLOROFORM (TRICHLOROMETHANE)	0	0	81.3	0	81.3
CHROMIUM (III) COMPOUNDS	0	0	212	0	212
CHROMIUM (VI) COMPOUNDS	0	0	35.1	0	35.1
COBALT & COMPOUNDS	0	0	23.4	0	23.4
COPPER & COMPOUNDS	0	0	555	0	555
CYANIDE (INORGANIC) COMPOUNDS	0	0	19500	0	19500
CYCLOHEXANE	0	0	16.7	0	16.7
DIBROMOETHANE	0	0	4.64	0	4.64
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	132	0	132
DIETHYLCYCLOHEXANE	0	0	40.6	0	40.6
DIMETHYLCYCLOHEXANES	0	0	43	0	43

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLHEPTANES	0	0	5.48	0	5.48
ETHANE	0	0	24200	0	24200
ETHYL ACETATE	0	0	66	0	66
ETHYL ALCOHOL	0	0	131	0	131
ETHYLBENZENE	0	0	74.5	0	74.5
ETHYLCYCLOHEXANE	0	0	11.7	0	11.7
ETHYLCYCLOPENTANE	0	0	1.8	0	1.8
ETHYLENE	0	0	83200	0	83200
ETHYLHEPTENE	0	0	11.5	0	11.5
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	6.48	0	6.48
FLUORIDE COMPOUNDS	0	0	19300	0	19300
FORMALDEHYDE	0	0	69.9	0	69.9
HYDROCHLORIC ACID	0	0	448000	0	448000
HYDROGEN SULFIDE	0	0	126000	0	126000
ISOMERS OF C10H18	0	0	22.7	0	22.7
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	33	0	33
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	49.5	0	49.5
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	8.31	0	8.31
ISOMERS OF XYLENE	0	0	4780	0	4780
ISOPROPYL ALCOHOL	0	0	25	0	25
LEAD & COMPOUNDS	0	0	3480	0	3480
MANGANESE & COMPOUNDS	0	0	4490	0	4490
MERCURY & COMPOUNDS	0	0	183	0	183
METHANE	0	0	486000	0	486000
METHYL ALCOHOL	0	0	12800	0	12800
METHYL AMYL KETONE	0	0	26.7	0	26.7
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	43.6	0	43.6
METHYL ISOBUTYL KETONE	0	0	13400	0	13400
METHYL METHACRYLATE	0	0	192	0	192
METHYLCYCLOHEXANE	0	0	78.5	0	78.5
MOLYBDENUM	0	0	5.96	0	5.96
N-BUTYL ACETATE	0	0	177	0	177
N-HEPTANE	0	0	48.3	0	48.3
N-HEXANE	0	0	1310	0	1310
NICKEL & COMPOUNDS	0	0	232	0	232
NITRIC ACID	0	0	0.971	0	0.971
NITRIC OXIDE	0	0	4600000	0	4600000
NITROGEN DIOXIDE	0	0	371000	0	371000
NITROUS OXIDE	0	0	1510000	0	1510000
N-UNDECANE	0	0	12.8	0	12.8
OXIDES OF NITROGEN	0	0	7510000	0	7510000
PARTICULATE MATTER ≤ 10 µm	0	0	1750000	0	1750000
PARTICULATE MATTER ≤ 2.5 µm	0	0	1220000	0	1220000

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
P-DICHLOROBENZENE	0	0	13.5	0	13.5
PERCHLOROETHYLENE	0	0	94.8	0	94.8
PHENOL (CARBOLIC ACID)	0	0	85.6	0	85.6
PHTHALIC ANHYDRIDE	0	0	3.87	0	3.87
POLYCHLORINATED DIOXINS AND FURANS	0	0	0.0003	0	0.0003
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	30300	0	30300
PROPANE	0	0	10700	0	10700
PROPYLENE	0	0	6060	0	6060
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	5.35	0	5.35
SELENIUM & COMPOUNDS	0	0	78.3	0	78.3
STYRENE (ETHENYLBENZENE)	0	0	1980	0	1980
SULFUR DIOXIDE	0	0	8220000	0	8220000
SULFUR TRIOXIDE	0	0	358000	0	358000
SULFURIC ACID	0	0	52200	0	52200
TOLUENE	0	0	21500	0	21500
TOTAL SUSPENDED PARTICULATE	0	0	4590000	0	4590000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	452000	0	452000
TRICHLOROETHYLENE (TCE)	0	0	13.5	0	13.5
TRIMETHYLBENZENES	0	0	3.65	0	3.65
TRIMETHYLCYCLOHEXANES	0	0	13.6	0	13.6
TRIMETHYLCYCLOPENTANE	0	0	1.39	0	1.39
TRIMETHYLFLUOROSILANE	0	0	12700	0	12700
VANADIUM & COMPOUNDS	0	0	30.6	0	30.6
ZINC & COMPOUNDS	0	0	11600	0	11600

A.40 IRON OR STEEL PRODUCTION (SCRAP METAL)

Table A-40: Annual emissions from iron and steel production (scrap metal)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0.324	0	0	0.324
1,2,3-TRIMETHYLBENZENE	0.246	0.404	0	0	0.65
1,2,4-TRIMETHYLBENZENE	0.132	0.219	0	0	0.351
1,3,5-TRIMETHYLBENZENE	0.185	0.304	0	0	0.49
1,3-BUTADIENE	200	0	0	0	200
1,3-DIETHYL-5-METHYL CYCLOHEXANE	351	6.64	0	0	358
1,4-BUTANEDIOL	206	0	0	0	206
1,4-DIETHYL-CYCLOHEXANE	2170	24.2	0	0	2200
1,4-PENTADIENE	0	0.00626	0	0	0.00626
1-BUTENE	0	0.0288	0	0	0.0288
1-CHLOROBUTANE	33.5	0	0	0	33.5
1-ETHOXY-2-PROPANOL	22.2	0	0	0	22.2
1-PENTENE	0	0.0345	0	0	0.0345

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	11.8	0	0	0	11.8
2,2,3,TRIMETHYLHEXANE	0	0.000626	0	0	0.000626
2,2,3-TRIMETHYLBUTANE	0	0.00125	0	0	0.00125
2,2,4-TRIMETHYLPENTANE	0	0.0307	0	0	0.0307
2,2-DIMETHYLBUTANE	0	0.0094	0	0	0.0094
2,2-DIMETHYLHEXANE	0	0.00125	0	0	0.00125
2,2-DIMETHYLPENTANE	0	0.00313	0	0	0.00313
2,3,3-TRIMETHYLPENTANE	0	0.00313	0	0	0.00313
2,3,4-TRIMETHYLPENTANE	0	0.00313	0	0	0.00313
2,3-DIMETHYLBUTANE	0	0.0507	0	0	0.0507
2,3-DIMETHYLHEXANE	0	0.00501	0	0	0.00501
2,3-DIMETHYLPENTANE	0	0.0113	0	0	0.0113
2,4-DIMETHYLHEXANE	2270	401	0	0	2670
2,4-DIMETHYLPENTANE	544	94.8	0	0	638
2,5-DIMETHYLHEXANE	0	0.00438	0	0	0.00438
2-BUTYLTETRAHYDROFURAN	2.28	0	0	0	2.28
2-ETHYL-1-HEXANOL	15.3	0	0	0	15.3
2-METHYL-1-BUTENE	0	0.0708	0	0	0.0708
2-METHYL-2-BUTENE	0	0.277	0	0	0.277
2-METHYL-3-HEXANONE	1950	209	0	0	2160
2-METHYLHEPTANE	0	0.0094	0	0	0.0094
2-METHYLHEXANE	0	0.0319	0	0	0.0319
2-METHYLNONANE	0	0.000626	0	0	0.000626
2-METHYLOCTANE	0	0.000626	0	0	0.000626
2-METHYLPENTANE	0	0.299	0	0	0.299
2-METHYLPROPANE; ISOBUTANE	0	0.191	0	0	0.191
3-(CHLOROMETHYL)-HEPTANE	9.41	0	0	0	9.41
3,3-DIMETHYLPENTANE	0	0.00376	0	0	0.00376
3-ETHYLPENTANE	0	0.00626	0	0	0.00626
3-METHYL-1-BUTENE	0	0.00188	0	0	0.00188
3-METHYLHEPTANE	0	0.00877	0	0	0.00877
3-METHYLHEXANE	0	0.0395	0	0	0.0395
3-METHYLOCTANE	0	0.00125	0	0	0.00125
3-METHYLPENTANE	0	0.147	0	0	0.147
4-METHYLHEPTANE	0	0.00501	0	0	0.00501
4-METHYLOCTANE	0	0.000626	0	0	0.000626
ACETONE	1470	71.2	0	0	1540
ACROLEIN (2-PROPENAL)	843	91.2	0	0	934
AMMONIA (TOTAL)	316	1340	0	0	1650
ANTIMONY & COMPOUNDS	47.4	0.0329	0	0	47.4
ARSENIC & COMPOUNDS	5.82	0.105	0	0	5.92
BENZALDEHYDE	293	5.55	0	0	299
BENZENE	88900	9840	0	0	98700
BERYLLIUM & COMPOUNDS	0.113	0.00586	0	0	0.119
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	2070	361	0	0	2430
C10 OLEFINS	2770	52.4	0	0	2820

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
C10H12	1040	3.09	0	0	1040
C7 CYCLOPARAFFINS	144	0	0	0	144
C8 CYCLOPARAFFINS	20	0	0	0	20
C8 INTERNAL ALKENES	2.47	8.36	0	0	10.8
C9 CYCLOPARAFFINS	438	1.34	0	0	440
CADMIUM & COMPOUNDS	8.32	0.559	0	0	8.88
CARBON DIOXIDE	32400000	60500000	0	0	92900000
CARBON MONOXIDE	6880000	2210000	0	0	9090000
CHLOROETHANE (ETHYL CHLORIDE)	9.41	0	0	0	9.41
CHROMIUM (III) COMPOUNDS	17.7	0.65	0	0	18.4
CHROMIUM (VI) COMPOUNDS	3.37	0.0362	0	0	3.41
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0.0138	0	0	0.0138
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0.00877	0	0	0.00877
CIS-1,2-DIMETHYLCYCLOPENTANE	0	0.00877	0	0	0.00877
CIS-2-BUTENE	0	0.0188	0	0	0.0188
CIS-2-PENTENE	0	0.101	0	0	0.101
COBALT & COMPOUNDS	1.04	0.0469	0	0	1.08
COPPER & COMPOUNDS	62.8	0.5	0	0	63.3
CUMENE (1-METHYLETHYLBENZENE)	0.0885	0.145	0	0	0.234
CYCLOHEXANE	364	90.7	0	0	454
CYCLOPENTANE	0.698	0	0	0	0.698
CYCLOPENTENE	0	0.00188	0	0	0.00188
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	11.8	0	0	0	11.8
DIBROMOETHANE	351	6.64	0	0	358
DIBUTYL ETHER	3.64	0	0	0	3.64
DICHLOROMETHANE {METHYLENE CHLORIDE}	554	8.9	0	0	563
DIETHYLCYCLOHEXANE	3070	58.1	0	0	3130
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	1210	0	0	0	1210
DIMETHOXYMETHANE (METHYLAL)	409	0	0	0	409
DIMETHYLCYCLOHEXANES	2050	238	0	0	2290
DIMETHYLHEPTANES	213	37.3	0	0	250
ETHYL ACETATE	1430	114	0	0	1540
ETHYL ALCOHOL	17100	0.449	0	0	17100
ETHYL ISOPROPYL ETHER	78.9	0	0	0	78.9
ETHYLBENZENE	638	36.9	0	0	675
ETHYLCYCLOHEXANE	427	79.7	0	0	506
ETHYLCYCLOPENTANE	3.63	12.3	0	0	15.9
ETHYLENE GLYCOL	8.8	0	0	0	8.8
ETHYLHEPTENE	872	16.5	0	0	888

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLTOLUENES {METHYLETHYLBENZENES}	104	11.1	0	0	115
FORMALDEHYDE	2100	687	0	0	2790
FURFURYL ALCOHOL	179	19.4	0	0	198
HEXADECANE	0.000526	0.000862	0	0	0.00139
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	21.7	0	0	0	21.7
HYDROGEN CYANIDE	203	22.1	0	0	225
HYDROGEN SULFIDE	225	24.3	0	0	250
ISOMERS OF C10H18	1720	32.5	0	0	1750
ISOMERS OF DECANE (C10 PARAFFINS)	2500	47.2	0	0	2540
ISOMERS OF HEPTANE	16.3	0	0	0	16.3
ISOMERS OF HEXANE	120	61.7	0	0	181
ISOMERS OF NONANE (C9 PARAFFIN)	3060	195	0	0	3260
ISOMERS OF OCTANE (C8 PARAFFIN)	2.69	0	0	0	2.69
ISOMERS OF PENTANE	1390	559	0	0	1940
ISOMERS OF TETRADECANE (C14 PARAFFINS)	365	1.23	0	0	367
ISOMERS OF UNDECANE (C11 PARAFFINS)	1370	14.2	0	0	1390
ISOMERS OF XYLENE	38100	3790	0	0	41900
ISOPROPYL ALCOHOL	2530	36.3	0	0	2570
LEAD & COMPOUNDS	103	3.08	0	0	106
MAGNESIUM OXIDE FUME	262	0	0	0	262
MANGANESE & COMPOUNDS	784	0.568	0	0	785
MERCURY & COMPOUNDS	12.1	0.135	0	0	12.2
METHANE	2190	3460	0	0	5640
METHYL ALCOHOL	0	0.0147	0	0	0.0147
METHYL AMYL KETONE	445	46.3	0	0	491
METHYL CHLORIDE	8.35	0	0	0	8.35
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	4130	60.5	0	0	4200
METHYL ISOBUTYL KETONE	1280	20.3	0	0	1300
METHYL PALMITATE {METHYL HEXADECANOATE}	5.46	0	0	0	5.46
METHYLCYCLOHEXANE	4250	271	0	0	4520
METHYLCYCLOPENTANE	230	0.0182	0	0	230
M-ETHYLTOLUENE	0.211	0.35	0	0	0.56
MOLYBDENUM	0.215	0.0032	0	0	0.219
NAPHTHALENE	204	22.1	0	0	227
N-BUTANE	351	556	0	0	908
N-BUTYL ACETATE	7010	598	0	0	7610
N-BUTYL ALCOHOL	1470	0.335	0	0	1470
N-DECANE	3.19	0.000626	0	0	3.19
N-DODECANE	0.0144	0.0236	0	0	0.038
N-HEPTADECANE	0.000175	0.000286	0	0	0.000461

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEPTANE	1790	186	0	0	1980
N-HEXANE	148	0.0138	0	0	148
NICKEL & COMPOUNDS	27.5	1.06	0	0	28.6
NITRIC OXIDE	16200	88300	0	0	104000
NITROGEN DIOXIDE	1300	7120	0	0	8420
NITROUS OXIDE	61.3	115	0	0	176
N-NONANE	0	0.000626	0	0	0.000626
N-OCTANE	1.3	0	0	0	1.3
N-PENTADECANE	0.00246	0.00403	0	0	0.00649
N-PENTANE	234	370	0	0	605
N-PROPYLBENZENE	0.108	0.178	0	0	0.286
N-TETRADECANE	0.00703	0.0115	0	0	0.0186
N-TRIDECANE	0.00966	0.0158	0	0	0.0255
N-UNDECANE	970	18.3	0	0	988
O-ETHYLTOLUENE	0.181	0.297	0	0	0.478
OXIDES OF NITROGEN	26100	142000	0	0	168000
PARTICULATE MATTER ≤ 10 µm	90500	58800	0	0	149000
PARTICULATE MATTER ≤ 2.5 µm	75500	52600	0	0	128000
P-ETHYLTOLUENE	0.347	0.571	0	0	0.918
PHENOL (CARBOLIC ACID)	16400	1770	0	0	18100
PHTHALIC ANHYDRIDE	293	5.55	0	0	299
POLYCHLORINATED DIOXINS AND FURANS	0.000122	0.00145	0	0	0.00157
POLYCYCLIC AROMATIC HYDROCARBONS	67.7	7.6	0	0	75.3
PROPANE	156	247	0	0	403
PROPYL ACETATE	292	0.0332	0	0	292
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	405	7.66	0	0	413
SELENIUM & COMPOUNDS	0.322	0.0128	0	0	0.335
STYRENE (ETHENYLBENZENE)	1650	0	0	0	1650
SUBSTITUTED C9 ESTER (C12)	434	0	0	0	434
SULFUR DIOXIDE	1630	8910	0	0	10500
SULFUR TRIOXIDE	298	18300	0	0	18600
TOLUENE	55800	6250	0	0	62000
TOTAL AROMATIC AMINES	1890	205	0	0	2100
TOTAL C2-C5 ALDEHYDES	61800	6690	0	0	68500
TOTAL SUSPENDED PARTICULATE	162000	89300	0	0	251000
TOTAL VOLATILE ORGANIC COMPOUNDS	350000	34800	0	0	385000
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0	0.000626	0	0	0.000626
TRANS-1,2-CIS-4- TRIMETHYLCYCLOPENTANE	0	0.00188	0	0	0.00188
TRANS-1,3- DIMETHYLCYCLOPENTANE	0	0.00438	0	0	0.00438
TRANS-1,CIS-2,3-	0	0.00251	0	0	0.00251

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRIMETHYLCYCLOPENTANE					
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0.00313	0	0	0.00313
TRANS-2-BUTENE	0	0.177	0	0	0.177
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0.00188	0	0	0.00188
TRANS-2-PENTENE	0	0.184	0	0	0.184
TRIMETHYLBENZENES	59.2	6.13	0	0	65.3
TRIMETHYLCYCLOHEXANES	498	92.5	0	0	591
TRIMETHYLCYCLOPENTANE	2.8	9.47	0	0	12.3
VANADIUM & COMPOUNDS	3.68	0.0329	0	0	3.72
VINYL ACETATE	1.82	0	0	0	1.82
ZINC & COMPOUNDS	483	14.5	0	0	498

A.41 LAND-BASED EXTRACTIVE ACTIVITY

Table A-41: Annual emissions from land-based extractive activity

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	67.4	0	0	496	563
1,2,3-TRIMETHYLBENZENE	2.49	0.333	0	7.01	9.84
1,2,4-TRIMETHYLBENZENE	1.34	0.179	0	3.77	5.28
1,3,5-TRIMETHYLBENZENE	1.88	0.251	0	5.28	7.41
1,3-BUTADIENE	0	0	0	296	296
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0.445	0.445
1,4-DIETHYL-CYCLOHEXANE	0	0	0	1.41	1.41
1,4-PENTADIENE	0	0	0	0.0156	0.0156
1-BUTENE	0	0	0	567	567
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.0302	0	0	0.222	0.253
1-ETHYL-2-METHYLCYCLOPENTANE	0.0302	0	0	0.222	0.253
1-PENTENE	0	0	0	0.0861	0.0861
2,2,3,TRIMETHYLHEXANE	0	0	0	0.00156	0.00156
2,2,3-TRIMETHYLBUTANE	0	0	0	0.00313	0.00313
2,2,4-TRIMETHYLPENTANE	0	0	0	0.0767	0.0767
2,2-DIMETHYLBUTANE	0	0	0	0.0235	0.0235
2,2-DIMETHYLHEXANE	0	0	0	0.00313	0.00313
2,2-DIMETHYLPENTANE	0	0	0	0.00782	0.00782
2,3,3-TRIMETHYLPENTANE	0	0	0	0.00782	0.00782
2,3,4-TRIMETHYLPENTANE	0	0	0	0.00782	0.00782
2,3-DIMETHYLBUTANE	0	0	0	0.127	0.127
2,3-DIMETHYLHEXANE	0	0	0	0.0125	0.0125
2,3-DIMETHYLPENTANE	0	0	0	0.0282	0.0282
2,4-DIMETHYLHEXANE	9.67	0	0	1.57	11.2
2,4-DIMETHYLPENTANE	2.28	0	0	0.39	2.67
2,5-DIMETHYLHEXANE	0	0	0	0.011	0.011
2-METHYL-1-BUTENE	0	0	0	0.177	0.177
2-METHYL-2-BUTENE	0	0	0	0.693	0.693
2-METHYL-3-HEXANONE	5.04	0	0	0.806	5.84

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLHEPTANE	0	0	0	0.0235	0.0235
2-METHYLHEXANE	0	0	0	0.0798	0.0798
2-METHYLNONANE	0	0	0	0.00156	0.00156
2-METHYLOCTANE	0	0	0	0.00156	0.00156
2-METHYLPENTANE	0	0	0	0.748	0.748
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.477	0.477
3,3-DIMETHYLPENTANE	0	0	0	0.00939	0.00939
3-ETHYLPENTANE	0	0	0	0.0156	0.0156
3-METHYL-1-BUTENE	0	0	0	0.00469	0.00469
3-METHYLHEPTANE	0	0	0	0.0219	0.0219
3-METHYLHEXANE	0	0	0	0.0986	0.0986
3-METHYLOCTANE	0	0	0	0.00313	0.00313
3-METHYLPENTANE	0	0	0	0.366	0.366
4-METHYLHEPTANE	0	0	0	0.0125	0.0125
4-METHYLOCTANE	0	0	0	0.00156	0.00156
ACETONE	5.94	0	0	31.4	37.4
ACETYLENE	0	0	0	478	478
AMMONIA (TOTAL)	0	0	0	557	557
ANTIMONY & COMPOUNDS	21.2	21.1	0	347	389
ARSENIC & COMPOUNDS	5.62	4.56	0	89.7	99.8
BENZALDEHYDE	0	0	0	0.372	0.372
BENZENE	3.02	0	0	356	359
BERYLLIUM & COMPOUNDS	0.205	0.0811	0	0.62	0.907
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.0907	0	0	0.667	0.758
BORON & COMPOUNDS	10.8	4.69	0	33.9	49.4
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	8.7	0	0	1.39	10.1
BUTYLBENZENE ISOMERS	1.24	0	0	9.12	10.4
BUTYLCYCLOHEXANE	0.484	0	0	3.56	4.04
C10 OLEFINS	1.06	0	0	11.3	12.4
C11 OLEFINS	0.272	0	0	2	2.27
C12 OLEFINS	0.0605	0	0	0.445	0.505
C8 INTERNAL ALKENES	0.201	0	0	0.0322	0.234
C8 OLEFINS	0.937	0	0	6.9	7.83
CADMIUM & COMPOUNDS	3.49	3.42	0	57.7	64.6
CARBON DIOXIDE	0	0	0	1880000	1880000
CARBON MONOXIDE	0	0	0	16700	16700
CHROMIUM (III) COMPOUNDS	35.7	18.4	0	176	230
CHROMIUM (VI) COMPOUNDS	1.31	1.31	0	22.7	25.4
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.0344	0.0344
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0	0	0.0219	0.0219
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.0219	0.0219
CIS-2-BUTENE	0	0	0	0.0469	0.0469
CIS-2-PENTENE	0	0	0	0.254	0.254
COBALT & COMPOUNDS	4.72	2.97	0	32.9	40.6
COPPER & COMPOUNDS	168	163	0	2070	2400
CUMENE (1-METHYLETHYLBENZENE)	0.987	0.12	0	3.19	4.29

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE	1	0	0	2.34	3.35
CYCLOPENTENE	0	0	0	0.00469	0.00469
DECALINS (MIXED CIS,TRANS)	0.181	0	0	1.33	1.52
DIBROMOETHANE	0	0	0	0.445	0.445
DICHLOROMETHANE {METHYLENE CHLORIDE}	12.4	0	0	91.8	104
DIETHYLCYCLOHEXANE	0.242	0	0	5.67	5.92
DIMETHYLBENZYLALCOHOL	0.0605	0	0	0.445	0.505
DIMETHYLCYCLOBUTANONE	0.181	0	0	1.33	1.52
DIMETHYLCYCLOHEXANES	5.72	0	0	4.28	10
DIMETHYLCYCLOPENTANE	2.15	0	0	15.8	17.9
DIMETHYLHEPTANES	0.96	0	0	0.589	1.55
DIMETHYLHEXANES	0.998	0	0	7.34	8.34
DIMETHYLNONANES	0.635	0	0	4.67	5.31
DIMETHYLOCTANES	0.907	0	0	6.67	7.58
ETHANE	0	0	0	118	118
ETHYL ACETATE	2.74	0	0	0.438	3.18
ETHYL ETHER	2.42	0	0	17.8	20.2
ETHYL PROPYLCYCLOHEXANES	0.181	0	0	1.33	1.52
ETHYLBENZENE	0.83	0.014	0	0.882	1.73
ETHYLCYCLOHEXANE	2.16	0	0	2.09	4.25
ETHYLCYCLOPENTANE	0.295	0	0	0.052	0.347
ETHYLDIMETHYLPHENOL	0.181	0	0	1.33	1.52
ETHYLENE	0	0	0	1210	1210
ETHYLHEPTENE	0.0907	0	0	1.77	1.86
ETHYLHEXANE	0.151	0	0	1.11	1.26
ETHYLMETHYLCYCLOHEXANES	2.09	0	0	15.4	17.4
ETHYLMETHYLOCTANE	0.212	0	0	1.56	1.77
ETHYLOCTANE	0.0605	0	0	0.445	0.505
ETHYLOCTENES	0.121	0	0	0.89	1.01
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.269	0	0	0.043	0.312
FLUORIDE COMPOUNDS	98.7	44.9	0	316	459
HEXADECANE	0.00532	0.00071	0	0.015	0.021
ISOMERS OF C10H18	0	0	0	2.18	2.18
ISOMERS OF C9H16	0.363	0	0	2.67	3.03
ISOMERS OF DECANE (C10 PARAFFINS)	4.02	0	0	32.8	36.8
ISOMERS OF DODECANE (C12 PARAFFINS)	0.847	0	0	6.23	7.08
ISOMERS OF HEPTANE	0	0	0	0	0
ISOMERS OF HEXANE	0	0	0	0	0
ISOMERS OF NONANE (C9 PARAFFIN)	3.75	0	0	3.16	6.91
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0	0
ISOMERS OF PENTANE	0	0	0	7.75	7.75
ISOMERS OF PROPYLBENZENE	0.847	0	0	6.23	7.08
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.0907	0	0	0.667	0.758
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.0302	0	0	0.222	0.253
ISOMERS OF UNDECANE (C11 PARAFFINS)	2.81	0	0	21.5	24.3

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF XYLENE	24.1	0.214	0	92.2	117
ISOPROPYL ALCOHOL	0	0	0	2.4	2.4
LEAD & COMPOUNDS	49	40.9	0	611	701
MANGANESE & COMPOUNDS	696	453	0	5390	6540
MERCURY & COMPOUNDS	3.64	3.63	0	59.7	67
METHANE	0	0	0	490	490
METHYL AMYL KETONE	1.11	0	0	0.178	1.29
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	4.05	0	0	26.6	30.6
METHYL HEXANE	3.84	0	0	28.3	32.1
METHYL ISOBUTYL KETONE	0.483	0	0	0.0774	0.561
METHYL PROPYLCYCLOHEXANES	0.786	0	0	5.78	6.57
METHYLCYCLOHEXANE	10.4	0	0	46.2	56.6
METHYLCYCLOPENTANE	0	0	0	0.0454	0.0454
METHYLDECALINS	0.0907	0	0	0.667	0.758
METHYLDECANES	1.36	0	0	10	11.4
METHYLDECENES	0.242	0	0	1.78	2.02
METHYLDODECANES	0.0605	0	0	0.445	0.505
METHYLHEXENES	0.363	0	0	2.67	3.03
METHYLNONANE	2.27	0	0	16.7	19
METHYLNONENES	0.0907	0	0	0.667	0.758
METHYLOCTANES	2.21	0	0	16.2	18.4
METHYLPROPYLNONANE	0.0907	0	0	0.667	0.758
M-ETHYLTOLUENE	2.13	0.285	0	6.01	8.43
METHYLUNDECANE	0.0907	0	0	0.667	0.758
MOLYBDENUM	2.57	2.58	0	42.5	47.7
NAPHTHALENE	0.0907	0	0	0.667	0.758
N-BUTANE	0	0	0	2.09	2.09
N-BUTYL ACETATE	12.8	0	0	6.58	19.3
N-DECANE	0	0	0	0.00156	0.00156
N-DODECANE	0.146	0.0195	0	0.41	0.575
N-HEPTADECANE	0.00177	0.000236	0	0.00499	0.00699
N-HEPTANE	29.5	0	0	190	219
N-HEXANE	0.121	0	0	0.924	1.05
NICKEL & COMPOUNDS	144	136	0	1580	1860
NITRIC OXIDE	0	0	0	32500	32500
NITROGEN DIOXIDE	0	0	0	2620	2620
NITROUS OXIDE	0	0	0	17.6	17.6
N-NONANE	2.63	0	0	19.4	22
NONADIENE	0.0605	0	0	0.445	0.505
N-PENTADECANE	0.0249	0.00332	0	0.07	0.0982
N-PENTANE	0	0	0	0	0
N-PENTYLCYCLOHEXANE	0.151	0	0	1.11	1.26
N-PROPYLBENZENE	1.24	0.146	0	4.18	5.57
N-TETRADECANE	0.0711	0.00949	0	0.2	0.281
N-TRIDECANE	0.0978	0.0131	0	0.275	0.386
N-UNDECANE	0.048	0.00641	0	1.36	1.42
O-ETHYLTOLUENE	1.83	0.245	0	5.16	7.23

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
OXIDES OF NITROGEN	0	0	0	52500	52500
PARTICULATE MATTER ≤ 10 µm	294000	207000	0	2300000	2800000
PARTICULATE MATTER ≤ 2.5 µm	61200	44600	0	463000	569000
PENTAMETHYLBENZENE	0.0907	0	0	0.667	0.758
PERCHLOROETHYLENE	22.4	0	0	165	187
P-ETHYLTOLUENE	3.51	0.469	0	9.89	13.9
PHTHALIC ANHYDRIDE	0	0	0	0.372	0.372
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	1.95	1.95
PROPANE	0	0	0	0	0
PROPENYLCYCLOHEXANE	0.0605	0	0	0.445	0.505
PROPYLENE	0	0	0	731	731
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	0	0	0	0.514	0.514
SEC-BUTYL ALCOHOL	2.12	0	0	15.6	17.7
SELENIUM & COMPOUNDS	3.77	2.25	0	24.6	30.6
SULFUR DIOXIDE	0	0	0	227	227
TETRAMETHYLCYCLOPENTANE	0.212	0	0	1.56	1.77
TETRAMETHYLTHIOUREA	0.0302	0	0	0.222	0.253
TIN & COMPOUNDS	0	0	0	1.9	1.9
TOLUENE	76.4	0.0658	0	202	278
TOTAL SUSPENDED PARTICULATE	982000	715000	0	8570000	10300000
TOTAL VOLATILE ORGANIC COMPOUNDS	453	2.37	0	6100	6550
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0	0	0	0.00156	0.00156
TRANS-1,2-CIS-4- TRIMETHYLCYCLOPENTANE	0	0	0	0.00469	0.00469
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.011	0.011
TRANS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0	0	0	0.00626	0.00626
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.00782	0.00782
TRANS-2-BUTENE	0	0	0	0.443	0.443
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0.00469	0.00469
TRANS-2-PENTENE	0	0	0	0.46	0.46
TRICHLOROETHYLENE (TCE)	63.8	0	0	469	533
TRICHLOROTRIFLUOROETHANE-F113	12.4	0	0	91.2	104
TRIMETHYLBENZENES	1.09	0	0	6.92	8.01
TRIMETHYLCYCLOHEXANES	2.96	0	0	5.7	8.65
TRIMETHYLCYCLOPENTANE	1.32	0	0	8.05	9.36
TRIMETHYLHEPTANES	0.665	0	0	4.89	5.56
TRIMETHYLOCTANES	0.151	0	0	1.11	1.26
VANADIUM & COMPOUNDS	19.8	19.8	0	327	367
ZINC & COMPOUNDS	152	119	0	1790	2070

A.42 METAL PLATING OR COATING

Table A-42: Annual emissions from metal plating or coating

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	225	0	0	0.502	225
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.00332	0	0	0	0.00332
1,2,3-TRIMETHYLBENZENE	0.0242	0	0.296	0.014	0.334
1,2,4-TRIMETHYLBENZENE	0.013	0	0.159	0.00751	0.179
1,2-DICHLOROETHANE	0.00249	0	0	0	0.00249
1,3,5-TRIMETHYLBENZENE	0.0182	0	0.223	0.0105	0.252
1,3-BUTADIENE	540	0	0	0	540
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.000829	0	0	0	0.000829
1,3-DIETHYL-5-METHYL CYCLOHEXANE	71.3	0	60.1	0	131
1,4-BUTANEDIOL	0	0	4100	0	4100
1,4-DIETHYL-CYCLOHEXANE	3340	0	191	0	3530
1,4-DIOXANE	0.00166	0	0	0	0.00166
1-BUTENE	0.402	0	0	0	0.402
1-CHLOROBUTANE	0	0	56.7	0	56.7
1-ETHOXY-2-PROPANOL	0	0	37.5	0	37.5
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.307	0	0	0	0.307
1-ETHYL-2-METHYLCYCLOPENTANE	0.0864	0	0	0	0.0864
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0	0	20	0	20
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEXANE	2110	70.7	1460	0	3640
2,4-DIMETHYLPENTANE	499	16.3	345	0	861
2,6-DIMETHYLOCTANE	2.54	0	0	0	2.54
2-BUTYLTETRAHYDROFURAN	0	0	3.85	0	3.85
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0	0	643	0	643
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0	0	2.5	0	2.5
2-ETHYL-1-HEXANOL	0	0	25.9	0	25.9
2-METHYL-3-HEXANONE	2230	83.1	756	38000	41100
2-METHYLPROPANE; ISOBUTANE	0.00164	0	0	0	0.00164
3-(CHLOROMETHYL)-HEPTANE	0	0	15.9	0	15.9
ACETALDEHYDE	0.0108	0	0	0	0.0108
ACETONE	2330	28.1	47400	13000	62700
ACETYLENE	0.339	0	0	0	0.339
AMMONIA (TOTAL)	408	33.7	1190	0.625	1640
ANTIMONY & COMPOUNDS	0.418	1.15	37.5	0.0168	39
ARSENIC & COMPOUNDS	0.144	0.233	16.5	0.00475	16.8
BENZALDEHYDE	59.5	0	50.2	0	110
BENZENE	226	34.3	2190	88.8	2540
BERYLLIUM & COMPOUNDS	0.00302	0.000814	27	0.000000418	27
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.92	0	0	0	0.92

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BORON & COMPOUNDS	0	0	42.1	0	42.1
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	1900	62.1	1320	0	3280
BUTYLBENZENE ISOMERS	10.9	0	0	0	10.9
BUTYLCYCLOHEXANE	8.62	0	0	0	8.62
C10 OLEFINS	572	0	474	0	1050
C10H12	3060	0	0	0	3060
C11 OLEFINS	2.38	0	0	0	2.38
C12 OLEFINS	0.559	0	0	0	0.559
C7 CYCLOPARAFFINS	389	0	0	0	389
C8 CYCLOPARAFFINS	54	0	0	0	54
C8 INTERNAL ALKENES	42.3	4.01	29.8	0	76.1
C8 OLEFINS	8.19	0	0	0	8.19
C9 CYCLOPARAFFINS	1290	0	0	0	1290
CADMIUM & COMPOUNDS	0.326	0.137	27.4	0.000781	27.9
CARBON DIOXIDE	30700000	8400000	50600000	4310	89700000
CARBON MONOXIDE	20700	5760	1050000	2.96	1080000
CARBON TETRACHLORIDE	0.00498	0	0	0	0.00498
CHLORINE	0	0	6.29	0	6.29
CHLOROENZENE	0.000829	0	0	0	0.000829
CHLOROETHANE (ETHYL CHLORIDE)	0	0	15.9	0	15.9
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	4.75	0	0	0.377	5.13
CHROMIUM (III) COMPOUNDS	150	0.622	19.7	0.539	170
CHROMIUM (VI) COMPOUNDS	2.63	0.0898	14.2	0.00126	16.9
COBALT & COMPOUNDS	0.298	0.371	7.76	0.0063	8.43
COPPER & COMPOUNDS	1.21	2.54	32	0.0369	35.8
CUMENE (1-METHYLETHYLBENZENE)	0.874	0	335	0.00503	336
CYANIDE (INORGANIC) COMPOUNDS	0.00249	0	0	0	0.00249
CYCLOHEXANE	490	20	690	5250	6450
CYCLOPENTANE	1.89	0	0	0	1.89
DECALINS (MIXED CIS,TRANS)	1.57	0	0	0	1.57
DI(2-ETHYLHEXYL)PHTHALATE	0.00249	0	0	0	0.00249
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0	0	20	0	20
DIBROMOETHANE	71.3	0	60.1	0	131
DIBUTYL ETHER	0	0	6.16	0	6.16
DICHLOROMETHANE {METHYLENE CHLORIDE}	138	0	441	214	793
DIETHYLCYCLOHEXANE	625	0	526	0	1150
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	3260	0	0	0	3260
DIMETHOXYMETHANE (METHYLAL)	0	0	692	0	692
DIMETHYLBENZYLALCOHOL	0.448	0	0	0	0.448
DIMETHYLCYCLOBUTANONE	1.57	0	0	0	1.57
DIMETHYLCYCLOHEXANES	1340	38.4	946	0	2320
DIMETHYLCYCLOPENTANE	18.9	0	0	0	18.9
DIMETHYLHEPTANES	196	6.38	136	0	339

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLHEXANES	8.86	0	0	0	8.86
DIMETHYLNONANES	5.67	0	0	0	5.67
DIMETHYLOCTANES	7.99	0	0	0	7.99
ETHANE	0.0839	0	0	0	0.0839
ETHYL ACETATE	2210	45.3	531	20700	23500
ETHYL ALCOHOL	1370	0	0	707	2080
ETHYL ETHER	6.91	0	0	0	6.91
ETHYL ISOPROPYL ETHER	0	0	133	0	133
ETHYL PROPYLCYCLOHEXANES	1.62	0	0	0	1.62
ETHYLBENZENE	393	11.9	1200	5450	7060
ETHYLCYCLOHEXANE	421	15.5	290	0	727
ETHYLCYCLOPENTANE	62.2	5.9	43.7	0	112
ETHYLDIMETHYLPHENOL	1.51	0	0	0	1.51
ETHYLENE	0.86	0	0	0	0.86
ETHYLENE GLYCOL	0	0	14.9	0	14.9
ETHYLHEPTENE	178	0	149	0	327
ETHYLHEXANE	1.31	0	0	0	1.31
ETHYLMETHYLCYCLOHEXANES	18.3	0	0	0	18.3
ETHYLMETHYLOCTANE	1.82	0	0	0	1.82
ETHYLOCTANE	0.614	0	0	0	0.614
ETHYLOCTENES	1.12	0	0	0	1.12
ETHYLTOLUENES {METHYLETHYLBENZENES}	119	4.45	40.3	2030	2200
FLUORIDE COMPOUNDS	0	0	12	0	12
FORMALDEHYDE	247	68.5	2690	0.098	3000
HEXADECANE	0.00005	0	0.000629	0.000029	0.000708
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0	0	36.7	0	36.7
HYDROCHLORIC ACID	4.62	194	7200	0	7400
ISOMERS OF C10H18	349	0	294	0	642
ISOMERS OF C9H16	3.19	0	0	0	3.19
ISOMERS OF DECANE (C10 PARAFFINS)	599	0	427	0	1030
ISOMERS OF DODECANE (C12 PARAFFINS)	7.43	0	0	0	7.43
ISOMERS OF HEPTANE	44	0	0	0	44
ISOMERS OF HEXANE	249	8.56	8.26	0.0044	265
ISOMERS OF NONANE (C9 PARAFFIN)	2210	36.7	910	0	3160
ISOMERS OF OCTANE (C8 PARAFFIN)	7.94	0	0	0	7.94
ISOMERS OF PENTANE	277	77.1	23600	0.0396	23900
ISOMERS OF PROPYLBENZENE	7.43	0	0	0	7.43
ISOMERS OF TETRADECANE (C14 PARAFFINS)	1090	0	0	0	1090
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.252	0	0	0	0.252
ISOMERS OF UNDECANE (C11 PARAFFINS)	2310	0	133	0	2450
ISOMERS OF XYLENE	12100	154	1830	53500	67600
ISOPROPYL ALCOHOL	2160	0	324	0	2480
LEAD & COMPOUNDS	2.95	2.11	52.1	0.0316	57.2

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MAGNESIUM OXIDE FUME	96.8	38.9	44.2	0	180
MANGANESE & COMPOUNDS	2490	19.1	91	9.13	2610
MERCURY & COMPOUNDS	0.121	0.173	1.51	0.00223	1.81
METHANE	9610	480	18800	625	29500
METHYL ALCOHOL	1.17	0	0	0	1.17
METHYL AMYL KETONE	491	18.3	194	8370	9070
METHYL CHLORIDE	0	0	14.1	0	14.1
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	5980	11.9	5130	6170	17300
METHYL HEXANE	33.9	0	0	0	33.9
METHYL ISOBUTYL KETONE	8800	7.93	1930	3630	14400
METHYL METHACRYLATE	0	0	38	0	38
METHYL PALMITATE {METHYL HEXADECANOATE}	0	0	9.23	0	9.23
METHYL PROPYLCYCLOHEXANES	6.82	0	0	0	6.82
METHYLCYCLOHEXANE	1840	68.9	1360	0	3270
METHYLCYCLOPENTANE	462	0	1180	0	1640
METHYLDECALINS	0.7	0	0	0	0.7
METHYLDECANES	11.9	0	0	0	11.9
METHYLDECENES	2.07	0	0	0	2.07
METHYLDODECANES	0.503	0	0	0	0.503
METHYLHEXENES	3.24	0	0	0	3.24
METHYLINDANS	0.0551	0	0	0	0.0551
METHYLNONANE	24.7	0	0	0	24.7
METHYLNONENES	0.755	0	0	0	0.755
METHYLOCTANES	19.5	0	0	0	19.5
METHYLPROPYLNONANE	0.865	0	0	0	0.865
M-ETHYLTOLUENE	0.0207	0	0.253	0.012	0.286
METHYLUNDECANE	0.81	0	0	0	0.81
MOLYBDENUM	0.0307	0.0883	0.268	0.00124	0.388
NAPHTHALENE	0.81	0	0	0	0.81
N-BUTANE	277	77.1	3010	0.0396	3370
N-BUTYL ACETATE	5710	152	2530	22400	30800
N-BUTYL ALCOHOL	3190	0	515	0	3710
N-BUTYLCYCLOPENTANE	4.76	0	0	0	4.76
N-DECANE	7.19	0	5.39	0	12.6
N-DODECANE	0.00141	0	0.0173	0.000818	0.0195
N-HEPTADECANE	0.000016	0	0.000208	0.000009	0.000233
N-HEPTANE	1440	55.5	793	3610	5890
N-HEXANE	355	0	1010	88.8	1450
NICKEL & COMPOUNDS	185	0.781	9.48	0.662	196
NITRIC ACID	0	0	0	0	0
NITRIC OXIDE	17000	4360	34100	2.18	55500
NITROGEN DIOXIDE	1370	352	6340	0.176	8060
NITROUS OXIDE	58.1	15.9	97.9	0.00816	172
N-NONANE	33.9	0	0	0	33.9
N-OCTANE	3.51	0	0	0	3.51
NONADIENE	0.559	0	0	0	0.559

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTADECANE	0.00024	0	0.00295	0.000139	0.00333
N-PENTANE	184	51.4	2010	0.0264	2250
N-PENTYLCYCLOHEXANE	1.31	0	0	0	1.31
N-PROPYLBENZENE	1.27	0	0.129	0.00612	1.4
N-TETRADECANE	0.000688	0	0.00844	0.000399	0.00953
N-TRIDECANE	0.000948	0	0.0116	0.000549	0.0131
N-UNDECANE	199	0	169	0.000269	368
O-DICHLOROBENZENE	0.00249	0	0	0	0.00249
O-ETHYLTOLUENE	0.0178	0	0.218	0.0103	0.246
ORGANO-TIN COMPOUNDS	0	0	8.41	0	8.41
OXIDES OF NITROGEN	27500	7040	58600	3.52	93100
PARTICULATE MATTER ≤ 10 µm	28000	5500	18500	210	52200
PARTICULATE MATTER ≤ 2.5 µm	27100	2970	10600	43.2	40800
P-DICHLOROBENZENE	0.792	0	0	0.0628	0.855
PENTAMETHYLBENZENE	0.259	0	0	0	0.259
PENTYLCYCLOPENTANE	0.11	0	0	0	0.11
PERCHLOROETHYLENE	69.5	0	457	0.44	527
P-ETHYLTOLUENE	0.0341	0	0.417	0.0197	0.471
PHENOL (CARBOLIC ACID)	0.0208	0	941	0	941
PHOSPHORIC ACID	0	0	0	0	0
PHTHALIC ANHYDRIDE	59.5	0	50.2	0	110
POLYCHLORINATED DIOXINS AND FURANS	0.0000135	8.14x10 ⁻⁰⁸	0.000000489	4.18x10 ⁻¹¹	0.0000141
POLYCYCLIC AROMATIC HYDROCARBONS	0.173	0.0471	3770	0.0000242	3770
PROPANE	123	34.3	1350	0.0176	1500
PROPENYLCYCLOHEXANE	0.559	0	0	0	0.559
PROPYL ACETATE	794	0	0	0	794
PROPYLENE	0.519	0	0	0	0.519
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	82.2	0	69.3	0	152
SEC-BUTYL ALCOHOL	6.05	0	0	0	6.05
SEC-BUTYLCYCLOHEXANE	1.99	0	0	0	1.99
SELENIUM & COMPOUNDS	0.0198	0.036	120	0.000495	120
SODIUM HYDROXIDE	0.33	0	0	0	0.33
STYRENE (ETHENYLBENZENE)	360	0	291	0	651
SUBSTITUTED C9 ESTER (C12)	0	0	733	0	733
SULFUR DIOXIDE	134	35.8	24200	0.0184	24300
SULFUR TRIOXIDE	0.012	0	0	0	0.012
SULFURIC ACID	0	0	0	0	0
TETRAMETHYLBENZENES	0.551	0	0	0	0.551
TETRAMETHYLCYCLOBUTENE	0.0551	0	0	0	0.0551
TETRAMETHYLCYCLOPENTANE	1.82	0	0	0	1.82
TETRAMETHYLTHIOUREA	0.197	0	0	0	0.197
TIN & COMPOUNDS	0.00135	0	0	0	0.00135
TOLUENE	21000	526	11600	37500	70600
TOTAL SUSPENDED PARTICULATE	37100	18900	43700	431	100000
TOTAL VOLATILE ORGANIC	111000	1820	132000	222000	467000

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
COMPOUNDS					
TRICHLOROETHYLENE (TCE)	7350	0	440	0.0628	7790
TRICHLOROTRIFLUOROETHANE-F113	35.4	0	0	0	35.4
TRIMETHYLBENZENES	75.3	2.53	22.2	1160	1260
TRIMETHYLCYCLOHEXANES	497	17.7	337	0	852
TRIMETHYLCYCLOPENTANE	57.5	4.53	33.8	0	95.8
TRIMETHYLHEPTANES	5.81	0	0	0	5.81
TRIMETHYLOCTANES	1.26	0	0	0	1.26
VANADIUM & COMPOUNDS	0.127	0.107	2.18	0.000494	2.41
VINYL ACETATE	0	0	3.08	0	3.08
VINYL CHLORIDE MONOMER	0.00332	0	0	0	0.00332
ZINC & COMPOUNDS	10600	1350	1490	0.247	13400

A.43 METAL PROCESSING

Table A-43: Annual emissions from metal processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	605	0	0	605
1,2,3-TRIMETHYLBENZENE	0.167	0.0798	0.0592	0	0.306
1,2,4-TRIMETHYLBENZENE	0.0895	0.0824	0.0317	0	0.204
1,3,5-TRIMETHYLBENZENE	0.126	0.0601	0.0446	0	0.23
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	39.1	0	0	39.1
1,4-DIETHYL-CYCLOHEXANE	0	160	380	0	540
1,4-PENTADIENE	0	0.132	0	0	0.132
1-BUTENE	0	0.606	0	0	0.606
1-CHLOROBUTANE	0	42.2	0	0	42.2
1-ETHOXY-2-PROPANOL	0	27.9	0	0	27.9
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0	0.27	0	0	0.27
1-ETHYL-2-METHYLCYCLOPENTANE	0	0.27	0	0	0.27
1-PENTENE	0	0.725	0	0	0.725
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0	14.9	0	0	14.9
2,2,3,TRIMETHYLHEXANE	0	0.0132	0	0	0.0132
2,2,3-TRIMETHYLBUTANE	0	0.0264	0	0	0.0264
2,2,4-TRIMETHYLPENTANE	0	0.646	0	0	0.646
2,2-DIMETHYLBUTANE	0	0.198	0	0	0.198
2,2-DIMETHYLHEXANE	0	0.0264	0	0	0.0264
2,2-DIMETHYLPENTANE	0	0.0659	0	0	0.0659
2,3,3-TRIMETHYLPENTANE	0	0.0659	0	0	0.0659
2,3,4-TRIMETHYLPENTANE	0	0.0659	0	0	0.0659
2,3-DIMETHYLBUTANE	0	1.07	0	0	1.07
2,3-DIMETHYLHEXANE	0	0.105	0	0	0.105
2,3-DIMETHYLPENTANE	0	0.237	0	0	0.237
2,4-DIMETHYLHEXANE	1760	1160	0	0	2920
2,4-DIMETHYLPENTANE	415	274	0	0	689

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,5-DIMETHYLHEXANE	0	0.0923	0	0	0.0923
2-BUTYLTETRAHYDROFURAN	0	2.86	0	0	2.86
2-ETHYL-1-HEXANOL	0	19.3	0	0	19.3
2-METHYL-1-BUTENE	0	1.49	0	0	1.49
2-METHYL-2-BUTENE	0	5.84	0	0	5.84
2-METHYL-3-HEXANONE	915	6160	0	0	7070
2-METHYLHEPTANE	0	0.198	0	0	0.198
2-METHYLHEXANE	0	0.672	0	0	0.672
2-METHYLNONANE	0	0.0132	0	0	0.0132
2-METHYLOCTANE	0	0.0132	0	0	0.0132
2-METHYLPENTANE	0	6.3	0	0	6.3
2-METHYLPROPANE; ISOBUTANE	0	4.02	0	0	4.02
3-(CHLOROMETHYL)-HEPTANE	0	11.8	0	0	11.8
3,3-DIMETHYLPENTANE	0	0.0791	0	0	0.0791
3-ETHYLPENTANE	0	0.132	0	0	0.132
3-METHYL-1-BUTENE	0	0.0396	0	0	0.0396
3-METHYLHEPTANE	0	0.185	0	0	0.185
3-METHYLHEXANE	0	0.831	0	0	0.831
3-METHYLOCTANE	0	0.0264	0	0	0.0264
3-METHYLPENTANE	0	3.08	0	0	3.08
4-METHYLHEPTANE	0	0.105	0	0	0.105
4-METHYLOCTANE	0	0.0132	0	0	0.0132
ACETONE	310	2130	203	0	2640
ACROLEIN (2-PROPENAL)	2.52	0	0	0	2.52
AMMONIA (TOTAL)	1030	1160	60.4	0	2240
ANTIMONY & COMPOUNDS	0.479	0.0794	3.9	0	4.46
ARSENIC & COMPOUNDS	0.106	0.0998	0.763	0	0.969
BENZALDEHYDE	0	32.7	0	0	32.7
BENZENE	300	247	61.5	0	608
BERYLLIUM & COMPOUNDS	0.000833	0.00503	0.00146	0	0.00732
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0.81	0	0	0.81
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	1580	1040	0	0	2620
BUTYLBENZENE ISOMERS	0	11.1	0	0	11.1
BUTYLCYCLOHEXANE	0	4.32	0	0	4.32
C10 OLEFINS	0	318	0	0	318
C10H12	0	35.5	373	0	409
C11 OLEFINS	0	2.43	0	0	2.43
C12 OLEFINS	0	0.54	0	0	0.54
C8 INTERNAL ALKENES	36.6	24.2	0	0	60.8
C8 OLEFINS	0	8.37	0	0	8.37
C9 CYCLOPARAFFINS	0	15.4	157	0	172
CADMIUM & COMPOUNDS	0.1	0.481	0.451	0	1.03
CARBON DIOXIDE	9630000	51900000	15100000	0	76600000
CARBON MONOXIDE	83600	35600	10300	0	130000
CHLOROETHANE (ETHYL CHLORIDE)	0	11.8	0	0	11.8
CHROMIUM (III) COMPOUNDS	1.08	3.01	2.18	0	6.26

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (VI) COMPOUNDS	0.0408	0.0349	0.287	0	0.362
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0.29	0	0	0.29
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0.185	0	0	0.185
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0.185	0	0	0.185
CIS-2-BUTENE	0	0.396	0	0	0.396
CIS-2-PENTENE	0	2.14	0	0	2.14
COBALT & COMPOUNDS	0.168	0.058	0.995	0	1.22
COPPER & COMPOUNDS	1.1	0.541	10.7	0	12.3
CUMENE (1-METHYLETHYLBENZENE)	0.06	0.839	0.0213	0	0.92
CYANIDE (INORGANIC) COMPOUNDS	1270	0	0	0	1270
CYCLOHEXANE	136	906	15.4	0	1060
CYCLOPENTENE	0	0.0396	0	0	0.0396
DECALINS (MIXED CIS,TRANS)	0	1.62	0	0	1.62
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0	14.9	0	0	14.9
DIBROMOETHANE	0	39.1	0	0	39.1
DIBUTYL ETHER	0	4.58	0	0	4.58
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	268	0	0	268
DIETHYLCYCLOHEXANE	0	344	0	0	344
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0	0	432	0	432
DIMETHOXYMETHANE (METHYLAL)	0	514	0	0	514
DIMETHYLBENZYLALCOHOL	0	0.54	0	0	0.54
DIMETHYLCYCLOBUTANONE	0	1.62	0	0	1.62
DIMETHYLCYCLOHEXANES	978	735	0	0	1710
DIMETHYLCYCLOPENTANE	0	19.2	0	0	19.2
DIMETHYLHEPTANES	163	109	0	0	272
DIMETHYLHEXANES	0	8.91	0	0	8.91
DIMETHYLNONANES	0	5.67	0	0	5.67
DIMETHYLOCTANES	0	8.1	0	0	8.1
ETHYL ACETATE	498	3360	131	0	3990
ETHYL ALCOHOL	0	5.16	211	0	216
ETHYL ETHER	0	21.6	0	0	21.6
ETHYL ISOPROPYL ETHER	0	99.2	0	0	99.2
ETHYL PROPYLCYCLOHEXANES	0	1.62	0	0	1.62
ETHYLBENZENE	132	924	0.00249	0	1060
ETHYLCYCLOHEXANE	349	233	0	0	581
ETHYLCYCLOPENTANE	53.7	35.5	0	0	89.2
ETHYLDIMETHYLPHENOL	0	1.62	0	0	1.62
ETHYLENE GLYCOL	0	11.1	0	0	11.1
ETHYLHEPTENE	0	97.9	0	0	97.9
ETHYLHEXANE	0	1.35	0	0	1.35
ETHYLMETHYLCYCLOHEXANES	0	18.6	0	0	18.6
ETHYLMETHYLOCTANE	0	1.89	0	0	1.89
ETHYLOCTANE	0	0.54	0	0	0.54
ETHYLOCTENES	0	1.08	0	0	1.08

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLTOLUENES {METHYLETHYLBENZENES}	48.8	329	0	0	378
FORMALDEHYDE	75.5	424	123	0	622
FURFURYL ALCOHOL	0.535	0	0	0	0.535
HEXADECANE	0.000356	0.000168	0.000126	0	0.00065
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0	27.3	0	0	27.3
HYDROCHLORIC ACID	0	69.1	0	0	69.1
HYDROGEN SULFIDE	1330	0	0	0	1330
ISOMERS OF C ₁₀ H ₁₈	0	191	0	0	191
ISOMERS OF C ₉ H ₁₆	0	3.24	0	0	3.24
ISOMERS OF DECANE (C ₁₀ PARAFFINS)	0	314	0	0	314
ISOMERS OF DODECANE (C ₁₂ PARAFFINS)	0	7.56	0	0	7.56
ISOMERS OF HEXANE	8.77	52.9	15.4	0	77.1
ISOMERS OF NONANE (C ₉ PARAFFIN)	681	686	118	0	1480
ISOMERS OF PENTANE	78.9	542	138	0	759
ISOMERS OF PROPYLBENZENE	0	7.56	0	0	7.56
ISOMERS OF TETRADECANE (C ₁₄ PARAFFINS)	0	15	131	0	146
ISOMERS OF TRIDECANE (C ₁₃ PARAFFINS)	0	0.27	0	0	0.27
ISOMERS OF UNDECANE (C ₁₁ PARAFFINS)	0	141	262	0	402
ISOMERS OF XYLENE	2080	9340	1030	0	12500
ISOPROPYL ALCOHOL	0	217	229	0	446
LEAD & COMPOUNDS	5.91	0.354	6.91	0	13.2
MAGNESIUM OXIDE FUME	0	55.8	123	0	179
MANGANESE & COMPOUNDS	519	41.9	68.2	0	629
MERCURY & COMPOUNDS	0.0818	0.122	0.598	0	0.802
METHANE	491	2960	861	0	4320
METHYL ALCOHOL	0	0.169	0	0	0.169
METHYL AMYL KETONE	202	1380	0	0	1580
METHYL CHLORIDE	0	10.5	0	0	10.5
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	132	1100	530	0	1760
METHYL HEXANE	0	34.3	0	0	34.3
METHYL ISOBUTYL KETONE	87.8	591	386	0	1070
METHYL PALMITATE {METHYL HEXADECANOATE}	0	6.87	0	0	6.87
METHYL PROPYLCYCLOHEXANES	0	7.02	0	0	7.02
METHYLCYCLOHEXANE	881	1040	0	0	1920
METHYLCYCLOPENTANE	0	0.382	0	0	0.382
METHYLDECALINS	0	0.81	0	0	0.81
METHYLDECANES	0	12.2	0	0	12.2
METHYLDECENES	0	2.16	0	0	2.16
METHYLDODECANES	0	0.54	0	0	0.54
METHYLHEXENES	0	3.24	0	0	3.24

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLNONANE	0	20.3	0	0	20.3
METHYLNONENES	0	0.81	0	0	0.81
METHYLOCTANES	0	19.7	0	0	19.7
METHYLPROPYLNONANE	0	0.81	0	0	0.81
M-ETHYLTOLUENE	0.143	0.147	0.0507	0	0.341
METHYLUNDECANE	0	0.81	0	0	0.81
MOLYBDENUM	0.0352	0.00643	0.347	0	0.389
NAPHTHALENE	0.611	0.81	0	0	1.42
N-BUTANE	78.9	494	138	0	711
N-BUTYL ACETATE	2320	5110	203	0	7630
N-BUTYL ALCOHOL	0	387	419	0	806
N-DECANE	0	4.02	0	0	4.02
N-DODECANE	0.00976	0.00467	0.00346	0	0.0179
N-HEPTADECANE	0.000118	0.000054	0.000042	0	0.000214
N-HEPTANE	717	1360	0	0	2080
N-HEXANE	0	1.37	0	0	1.37
NICKEL & COMPOUNDS	1.34	3.92	2.97	0	8.24
NITRIC OXIDE	5160	39700	7990	0	52800
NITROGEN DIOXIDE	416	3200	644	0	4260
NITROUS OXIDE	18.2	98.2	28.5	0	145
N-NONANE	0	23.5	0	0	23.5
NONADIENE	0	0.54	0	0	0.54
N-PENTADECANE	0.00167	0.000794	0.00059	0	0.00305
N-PENTANE	52.6	318	92.2	0	463
N-PENTYLCYCLOHEXANE	0	1.35	0	0	1.35
N-PROPYLBENZENE	0.073	1.41	0.0259	0	1.51
N-TETRADECANE	0.00476	0.00228	0.00169	0	0.00872
N-TRIDECANE	0.00655	0.00313	0.00232	0	0.012
N-UNDECANE	0.00321	110	0.00114	0	110
O-ETHYLTOLUENE	0.123	0.0587	0.0435	0	0.225
OXIDES OF NITROGEN	8330	64000	12900	0	85200
PARTICULATE MATTER ≤ 10 µm	5970	8600	21400	0	35900
PARTICULATE MATTER ≤ 2.5 µm	4940	8420	9630	0	23000
PENTAMETHYLBENZENE	0	0.81	0	0	0.81
PERCHLOROETHYLENE	0	200	0	0	200
P-ETHYLTOLUENE	0.235	0.152	0.0834	0	0.471
PHENOL (CARBOLIC ACID)	48.9	0	0	0	48.9
PHTHALIC ANHYDRIDE	0	32.7	0	0	32.7
POLYCHLORINATED DIOXINS AND FURANS	8.33x10 ⁻⁰⁸	0.000000503	0.00000145	0	0.00000204
POLYCYCLIC AROMATIC HYDROCARBONS	0.0482	0.291	0.0846	0	0.424
PROPANE	35.1	212	61.5	0	308
PROPENYLCYCLOHEXANE	0	0.54	0	0	0.54
PROPYL ACETATE	0	0.381	105	0	105
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	45.1	0	0	45.1
SEC-BUTYL ALCOHOL	0	18.9	0	0	18.9

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SELENIUM & COMPOUNDS	0.0158	0.0125	0.127	0	0.155
SUBSTITUTED C9 ESTER (C12)	0	545	0	0	545
SULFUR DIOXIDE	910	932	64.3	0	1910
TETRAMETHYLCYCLOPENTANE	0	1.89	0	0	1.89
TETRAMETHYLTHIOUREA	0	0.27	0	0	0.27
TOLUENE	9370	12500	993	0	22800
TOTAL AROMATIC AMINES	56.7	0	0	0	56.7
TOTAL C2-C5 ALDEHYDES	185	0	0	0	185
TOTAL SUSPENDED PARTICULATE	11700	9510	68900	0	90100
TOTAL VOLATILE ORGANIC COMPOUNDS	25400	59300	6940	0	91700
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0.0132	0	0	0.0132
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0.0396	0	0	0.0396
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0.0923	0	0	0.0923
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0.0527	0	0	0.0527
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0.0659	0	0	0.0659
TRANS-2-BUTENE	0	3.73	0	0	3.73
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0.0396	0	0	0.0396
TRANS-2-PENTENE	0	3.88	0	0	3.88
TRICHLOROETHYLENE (TCE)	191	569	0	0	761
TRICHLOROTRIFLUOROETHANE-F113	0	111	0	0	111
TRIMETHYLBENZENES	26.8	195	0	0	222
TRIMETHYLCYCLOHEXANES	405	274	0	0	679
TRIMETHYLCYCLOPENTANE	41.5	37.1	0	0	78.6
TRIMETHYLHEPTANES	0	5.94	0	0	5.94
TRIMETHYLOCTANES	0	1.35	0	0	1.35
VANADIUM & COMPOUNDS	0.0159	0.0818	1.23	0	1.33
VINYL ACETATE	0	2.29	0	0	2.29
ZINC & COMPOUNDS	375	4020	48.4	0	4440

A.44 MINING FOR COAL

Table A-44: Annual emissions from mining for coal

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	870	289	0.0502	20800	22000
1,2,3-TRIMETHYLBENZENE	4.18	22.9	0.827	190	218
1,2,4-TRIMETHYLBENZENE	2.24	12.3	0.444	102	117
1,3,5-TRIMETHYLBENZENE	3.15	17.3	0.623	143	164
1,3-BUTADIENE	0	796	0	2660	3460
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	19.9	0	71.6	91.5
1,4-BUTANEDIOL	0	0	0	14.7	14.7
1,4-DIETHYL-CYCLOHEXANE	0	63.2	0	227	291

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,4-PENTADIENE	0	0	0	0.0185	0.0185
1-BUTENE	0	1520	0	5350	6880
1-DECENE	0	0	0	868	868
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.389	0.13	0	9.34	9.86
1-ETHYL-2-METHYLCYCLOPENTANE	0.389	0.13	0	9.34	9.86
1-HEXENE	0	0	0	1180	1180
1-PENTENE	0	0	0	0.102	0.102
2,2,3,TRIMETHYLHEXANE	0	0	0	0.00185	0.00185
2,2,3-TRIMETHYLBUTANE	0	0	0	0.0037	0.0037
2,2,4-TRIMETHYLPENTANE	0	0	0	0.0908	0.0908
2,2-DIMETHYLBUTANE	0	0	0	0.0278	0.0278
2,2-DIMETHYLHEXANE	0	0	0	0.0037	0.0037
2,2-DIMETHYLPENTANE	0	0	0	0.00926	0.00926
2,3,3-TRIMETHYLPENTANE	0	0	0	0.00926	0.00926
2,3,4-TRIMETHYLPENTANE	0	0	0	0.00926	0.00926
2,3-DIMETHYLBUTANE	0	0	0	0.15	0.15
2,3-DIMETHYLHEXANE	0	0	0	0.0148	0.0148
2,3-DIMETHYLPENTANE	0	0	0	0.0333	0.0333
2,4-DIMETHYLHEXANE	0	247	0	442	689
2,4-DIMETHYLPENTANE	0	58.4	0	2180	2240
2,5-DIMETHYLHEXANE	0	0	0	0.013	0.013
2-METHYL-1-BUTENE	0	0	0	0.209	0.209
2-METHYL-2-BUTENE	0	0	0	0.821	0.821
2-METHYL-3-HEXANONE	0	163	0	368	531
2-METHYL-BUTANE	0	0	0	397	397
2-METHYLHEPTANE	0	0	0	0.0278	0.0278
2-METHYLHEXANE	0	0	0	0.0945	0.0945
2-METHYLNONANE	0	0	0	0.00185	0.00185
2-METHYLOCTANE	0	0	0	0.00185	0.00185
2-METHYLPENTANE	0	0	0	0.885	0.885
2-METHYLPROPANE; ISOBUTANE	0	0	0	0.567	0.567
3,3-DIMETHYLPENTANE	0	0	0	0.0111	0.0111
3-ETHYLPENTANE	0	0	0	0.0185	0.0185
3-METHYL-1-BUTENE	0	0	0	0.00556	0.00556
3-METHYLHEPTANE	0	0	0	0.0259	0.0259
3-METHYLHEXANE	0	0	0	0.117	0.117
3-METHYLOCTANE	0	0	0	0.0037	0.0037
3-METHYLPENTANE	0	0	0	0.433	0.433
4-METHYLHEPTANE	0	0	0	0.0148	0.0148
4-METHYLOCTANE	0	0	0	0.00185	0.00185
ACETONE	54.4	73.3	0	1450	1580
ACETYLENE	0	1290	0	4300	5580
AMMONIA (TOTAL)	38.9	1500	0.0608	17900	19500
ANTIMONY & COMPOUNDS	21.4	205	1.27	6690	6920
ARSENIC & COMPOUNDS	9.1	104	1.6	1790	1900
BENZALDEHYDE	0	16.6	0	59.8	76.4
BENZENE	39.7	911	0	3940	4890
BERYLLIUM & COMPOUNDS	0.868	1.34	0.233	27.5	30

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	1.17	0.389	0	28	29.6
BORON & COMPOUNDS	60.7	92.6	16.3	1850	2010
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	223	0	398	620
BUTYLBENZENE ISOMERS	15.9	5.31	0	383	404
BUTYLCYCLOHEXANE	6.22	2.07	0	149	158
C10 OLEFINS	13.6	161	0	892	1070
C10H12	0	0.0725	0	0	0.0725
C11 OLEFINS	3.5	1.17	0	84.1	88.7
C12 OLEFINS	0.778	0.259	0	18.7	19.7
C7 INTERNAL ALKENES	0	0	0	1200	1200
C8 INTERNAL ALKENES	0	5.04	0	9.21	14.2
C8 OLEFINS	12.1	4.02	0	290	306
C9 CYCLOPARAFFINS	0	0.0305	0	0	0.0305
CADMIUM & COMPOUNDS	3.12	35.4	0.116	1100	1140
CARBON DIOXIDE	210000	5070000	0	214000000	219000000
CARBON MONOXIDE	68.5	70400	0	4500000	4570000
CHLOROFORM (TRICHLOROMETHANE)	2.86	0.211	0.0377	25.9	29.1
CHROMIUM (III) COMPOUNDS	21	195	4.73	4460	4680
CHROMIUM (VI) COMPOUNDS	1.16	15.5	0.0287	428	445
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.0408	0.0408
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0	0	0.0259	0.0259
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.0259	0.0259
CIS-2-BUTENE	0	0	0	0.0556	0.0556
CIS-2-PENTENE	0	0	0	342	342
COBALT & COMPOUNDS	5.93	34.2	1.29	828	870
COPPER & COMPOUNDS	49.3	450	4.38	14400	14900
CUMENE (1-METHYLETHYLBENZENE)	2.67	8.62	0.297	96.4	108
CYCLOHEXANE	4.1	23.9	0	144	172
CYCLOPENTENE	0	0	0	0.00556	0.00556
DECALINS (MIXED CIS,TRANS)	2.33	0.778	0	56	59.2
DIBROMOETHANE	0	19.9	0	71.6	91.5
DICHLOROMETHANE {METHYLENE CHLORIDE}	164	80.1	0.0565	3960	4210
DIETHYLCYCLOHEXANE	3.11	175	0	701	879
DIETHYLENE GLYCOL (2,2'-OXYBIETHANOL)	0	0.084	0	0	0.084
DIMETHYLBENZYLALCOHOL	0.778	0.259	0	18.7	19.7
DIMETHYLCYCLOBUTANONE	2.33	0.778	0	56	59.2
DIMETHYLCYCLOHEXANES	4.28	183	0	505	692
DIMETHYLCYCLOPENTANE	27.6	9.2	0	663	700
DIMETHYLHEPTANES	0.778	23.3	0	59.8	83.9
DIMETHYLHEXANES	12.8	4.28	0	308	325
DIMETHYLNONANES	8.16	2.72	0	196	207
DIMETHYLOCTANES	11.7	3.89	0	280	296
ETHANE	0	318	0	2350	2660
ETHYL ACETATE	0	88.6	0	200	289

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL ALCOHOL	0	0.0343	0	0	0.0343
ETHYL ETHER	31.1	10.4	0	747	789
ETHYL PROPYLCYCLOHEXANES	2.33	0.778	0	56	59.2
ETHYLBENZENE	0.176	44.7	0.0348	3790	3840
ETHYLCYCLOHEXANE	3.11	50.1	0	162	216
ETHYLCYCLOPENTANE	0	7.39	0	13.5	20.9
ETHYLDIMETHYLPHENOL	2.33	0.778	0	56	59.2
ETHYLENE	0	3260	0	10900	14200
ETHYLHEPTENE	1.17	49.8	0	206	257
ETHYLHEXANE	1.94	0.648	0	46.7	49.3
ETHYLMETHYLCYCLOHEXANES	26.8	8.94	0	645	680
ETHYLMETHYLOCTANE	2.72	0.907	0	65.4	69
ETHYLOCTANE	0.778	0.259	0	18.7	19.7
ETHYLOCTENES	1.56	0.518	0	37.4	39.4
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	8.69	0	19.6	28.3
FLUORIDE COMPOUNDS	56.6	322	11.2	13000	13400
FORMALDEHYDE	2.19	0.0351	0.00628	405	407
HEXADECANE	0.00894	0.049	0.00177	0.407	0.467
HYDROCHLORIC ACID	0	0	0	10000	10000
ISOMERS OF C10H18	0	97.2	0	350	447
ISOMERS OF C9H16	4.67	1.56	0	112	118
ISOMERS OF DECANE (C10 PARAFFINS)	51.7	159	0	1750	1960
ISOMERS OF DODECANE (C12 PARAFFINS)	10.9	3.63	0	262	276
ISOMERS OF HEPTANE	0	0	0	0.00124	0.00124
ISOMERS OF HEXANE	0.214	0	0	0.00127	0.215
ISOMERS OF NONANE (C9 PARAFFIN)	0	210	0	584	794
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0.000097	0.000097
ISOMERS OF PENTANE	1.93	0	0	83.2	85.1
ISOMERS OF PROPYLBENZENE	10.9	3.63	0	262	276
ISOMERS OF TETRADECANE (C14 PARAFFINS)	1.17	0.414	0	28	29.6
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.389	0.13	0	9.34	9.86
ISOMERS OF UNDECANE (C11 PARAFFINS)	36.2	47.7	0	997	1080
ISOMERS OF XYLENE	153	452	0.57	20200	20800
ISOPROPYL ALCOHOL	0	107	0	386	494
LEAD & COMPOUNDS	55.8	419	7.71	12700	13200
MANGANESE & COMPOUNDS	257	3660	14.7	118000	122000
MERCURY & COMPOUNDS	3.38	34	0.13	1150	1190
METHANE	4760	1670	62.5	47900	54400
METHYL AMYL KETONE	0	36	0	81.3	117
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	42.8	126	0	1410	1580
METHYL HEXANE	49.4	16.5	0	1190	1250
METHYL ISOBUTYL KETONE	0	15.7	0	36.3	52
METHYL PROPYLCYCLOHEXANES	10.1	3.37	0	243	256

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLCYCLOHEXANE	71.2	356	0	2690	3110
METHYLCYCLOPENTANE	0	0	0	4.3	4.3
METHYLDECALINS	1.17	0.389	0	28	29.6
METHYLDECANES	17.5	5.83	0	420	444
METHYLDECENES	3.11	1.04	0	74.7	78.9
METHYLDODECANES	0.778	0.259	0	18.7	19.7
METHYLHEXENES	4.67	1.56	0	112	118
METHYLNONANE	29.2	9.72	0	701	739
METHYLNONENES	1.17	0.389	0	28	29.6
METHYLOCTANES	28.4	9.46	0	682	720
METHYLPROPYLNONANE	1.17	0.389	0	28	29.6
M-ETHYLTOLUENE	3.58	19.6	0.708	163	187
METHYLUNDECANE	1.17	0.389	0	28	29.6
MOLYBDENUM	2.27	23.6	0.0543	815	841
NAPHTHALENE	1.17	0.389	0	28	29.6
N-BUTANE	1.93	0	0	321	323
N-BUTYL ACETATE	0	547	0	1390	1940
N-BUTYL ALCOHOL	0	0.0814	0	0	0.0814
N-DECANE	0	0	0	0.00185	0.00185
N-DODECANE	0.245	1.34	0.0484	11.1	12.8
N-HEPTADECANE	0.00298	0.0163	0.000586	0.136	0.156
N-HEPTANE	328	280	0	8810	9410
N-HEXANE	1.56	0.518	0	3110	3110
NICKEL & COMPOUNDS	22	172	3.7	5400	5590
NITRIC OXIDE	99.8	91200	0	1430000	1530000
NITROGEN DIOXIDE	8.05	7360	0	116000	123000
NITROUS OXIDE	0.397	47.4	0	1470	1520
N-NONANE	33.8	11.3	0	813	858
NONADIENE	0.778	0.259	0	18.7	19.7
N-PENTADECANE	0.0418	0.229	0.00826	1.9	2.18
N-PENTANE	1.28	0	0	0.00251	1.29
N-PENTYLCYCLOHEXANE	1.94	0.648	0	46.7	49.3
N-PROPYLBENZENE	3.77	10.7	0.362	130	145
N-TETRADECANE	0.119	0.654	0.0236	5.43	6.22
N-TRIDECANE	0.164	0.899	0.0324	7.46	8.56
N-UNDECANE	0.0806	55.3	0.0159	201	257
O-ETHYLTOLUENE	3.08	16.8	0.608	140	160
OXIDES OF NITROGEN	161	147000	0	2310000	2460000
PARTICULATE MATTER ≤ 10 µm	410000	1750000	85800	5020000	5250000
PARTICULATE MATTER ≤ 2.5 µm	52000	302000	11700	8470000	8830000
P-DICHLOROBENZENE	0.477	0.0351	0.00628	4.32	4.84
PENTAMETHYLBENZENE	1.17	0.389	0	28	29.6
PERCHLOROETHYLENE	291	96.2	0.044	6940	7330
P-ETHYLTOLUENE	5.9	32.3	1.17	268	307
PHTHALIC ANHYDRIDE	0	16.6	0	59.8	76.4
POLYCHLORINATED DIOXINS AND FURANS	2.03x10 ⁻⁰⁹	0	0	0.000217	0.000217
POLYCYCLIC AROMATIC	0.00118	5.24	0	62	67.2

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCARBONS					
PROPANE	0.856	0	0	1180	1180
PROPENYL CYCLOHEXANE	0.778	0.259	0	18.7	19.7
PROPYL ACETATE	0	0.0204	0	0	0.0204
PROPYLENE	0	1970	0	6580	8550
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	22.9	0	82.6	106
SEC-BUTYL ALCOHOL	27.2	9.07	0	654	690
SELENIUM & COMPOUNDS	3.28	24.6	0.693	638	666
SULFUR DIOXIDE	0.895	1360	0	495000	496000
SULFURIC ACID	0	0	0	5000	5000
TETRAMETHYLCYCLOPENTANE	2.72	0.907	0	65.4	69
TETRAMETHYLTHIOUREA	0.389	0.13	0	9.34	9.86
TIN & COMPOUNDS	0	5.12	0	20.4	25.6
TOLUENE	325	1770	0.189	13300	15400
TOTAL SUSPENDED PARTICULATE	1100000	4820000	239000	139000000	145000000
TOTAL VOLATILE ORGANIC COMPOUNDS	3950	17200	6.17	177000	199000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0	0.00185	0.00185
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0	0	0.00556	0.00556
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.013	0.013
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.00741	0.00741
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.00926	0.00926
TRANS-2-BUTENE	0	0	0	0.524	0.524
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0.00556	0.00556
TRANS-2-PENTENE	0	0	0	0.545	0.545
TRICHLOROETHYLENE (TCE)	820	273	0.00628	19700	20800
TRICHLOROTRIFLUOROETHANE-F113	159	53.1	0	3830	4040
TRIMETHYLBENZENES	12.1	8.83	0	301	321
TRIMETHYLCYCLOHEXANES	9.33	60.1	0	326	395
TRIMETHYLCYCLOPENTANE	14	10.4	0	347	371
TRIMETHYLHEPTANES	8.55	2.85	0	206	217
TRIMETHYLOCTANES	1.94	0.648	0	46.7	49.3
VANADIUM & COMPOUNDS	17.4	192	0.431	6270	6480
ZINC & COMPOUNDS	114	1350	9.58	35000	36500

A.45 MINING FOR MINERALS

Table A-45: Annual emissions from mining for minerals

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0	0	2.49	2.49
1,2,4-TRIMETHYLBENZENE	0	0	0	1.35	1.35
1,3,5-TRIMETHYLBENZENE	0	0	0	1.88	1.88
1,4-PENTADIENE	0	0	0	0.0427	0.0427

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-BUTENE	0	0	0	0.197	0.197
1-PENTENE	0	0	0	0.235	0.235
2,2,3,TRIMETHYLHEXANE	0	0	0	0.00427	0.00427
2,2,3-TRIMETHYLBUTANE	0	0	0	0.00855	0.00855
2,2,4-TRIMETHYLPENTANE	0	0	0	0.209	0.209
2,2-DIMETHYLBUTANE	0	0	0	0.0641	0.0641
2,2-DIMETHYLHEXANE	0	0	0	0.00855	0.00855
2,2-DIMETHYLPENTANE	0	0	0	0.0214	0.0214
2,3,3-TRIMETHYLPENTANE	0	0	0	0.0214	0.0214
2,3,4-TRIMETHYLPENTANE	0	0	0	0.0214	0.0214
2,3-DIMETHYLBUTANE	0	0	0	0.346	0.346
2,3-DIMETHYLHEXANE	0	0	0	0.0342	0.0342
2,3-DIMETHYLPENTANE	0	0	0	0.0769	0.0769
2,4-DIMETHYLHEXANE	0	0	0	0.0598	0.0598
2,4-DIMETHYLPENTANE	0	0	0	0.0684	0.0684
2,5-DIMETHYLHEXANE	0	0	0	0.0299	0.0299
2-METHYL-1-BUTENE	0	0	0	0.483	0.483
2-METHYL-2-BUTENE	0	0	0	1.89	1.89
2-METHYLHEPTANE	0	0	0	0.0641	0.0641
2-METHYLHEXANE	0	0	0	0.218	0.218
2-METHYLNONANE	0	0	0	0.00427	0.00427
2-METHYLOCTANE	0	0	0	0.00427	0.00427
2-METHYLPENTANE	0	0	0	2.04	2.04
2-METHYLPROPANE; ISOBUTANE	0	0	0	1.3	1.3
3,3-DIMETHYLPENTANE	0	0	0	0.0256	0.0256
3-ETHYLPENTANE	0	0	0	0.0427	0.0427
3-METHYL-1-BUTENE	0	0	0	0.0128	0.0128
3-METHYLHEPTANE	0	0	0	0.0598	0.0598
3-METHYLHEXANE	0	0	0	0.269	0.269
3-METHYLOCTANE	0	0	0	0.00855	0.00855
3-METHYLPENTANE	0	0	0	1	1
4-METHYLHEPTANE	0	0	0	0.0342	0.0342
4-METHYLOCTANE	0	0	0	0.00427	0.00427
ANTIMONY & COMPOUNDS	0	0	0	43.3	43.3
ARSENIC & COMPOUNDS	0	0	0	8.21	8.21
BENZENE	0	0	0	0.333	0.333
BERYLLIUM & COMPOUNDS	0	0	0	0.156	0.156
BORON & COMPOUNDS	0	0	0	9.84	9.84
CADMIUM & COMPOUNDS	0	0	0	7.05	7.05
CHROMIUM (III) COMPOUNDS	0	0	0	41.2	41.2
CHROMIUM (VI) COMPOUNDS	0	0	0	2.7	2.7
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.094	0.094
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0	0	0.0598	0.0598
CIS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.0598	0.0598
CIS-2-BUTENE	0	0	0	0.128	0.128

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-2-PENTENE	0	0	0	0.692	0.692
COBALT & COMPOUNDS	0	0	0	6.55	6.55
COPPER & COMPOUNDS	0	0	0	243	243
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.896	0.896
CYCLOHEXANE	0	0	0	0.0214	0.0214
CYCLOPENTENE	0	0	0	0.0128	0.0128
ETHYLBENZENE	0	0	0	0.148	0.148
ETHYLCYCLOPENTANE	0	0	0	0.0128	0.0128
FLUORIDE COMPOUNDS	0	0	0	98.1	98.1
HEXADECANE	0	0	0	0.00534	0.00534
ISOMERS OF PENTANE	0	0	0	21.2	21.2
ISOMERS OF XYLENE	0	0	0	1.84	1.84
LEAD & COMPOUNDS	0	0	0	85.6	85.6
MANGANESE & COMPOUNDS	0	0	0	977	977
MERCURY & COMPOUNDS	0	0	0	7.44	7.44
METHYLCYCLOPENTANE	0	0	0	0.124	0.124
M-ETHYLTOLUENE	0	0	0	2.16	2.16
MOLYBDENUM	0	0	0	5.29	5.29
N-BUTANE	0	0	0	5.7	5.7
N-DECANE	0	0	0	0.00427	0.00427
N-DODECANE	0	0	0	0.146	0.146
N-HEPTADECANE	0	0	0	0.00178	0.00178
N-HEPTANE	0	0	0	0.167	0.167
N-HEXANE	0	0	0	0.094	0.094
NICKEL & COMPOUNDS	0	0	0	189	189
N-NONANE	0	0	0	0.00427	0.00427
N-PENTADECANE	0	0	0	0.0249	0.0249
N-PROPYLBENZENE	0	0	0	1.1	1.1
N-TETRADECANE	0	0	0	0.0711	0.0711
N-TRIDECANE	0	0	0	0.0978	0.0978
N-UNDECANE	0	0	0	0.048	0.048
O-ETHYLTOLUENE	0	0	0	1.83	1.83
PARTICULATE MATTER ≤ 10 µm	0	0	0	441000	441000
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	79000	79000
P-ETHYLTOLUENE	0	0	0	3.53	3.53
SELENIUM & COMPOUNDS	0	0	0	5.06	5.06
TOLUENE	0	0	0	1.3	1.3
TOTAL SUSPENDED PARTICULATE	0	0	0	1330000	1330000
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	59.1	59.1
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0	0.00427	0.00427
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0	0	0.0128	0.0128
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0	0.0299	0.0299

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0.0171	0.0171
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0	0	0.0214	0.0214
TRANS-2-BUTENE	0	0	0	1.21	1.21
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0	0.0128	0.0128
TRANS-2-PENTENE	0	0	0	1.26	1.26
VANADIUM & COMPOUNDS	0	0	0	40.7	40.7
ZINC & COMPOUNDS	0	0	0	243	243

A.46 MISCELLANEOUS LICENSED DISCHARGES TO WATERS (AT ANY TIME)

Table A-46: Annual emissions from miscellaneous licensed discharges to waters (at any time)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.553	0	0	3.54	4.09
1,2,3-TRIMETHYLBENZENE	0.0235	0	0	0	0.0235
1,2,4-TRIMETHYLBENZENE	0.0129	0	0	0	0.0129
1,3,5-TRIMETHYLBENZENE	0.0177	0	0	0	0.0177
1,4-PENTADIENE	0.000825	0	0	0	0.000825
1-BUTENE	0.0038	0	0	0	0.0038
1-PENTENE	0.00454	0	0	0	0.00454
2,2,3,TRIMETHYLHEXANE	0.000082	0	0	0	0.000082
2,2,3-TRIMETHYLBUTANE	0.000165	0	0	0	0.000165
2,2,4-TRIMETHYLPENTANE	0.00405	0	0	0	0.00405
2,2-DIMETHYLBUTANE	0.00124	0	0	0	0.00124
2,2-DIMETHYLHEXANE	0.000165	0	0	0	0.000165
2,2-DIMETHYLPENTANE	0.000412	0	0	0	0.000412
2,3,3-TRIMETHYLPENTANE	0.000412	0	0	0	0.000412
2,3,4-TRIMETHYLPENTANE	0.000412	0	0	0	0.000412
2,3-DIMETHYLBUTANE	0.00669	0	0	0	0.00669
2,3-DIMETHYLHEXANE	0.00066	0	0	0	0.00066
2,3-DIMETHYLPENTANE	0.00149	0	0	0	0.00149
2,4-DIMETHYLHEXANE	0.00116	0	0	0	0.00116
2,4-DIMETHYLPENTANE	0.00132	0	0	0	0.00132
2,5-DIMETHYLHEXANE	0.000578	0	0	0	0.000578
2-METHYL-1-BUTENE	0.00933	0	0	0	0.00933
2-METHYL-2-BUTENE	0.0366	0	0	0	0.0366
2-METHYLHEPTANE	0.00124	0	0	0	0.00124
2-METHYLHEXANE	0.00421	0	0	0	0.00421
2-METHYLNONANE	0.000082	0	0	0	0.000082
2-METHYLOCTANE	0.000082	0	0	0	0.000082
2-METHYLPENTANE	0.0395	0	0	0	0.0395
2-METHYLPROPANE; ISOBUTANE	0.0252	0	0	0	0.0252
3,3-DIMETHYLPENTANE	0.000495	0	0	0	0.000495
3-ETHYLPENTANE	0.000825	0	0	0	0.000825

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-METHYL-1-BUTENE	0.000247	0	0	0	0.000247
3-METHYLHEPTANE	0.00116	0	0	0	0.00116
3-METHYLHEXANE	0.0052	0	0	0	0.0052
3-METHYLOCTANE	0.000165	0	0	0	0.000165
3-METHYLPENTANE	0.0193	0	0	0	0.0193
4-METHYLHEPTANE	0.00066	0	0	0	0.00066
4-METHYLOCTANE	0.000082	0	0	0	0.000082
AMMONIA (TOTAL)	0.668	0	0	4.28	4.95
ANTIMONY & COMPOUNDS	2.32	0	0	0	2.32
ARSENIC & COMPOUNDS	0.431	0	0	0	0.431
BENZENE	0.00644	0	0	0	0.00644
CADMIUM & COMPOUNDS	0.362	0	0	0	0.362
CHLOROFORM (TRICHLOROMETHANE)	0.414	0	0	2.66	3.07
CHROMIUM (III) COMPOUNDS	0.344	0	0	0	0.344
CHROMIUM (VI) COMPOUNDS	0.147	0	0	0	0.147
CIS-1,3- DIMETHYLCYCLOPENTANE	0.00182	0	0	0	0.00182
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.00116	0	0	0	0.00116
CIS-1-2- DIMETHYLCYCLOPENTANE	0.00116	0	0	0	0.00116
CIS-2-BUTENE	0.00248	0	0	0	0.00248
CIS-2-PENTENE	0.0134	0	0	0	0.0134
COBALT & COMPOUNDS	0.169	0	0	0	0.169
COPPER & COMPOUNDS	4.55	0	0	0	4.55
CUMENE (1- METHYLETHYLBENZENE)	0.00846	0	0	0	0.00846
CYCLOHEXANE	0.000412	0	0	0	0.000412
CYCLOPENTENE	0.000247	0	0	0	0.000247
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.622	0	0	3.98	4.61
ETHYLBENZENE	0.00182	0	0	0	0.00182
ETHYLCYCLOPENTANE	0.000247	0	0	0	0.000247
FORMALDEHYDE	0.0691	0	0	0.443	0.512
HEXADECANE	0.00005	0	0	0	0.00005
ISOMERS OF PENTANE	0.409	0	0	0	0.409
ISOMERS OF XYLENE	0.434	0	0	2.66	3.09
LEAD & COMPOUNDS	3.75	0	0	0	3.75
MANGANESE & COMPOUNDS	26.3	0	0	0	26.3
MERCURY & COMPOUNDS	0.398	0	0	0	0.398
METHANE	688	0	0	4410	5100
METHYLCYCLOPENTANE	0.00239	0	0	0	0.00239
M-ETHYLTOLUENE	0.0206	0	0	0	0.0206
MOLYBDENUM	0.282	0	0	0	0.282
N-BUTANE	0.11	0	0	0	0.11
N-DECANE	0.000082	0	0	0	0.000082
N-DODECANE	0.00138	0	0	0	0.00138
N-HEPTADECANE	0.000016	0	0	0	0.000016

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-HEPTANE	0.00322	0	0	0	0.00322
N-HEXANE	0.00182	0	0	0	0.00182
NICKEL & COMPOUNDS	1.03	0	0	0	1.03
N-NONANE	0.000082	0	0	0	0.000082
N-PENTADECANE	0.000235	0	0	0	0.000235
N-PROPYLBENZENE	0.0105	0	0	0	0.0105
N-TETRADECANE	0.000671	0	0	0	0.000671
N-TRIDECANE	0.000923	0	0	0	0.000923
N-UNDECANE	0.000453	0	0	0	0.000453
O-ETHYLTOLUENE	0.0173	0	0	0	0.0173
PARTICULATE MATTER ≤ 10 µm	8110	0	0	0	8110
PARTICULATE MATTER ≤ 2.5 µm	848	0	0	0	848
P-DICHLOROBENZENE	0.0691	0	0	0.443	0.512
PERCHLOROETHYLENE	0.483	0	0	3.1	3.58
P-ETHYLTOLUENE	0.0334	0	0	0	0.0334
SELENIUM & COMPOUNDS	0.0853	0	0	0	0.0853
TOLUENE	0.297	0	0	1.77	2.07
TOTAL SUSPENDED PARTICULATE	28900	0	0	0	28900
TOTAL VOLATILE ORGANIC COMPOUNDS	3.94	0	0	19	23
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.000082	0	0	0	0.000082
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.000247	0	0	0	0.000247
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.000578	0	0	0	0.000578
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.00033	0	0	0	0.00033
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.000412	0	0	0	0.000412
TRANS-2-BUTENE	0.0234	0	0	0	0.0234
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.000247	0	0	0	0.000247
TRANS-2-PENTENE	0.0243	0	0	0	0.0243
TRICHLOROETHYLENE (TCE)	0.0691	0	0	0.443	0.512
VANADIUM & COMPOUNDS	2.12	0	0	0	2.12
ZINC & COMPOUNDS	11.6	0	0	0	11.6

A.47 NON-FERROUS METAL PRODUCTION (SCRAP)

Table A-47: Annual emissions from non-ferrous metal production (scrap)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0286	0	0	0	0.0286
1,2,4-TRIMETHYLBENZENE	0.0154	0	0	0	0.0154
1,3,5-TRIMETHYLBENZENE	0.0216	0	0	0	0.0216
AMMONIA (TOTAL)	18.3	0	0	0	18.3

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ANTIMONY & COMPOUNDS	0.14	0	0	0	0.14
ARSENIC & COMPOUNDS	0.0342	0	0	0	0.0342
BENZENE	197	0	0	0	197
BERYLLIUM & COMPOUNDS	0.000442	0	0	0	0.000442
CADMIUM & COMPOUNDS	0.048	0	0	0	0.048
CARBON DIOXIDE	4560000	0	0	0	4560000
CARBON MONOXIDE	281000	0	0	0	281000
CHROMIUM (III) COMPOUNDS	0.0731	0	0	0	0.0731
CHROMIUM (VI) COMPOUNDS	0.0131	0	0	0	0.0131
COBALT & COMPOUNDS	0.0505	0	0	0	0.0505
COPPER & COMPOUNDS	0.338	0	0	0	0.338
CUMENE (1-METHYLETHYLBENZENE)	0.0103	0	0	0	0.0103
CYCLOHEXANE	49.2	0	0	0	49.2
ETHYLBENZENE	0.00121	0	0	0	0.00121
FORMALDEHYDE	393	0	0	0	393
HEXADECANE	0.000061	0	0	0	0.000061
ISOMERS OF HEXANE	49.2	0	0	0	49.2
ISOMERS OF PENTANE	442	0	0	0	442
ISOMERS OF XYLENE	41.4	0	0	0	41.4
LEAD & COMPOUNDS	670	0	0	0	670
MANGANESE & COMPOUNDS	1.66	0	0	0	1.66
MERCURY & COMPOUNDS	0.0283	0	0	0	0.0283
METHANE	2750	0	0	0	2750
M-ETHYLTOLUENE	0.0245	0	0	0	0.0245
MOLYBDENUM	0.0103	0	0	0	0.0103
N-BUTANE	442	0	0	0	442
N-DODECANE	0.00167	0	0	0	0.00167
N-HEPTADECANE	0.00002	0	0	0	0.00002
NICKEL & COMPOUNDS	0.104	0	0	0	0.104
NITRIC OXIDE	10100	0	0	0	10100
NITROGEN DIOXIDE	812	0	0	0	812
NITROUS OXIDE	8.62	0	0	0	8.62
N-PENTADECANE	0.000285	0	0	0	0.000285
N-PENTANE	295	0	0	0	295
N-PROPYLBENZENE	0.0125	0	0	0	0.0125
N-TETRADECANE	0.000816	0	0	0	0.000816
N-TRIDECANE	0.00112	0	0	0	0.00112
N-UNDECANE	0.000551	0	0	0	0.000551
O-ETHYLTOLUENE	0.0211	0	0	0	0.0211
OXIDES OF NITROGEN	16200	0	0	0	16200
PARTICULATE MATTER ≤ 10 µm	4000	0	0	0	4000
PARTICULATE MATTER ≤ 2.5 µm	3370	0	0	0	3370
P-ETHYLTOLUENE	0.0404	0	0	0	0.0404
POLYCHLORINATED DIOXINS AND FURANS	4.42x10 ⁻⁰⁸	0	0	0	4.42x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0256	0	0	0	0.0256

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPANE	197	0	0	0	197
SELENIUM & COMPOUNDS	0.00501	0	0	0	0.00501
SULFUR DIOXIDE	130000	0	0	0	130000
TOLUENE	98.3	0	0	0	98.3
TOTAL SUSPENDED PARTICULATE	7830	0	0	0	7830
TOTAL VOLATILE ORGANIC COMPOUNDS	2160	0	0	0	2160
VANADIUM & COMPOUNDS	0.00413	0	0	0	0.00413
ZINC & COMPOUNDS	3.11	0	0	0	3.11

A.48 NON-THERMAL TREATMENT OF WASTE

Table A-48: Annual emissions from non-thermal treatment of waste

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	1670	32.6	0.000005	972	2680
1,1,2-TRICHLOROETHANE	0	0	0.000004	0	0.000004
1,1,3-TRIMETHYLCYCLOHEXANE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	2.15	0.736	0	0.042	2.92
1,2,4-TRIMETHYLBENZENE	1.15	0.395	0	0.0225	1.57
1,2-BUTADIENE {METHYLLALLENE}	0	0	0.000005	0	0.000005
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0	0	0	0	0
1,2-DICHLOROETHANE	0	0	0.000007	0	0.000007
1,3,5-TRIMETHYLBENZENE	1.62	0.555	0	0.0316	2.2
1,3-BUTADIENE	0	0	0.000008	0	0.000008
1,3-DIETHYL-5-METHYLCYCLOHEXANE	2.23	0	0	0	2.23
1,4-DIETHYL-CYCLOHEXANE	185	0	0	0	185
1-BUTENE	0	0	0.000005	0	0.000005
1-BUTYNE (ETHYLACETYLENE)	0	0	0	0	0
1-DECENE	0	0	0	0	0
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.151	0	0	0.432	0.583
1-ETHYL-2-METHYLCYCLOPENTANE	0.151	0	0	0.432	0.583
1-HEXENE	0	0	0	0	0
1-PENTENE	0	0	0.000007	0	0.000007
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0	0	0.000005	0	0.000005
2,2,4-TRIMETHYLPENTANE	0	0	0	0	0
2,2-DICHLORONITROANILINE	0	0	0	0	0
2,3-DIMETHYLBUTANE	0	0	0	0	0
2,4,4-TRIMETHYL-1-PENTENE	0	0	0	0	0
2,4-DIMETHYLHEXANE	116	0	0	0	116
2,4-DIMETHYLPENTANE	27.7	0	0	0	27.7
2,4-TOLUENE DIISOCYANATE {TDI}	0	0	0.000008	0	0.000008
2-BUTYNE	0	0	0	0	0
2-ETHOXYETHANOL {CELLOSOLVE}	0	0	0.000004	0	0.000004

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
{EGEE}					
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0	0	0.000004	0	0.000004
2-FURFURAL	0	0	0.000004	0	0.000004
2-HEXENES	0	0	0	0	0
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	0	0	0.000005	0	0.000005
2-METHYL-1-BUTENE	0	0	0	0	0
2-METHYL-2-PENTENE	0	0	0	0	0
2-METHYL-3-HEXANONE	138	0	0	0	138
2-METHYL-BUTANE	0	0	0.000001	0	0.000001
2-METHYLPENTANE	0	0	0	0	0
2-METHYLPROPANE; ISOBUTANE	0	0	0.000005	0.124	0.124
3-ETHYL-2,2-DIMETHYL PENTANE	0	0	0	0	0
3-ETHYLHEXANE	0	0	0	0	0
3-METHYLHEXANE	0	0	0	0	0
3-METHYLPENTANE	0	0	0	0	0
4-METHYLANILINE	0	0	0	0	0
9,10-ANTHRAQUINONE	0	0	0	0	0
ACENAPHTHENE	0	0	0	0	0
ACETALDEHYDE	0	0	0.000011	0	0.000011
ACETIC ACID	0	0	0.000009	0	0.000009
ACETIC ANHYDRIDE	0	0	0.000004	0	0.000004
ACETONE	215	0	0.000019	61.8	277
ACETYLENE	0	0	0.000011	0	0.000011
ACROLEIN (2-PROPENAL)	0	0	0.00001	0	0.00001
ACRYLIC ACID	0	0	0.000005	0	0.000005
ACRYLONITRILE	0	0	0.000007	0	0.000007
ADIPIC ACID	0	0	0.000005	0	0.000005
ALIPHATICS	0	0	0.000001	0	0.000001
ALKENE KETONE	0	0	0	0	0
AMMONIA (TOTAL)	64800	236	2.75	6.12	65100
ANILINE {AMINO BENZENE}	0	0	0.00001	0	0.00001
ANTIMONY & COMPOUNDS	25	0.146	0.0313	0.0615	25.3
A-PINENE	0	0	0.000004	0	0.000004
ARSENIC & COMPOUNDS	68.9	0.0669	0.0071	0.0137	69
BENZALDEHYDE	1.86	0	0	0	1.86
BENZENE	5080	0.248	2.8	45.1	5130
BENZOIC ACID	0	0	0	0	0
BENZYL CHLORIDE	0	0	0.000005	0	0.000005
BERYLLIUM & COMPOUNDS	21.5	0.00201	0.0000665	0.000165	21.5
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.454	0	0	1.3	1.75
BIPHENYL {PHENYL BENZENE}	0	0	0	0	0
BORON & COMPOUNDS	1.27	0.115	0	0	1.39
B-PHELLANDRENE {1(7)-2-P- MENTHADIENE}	0	0	0	0	0
B-PINENE	0	0	0.000003	0	0.000003

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BROMODINITROBENZENE	0	0	0	0	0
BUTOXYBUTENE	0	0	0	0	0
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	106	0	0.000005	0	106
BUTYL ISOPROPYL PHTHALATE	0	0	0	0	0
BUTYLBENZENE ISOMERS	6.2	0	0	17.7	23.9
BUTYLCYCLOHEXANE	2.42	0	0	6.91	9.33
BUTYRALDEHYDE	0	0	0.000005	0	0.000005
C10 AROMATIC	0	0	0	0	0
C10 OLEFINS	22.9	0	0	15.1	38
C10H12	176	0	0	0	176
C11 OLEFINS	1.36	0	0	3.89	5.25
C12 OLEFINS	0.302	0	0	0.864	1.17
C2 ALKYL INDAN	0	0	0	0	0
C2 CYCLOHEXANE	0	0	0	0	0
C3 CYCLOHEXANE	0	0	0	0	0
C3/C4/C5 ALKYL BENZENES	0	0	0	0	0
C4 SUBSTITUTED CYCLOHEXANE	0	0	0	0	0
C4 SUBSTITUTED CYCLOHEXANONE	0	0	0	0	0
C5 ESTER	0	0	0	0	0
C5 OLEFIN	0	0	0	0	0
C5 PARAFFIN	0	0	0	0	0
C5 SUBSTITUTED CYCLOHEXANE	0	0	0	0	0
C6 SUBSTITUTED CYCLOHEXANE	0	0	0	0	0
C6H18O3SI3	0	0	0.000001	0	0.000001
C7 CYCLOPARAFFINS	0	0	0.000009	0	0.000009
C7-C16 PARAFFINS	0	0	0.000001	0	0.000001
C8 CYCLOPARAFFINS	0	0	0	0	0
C8 INTERNAL ALKENES	0.906	0	0	0	0.906
C8 OLEFINS	4.69	0	0	13.4	18.1
C8H24O4SI4	0	0	0	0	0
C9 CYCLOPARAFFINS	76.4	0	0	0	76.4
CADMIUM & COMPOUNDS	50.1	0.00906	0.00768	0.00746	50.2
CAMPHENE	0	0	0	0	0
CARBARYL	0	0	0	0	0
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0	0	0.000006	0	0.000006
CARBON DIOXIDE	9300000	60800	686000	537000	10600000
CARBON DISULFIDE	0	0	0.000001	0	0.000001
CARBON MONOXIDE	8520	41.7	470	325	9350
CARBON TETRACHLORIDE	0	0	0.000008	0	0.000008
CARBONYL SULFIDE	0	0	0	0	0
CHLOROBENZENE	0	0	0.000009	0	0.000009
CHLORODIFLUOROMETHANE (F-22)	0	0	0.000002	0	0.000002
CHLOROETHANE (ETHYL CHLORIDE)	0	0	0.000003	0	0.000003
CHLOROFORM (TRICHLOROMETHANE)	987	24.4	0.000006	6.98	1020
CHLOROPENTAFLUOROETHANE	0	0	0	0	0

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(F115)					
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	0	0	0.000004	0	0.000004
CHLOROTRIFLUOROMETHANE (F-13)	0	0	0	0	0
CHROMIUM (III) COMPOUNDS	25.1	0.493	0.0128	0.0153	25.6
CHROMIUM (VI) COMPOUNDS	3.58	0.0105	0.00273	0.00433	3.59
CHRYSENE	0	0	0	0	0
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0	0	0
CIS-3-HEXENE	0	0	0	0	0
COAL TAR	0	0	0.000004	0	0.000004
COBALT & COMPOUNDS	2.36	0.101	0.011	0.0366	2.51
COPPER & COMPOUNDS	47.2	0.505	0.073	0.102	47.9
CRESOLS	0	0	0.000004	0	0.000004
CUMENE (1-METHYLETHYLBENZENE)	1.23	0.265	0.000004	1.31	2.8
CYCLOHEXANE	22.2	0.062	0.7	4.78	27.8
CYCLOHEXANOL	0	0	0.000005	0	0.000005
CYCLOHEXANONE	0	0	0.000006	0	0.000006
CYCLOHEXENE	0	0	0	0	0
CYCLOPENTANE	0	0	0	0	0
CYCLOPENTENE	0	0	0.000005	0	0.000005
DECALINS (MIXED CIS,TRANS)	0.907	0	0	2.59	3.5
DENATURANT	0	0	0.000001	0	0.000001
DIBROMOETHANE	2.23	0	0.000005	0	2.23
DIBUTYL PHTHALATE	0	0	0	0	0
DICHLOROBENZENES	0	0	0	0	0
DICHLORODIFLUOROMETHANE (F-12)	0	0	0.000004	0	0.000004
DICHLOROMETHANE {METHYLENE CHLORIDE}	1550	36.6	0.000009	188	1770
DIETHYL CYCLOHEXANE	0	0	0	0	0
DIETHYLBENZENES	0	0	0	0	0
DIETHYLCYCLOHEXANE	20.7	0	0	3.46	24.1
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	0	0	0.000005	0	0.000005
DIETHYLENE GLYCOL BUTYL ETHER ACETATE {2-(2-BUTOXYETHOXY)ETHYL ACETATE}	0	0	0	0	0
DIISOPROPYL BENZENE (MIXED ISOMERS)	0	0	0.000004	0	0.000004
DIMETHOXYMETHANE (METHYLAL)	0	0	0.000002	0	0.000002
DIMETHYL ETHER	0	0	0.000014	0	0.000014
DIMETHYL FORMAMIDE	0	0	0.000004	0	0.000004
DIMETHYL PHTHALATE	0	0	0	0	0
DIMETHYLBENZYLALCOHOL	0.302	0	0	0.864	1.17
DIMETHYLCYCLOBUTANONE	0.907	0	0	2.59	3.5
DIMETHYLCYCLOHEXANES	71.8	0	0	4.75	76.5
DIMETHYLCYCLOPENTANE	10.7	0	0	30.7	41.4
DIMETHYLHEPTANES	11.2	0	0	0.864	12
DIMETHYLHEXANES	4.99	0	0	14.3	19.2

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLNONANES	3.18	0	0	9.07	12.2
DIMETHYLOCTANES	4.54	0	0	13	17.5
DIPROPYLENE GLYCOL	0	0	0.000008	0	0.000008
D-LIMONENE	0	0	0	0	0
EPICHLOROHYDRIN	0	0	0.000005	0	0.000005
ETHANE	1.82	0	0.000018	0.0358	1.85
ETHANOLAMINE	0	0	0.000005	0	0.000005
ETHYL ACETATE	84.2	0	0.000005	0	84.2
ETHYL ACRYLATE	0	0	0.000006	0	0.000006
ETHYL ALCOHOL	432	0	0.000017	0	432
ETHYL ETHER	12.1	0	0.000008	34.6	46.7
ETHYL ISOPROPYL ETHER	0	0	0	0	0
ETHYL MERCAPTAN	0	0	0.000004	0	0.000004
ETHYL PROPYLCYCLOHEXANES	0.907	0	0	2.59	3.5
ETHYL STYRENE {ETHYLVINYL BENZENE}	0	0	0	0	0
ETHYLBENZENE	22.2	0.031	0.000008	0.00177	22.2
ETHYLCYCLOHEXANE	23.5	0	0	3.46	26.9
ETHYLCYCLOPENTANE	1.33	0	0	0	1.33
ETHYLDIMETHYLPHENOL	0.907	0	0	2.59	3.5
ETHYLENE	5.86	0	0.000037	0	5.86
ETHYLENE GLYCOL	0	0	0.000004	0	0.000004
ETHYLENE OXIDE	0	0	0.000004	0	0.000004
ETHYLENEAMINES	0	0	0.000005	0	0.000005
ETHYLHEPTENE	5.98	0	0	1.3	7.28
ETHYLHEXANE	0.756	0	0	2.16	2.92
ETHYLMETHYLCYCLOHEXANES	10.4	0	0	29.8	40.2
ETHYLMETHYLOCTANE	1.06	0	0	3.02	4.08
ETHYLOCTANE	0.302	0	0	0.864	1.17
ETHYLOCTENES	0.605	0	0	1.73	2.33
ETHYL-PHENYL-PHENYL-ETHANE	0	0	0	0	0
ETHYLTOLUENES {METHYLETHYLBENZENES}	7.38	0	0	0	7.38
FLUORANTHENE	0	0	0	0	0
FLUORENE	0	0	0	0	0
FLUORIDE COMPOUNDS	14.5	1.34	0	0.137	16
FORMALDEHYDE	178	4.57	5.6	6.84	195
FORMIC ACID	0	0	0.000005	0	0.000005
FURFURYL ALCOHOL	0	0	0	0	0
GLYOXAL	0	0	0	0	0
HEPTENES	0	0	0.000006	0	0.000006
HEXADECANE	0.00458	0.00158	0	0.000089	0.00625
HEXAFLUOROETHANE {F-116}	0	0	0.000005	0	0.000005
HEXAMETHYLENEDIAMINE	0	0	0.000008	0	0.000008
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	0	0	0.000004	0	0.000004
HYDROCHLORIC ACID	159	0	0	0	159
ISOAMYL ALCOHOL (3-METHYL-1-	0.367	0	0	0	0.367

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BUTANOL)					
ISOBUTYL ACRYLATE {2-PROPENOIC ACID}	0	0	0.000004	0	0.000004
ISOBUTYL ALCOHOL	0.122	0	0.000005	0	0.122
ISOBUTYL ISOBUTYRATE	0	0	0.000005	0	0.000005
ISOBUTYRALDEHYDE	0	0	0.000005	0	0.000005
ISOMERS OF BUTENE	0	0	0	0	0
ISOMERS OF C10H18	10.9	0	0	0	10.9
ISOMERS OF C9H16	1.81	0	0	5.18	7
ISOMERS OF DECANE (C10 PARAFFINS)	35.9	0	0.000005	57.5	93.4
ISOMERS OF DODECANE (C12 PARAFFINS)	4.23	0	0.000006	12.1	16.3
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	0	0	0	0	0
ISOMERS OF HEPTANE	0	0	0.000003	0.0665	0.0665
ISOMERS OF HEXANE	1.66	0.062	0.7	0.524	2.95
ISOMERS OF NONANE (C9 PARAFFIN)	108	0	0.000002	0	108
ISOMERS OF OCTADECANE (C18 PARAFFINS)	0	0	0	0	0
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0.000002	0.00567	0.00568
ISOMERS OF PENTADECANE (C15 PARAFFINS)	0	0	0.000005	0	0.000005
ISOMERS OF PENTANE	14.9	0.558	6.3	4.25	26.1
ISOMERS OF PENTENE	0	0	0	0	0
ISOMERS OF PROPYLBENZENE	4.23	0	0	12.1	16.3
ISOMERS OF TETRADECANE (C14 PARAFFINS)	70.6	0	0	1.3	71.9
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.151	0	0	0.432	0.583
ISOMERS OF UNDECANE (C11 PARAFFINS)	148	0	0	40.2	188
ISOMERS OF XYLENE	2060	24.9	0.000031	171	2250
ISOPRENE	0	0	0.000005	0	0.000005
ISOPROPYL ACETATE	0	0	0.000006	0	0.000006
ISOPROPYL ALCOHOL	41.7	0	0.000009	0	41.7
LACTOL SPIRITS	0	0	0.000004	0	0.000004
LEAD & COMPOUNDS	69.8	0.489	0.0598	0.0844	70.4
MALEIC ANHYDRIDE	0	0	0	0	0
MANGANESE & COMPOUNDS	150	8.32	0.37	0.509	159
MERCURY & COMPOUNDS	9.21	0.019	0.00561	0.00699	9.25
METHANE	1640000	40500	39.2	11600	1690000
METHYL ACETATE	0	0	0.000009	0	0.000009
METHYL ACRYLATE	0	0	0.000004	0	0.000004
METHYL ALCOHOL	0.837	0	0.000018	0	0.837
METHYL AMYL KETONE	30.4	0	0.000006	0	30.4
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	0	0	0.000005	0	0.000005
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	89.9	0	0.000015	47.5	137

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYL FORMATE	0	0	0.000002	0	0.000002
METHYL HEXANE	19.2	0	0	54.9	74.1
METHYL ISOBUTYL KETONE	27.8	0	0.000007	0	27.8
METHYL METHACRYLATE	0	0	0.000006	0	0.000006
METHYL PALMITATE {METHYL HEXADECANOATE}	0	0	0.000001	0	0.000001
METHYL PROPYLCYCLOHEXANES	3.93	0	0	11.2	15.2
METHYL STEARATE {METHYL OCTADECANOATE}	0	0	0.000001	0	0.000001
METHYL STYRENE (MIXED) {VINYL TOLUENE}	0	0	0.000005	0	0.000005
METHYL T-BUTYL ETHER (MTBE)	0	0	0.000004	0	0.000004
METHYLCYCLOHEXANE	89.4	0	0.000001	79.1	168
METHYLCYCLOPENTANE	0	0	0.000003	0	0.000003
METHYLDECALINS	0.454	0	0	1.3	1.75
METHYLDECANES	6.8	0	0	19.4	26.2
METHYLDECENES	1.21	0	0	3.46	4.67
METHYLDODECANES	0.302	0	0	0.864	1.17
METHYLENE BROMIDE	0	0	0	0	0
METHYLHEXENES	1.81	0	0	5.18	7
METHYLNAPHTHALENES	0	0	0	0	0
METHYLNONANE	11.3	0	0	32.4	43.7
METHYLNONENES	0.454	0	0	1.3	1.75
METHYLOCTANES	11	0	0	31.5	42.6
METHYLPENTANE	0	0	0	0	0
METHYLPROPYLNONANE	0.454	0	0	1.3	1.75
M-ETHYLTOLUENE	1.84	0.63	0	0.0359	2.5
METHYLUDECANE	0.454	0	0	1.3	1.75
MINERAL SPIRITS	0	0	0.000008	0	0.000008
MOLYBDENUM	0.312	0.0103	0.0023	0.00311	0.328
MYRCENE	0	0	0	0	0
NAPHTHA	0	0	0.000006	0	0.000006
NAPHTHALENE	0.454	0	0.000002	1.3	1.75
N-BUTANE	14.9	0.558	6.3	5.05	26.9
N-BUTYL ACETATE	228	0	0.000007	0	228
N-BUTYL ACRYLATE	0	0	0.000005	0	0.000005
N-BUTYL ALCOHOL	19	0	0.000009	0	19
N-BUTYL BENZOATE	0	0	0.000002	0	0.000002
N-BUTYLBENZENE	0	0	0	0	0
N-DECANE	0	0	0.000007	0	0.000007
N-DODECANE	0.126	0.0431	0.000009	0.00246	0.171
N-HEPTADECANE	0.00152	0.000525	0	0.000029	0.00207
N-HEPTANE	177	0	0.000018	365	541
N-HEXANE	0.605	0	0.000017	2.03	2.64
NICKEL & COMPOUNDS	69.1	0.36	0.0174	0.324	69.8
NITRIC OXIDE	13000	30.8	347	352	13800
NITROBENZENE	0	0	0.000004	0	0.000004
NITROGEN DIOXIDE	1050	2.48	28	28.4	1110

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NITROUS OXIDE	27.5	0.115	1.3	1.65	30.5
N-NONANE	13.2	0	0.000001	37.6	50.7
N-OCTANE	0	0	0.000002	0	0.000002
NONADIENE	0.302	0	0	0.864	1.17
NONENONE	0	0	0	0	0
N-PENTADECANE	0.0214	0.00735	0.000002	0.000419	0.0292
N-PENTANE	9.96	0.372	4.2	2.87	17.4
N-PENTYLCYCLOHEXANE	0.756	0	0	2.16	2.92
N-PROPYL ALCOHOL	0	0	0.000005	0	0.000005
N-PROPYLBENZENE	1.69	0.322	0	2.18	4.19
N-TETRADECANE	0.0612	0.021	0	0.0012	0.0834
N-TRIDECANE	0.0842	0.0289	0.000001	0.00165	0.115
N-UNDECANE	6.18	0.0142	0.000001	0.000808	6.2
OCTAMETHYLCYCLOTETRASILOXANE	0	0	0	0	0
O-DICHLOROBENZENE	0	0	0.000005	0	0.000005
O-ETHYLTOLUENE	1.58	0.541	0	0.0309	2.15
O-TOLUALDEHYDE	0	0	0	0	0
OXIDES OF NITROGEN	21000	49.6	560	568	22200
PALMITIC ACID {N-HEXADECANOIC ACID}	0	0	0.000002	0	0.000002
PARAFFINS (C16-C34)	0	0	0	0	0
PARTICULATE MATTER ≤ 10 µm	89100	3250	131	384	92900
PARTICULATE MATTER ≤ 2.5 µm	22500	532	63.9	293	23400
P-DICHLOROBENZENE	165	4.07	0.000009	1.16	170
PENTAMETHYLBENZENE	0.454	0	0	1.3	1.75
PERCHLOROETHYLENE	1260	28.5	0.000009	328	1620
P-ETHYLTOLUENE	3.03	1.04	0	0.0592	4.12
PHENANTHRENE	0	0	0	0	0
PHENOL (CARBOLIC ACID)	0	0	0.000005	0	0.000005
PHENYL ISOCYANATE	0	0	0.000001	0	0.000001
PHTHALIC ANHYDRIDE	1.86	0	0.000002	0	1.86
PIPERYLENE {1,3-PENTADIENE} (MIXED ISOMERS)	0	0	0.000005	0	0.000005
POLYCHLORINATED DIOXINS AND FURANS	0.00000468	5.89x10 ⁻¹⁰	6.65x10 ⁻⁰⁹	7.41x10 ⁻⁰⁹	0.0000047
POLYCYCLIC AROMATIC HYDROCARBONS	0.342	0.000341	0.00385	0.00688	0.353
PROPANE	6.64	0.248	2.8	2.04	11.7
PROPENYLCYCLOHEXANE	0.302	0	0	0.864	1.17
PROPIONALDEHYDE	0	0	0.000005	0	0.000005
PROPIONIC ACID	0	0	0.000005	0	0.000005
PROPYL ACETATE	1.88	0	0.000006	0	1.88
PROPYLCYCLOHEXANE	0	0	0	0	0
PROPYLENE	0.337	0	0.000018	0	0.337
PROPYLENE DICHLORIDE	0	0	0	0	0
PROPYLENE GLYCOL	0	0	0.000004	0	0.000004
PROPYLENE OXIDE	0	0	0.000006	0	0.000006
P-TOLUALDEHYDE {4-	2.57	0	0	0	2.57

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLBENZALDEHYDE}					
PYRENE	0	0	0	0	0
SEC-BUTYL ALCOHOL	10.6	0	0.000004	30.2	40.8
SELENIUM & COMPOUNDS	22.2	0.0509	0.00105	0.00394	22.3
STYRENE (ETHENYLBENZENE)	0	0	0.000015	0	0.000015
SUBSTITUTED C9 ESTER (C12)	0	0	0.000001	0	0.000001
SULFUR DIOXIDE	1290	0.259	2.93	996	2290
SULFUR TRIOXIDE	611	0	0	12.7	624
SULFURIC ACID	0	0	0.00000855	0	0.00000855
TERT-BUTYL ALCOHOL	0	0	0.000005	0	0.000005
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	0	0	0	0	0
TETRAMETHYLCYCLOPENTANE	1.06	0	0	3.02	4.08
TETRAMETHYLTHIOUREA	0.151	0	0	0.432	0.583
TIN & COMPOUNDS	35.9	0	0	0	35.9
TOLUENE	4060	16.5	1.4	364	4440
TOTAL AROMATIC AMINES	0	0	0	0	0
TOTAL C2-C5 ALDEHYDES	0	0	0.000001	0	0.000001
TOTAL SUSPENDED PARTICULATE	242000	8850	503	885	252000
TOTAL VOLATILE ORGANIC COMPOUNDS	20700	183	30.8	4400	25300
TRANS-2-BUTENE	0	0	0	0	0
TRANS-2-PENTENE	0	0	0	0	0
TRICHLOROBENZENES (MIXED)	0	0	0	0	0
TRICHLOROETHYLENE (TCE)	483	4.07	0.000005	912	1400
TRICHLOROFLUOROMETHANE	0	0	0.000007	0	0.000007
TRICHLOROTRIFLUOROETHANE-F113	62	0	0.000005	177	239
TRIFLUOROMETHANE (F-23)	0	0	0.000003	0	0.000003
TRIMETHYLBENZENES	8.86	0	0.000001	13.4	22.3
TRIMETHYLCYCLOHEXANES	29.6	0	0	10.4	39.9
TRIMETHYLCYCLOPENTANE	6.47	0	0	15.6	22
TRIMETHYLDECENES	0	0	0	0	0
TRIMETHYLFLUROSILANE	0	0	0.000009	0	0.000009
TRIMETHYLHEPTANES	3.33	0	0	9.5	12.8
TRIMETHYLOCTANES	0.756	0	0	2.16	2.92
VANADIUM & COMPOUNDS	26.4	0.00411	0.0295	0.00133	26.4
VINYL ACETATE	0	0	0.000007	0	0.000007
VINYL CHLORIDE MONOMER	0	0	0.000005	0	0.000005
ZINC & COMPOUNDS	68.5	2.65	0.617	0.826	72.6

A.49 OTHER LAND-BASED EXTRACTION

Table A-49: Annual emissions from other land-based extraction

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	592	0	0	0	592
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.00201	0	0	0	0.00201

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	1.72	0.149	0	0.116	1.98
1,2,4-TRIMETHYLBENZENE	0.921	0.0799	0	0.0621	1.06
1,2-DICHLOROETHANE	0.00151	0	0	0	0.00151
1,3,5-TRIMETHYLBENZENE	1.29	0.112	0	0.0872	1.49
1,3-BUTADIENE	0	0	0	0	0
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.000502	0	0	0	0.000502
1,4-DIOXANE	0.00101	0	0	0	0.00101
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.266	0	0	0	0.266
1-ETHYL-2-METHYLCYCLOPENTANE	0.266	0	0	0	0.266
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2-METHYLPROPANE; ISOBUTANE	0.207	0	0	0	0.207
ACETALDEHYDE	0.00654	0	0	0	0.00654
ACETONE	37.2	0	0	0	37.2
AMMONIA (TOTAL)	0.00943	1.53	0	0	1.54
ANTIMONY & COMPOUNDS	323	6.17	0	8.54	338
ARSENIC & COMPOUNDS	62	1.15	0	1.61	64.8
BENZENE	26.7	7.95	0	0	34.6
BERYLLIUM & COMPOUNDS	0.143	0.00399	0	0.0141	0.161
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.797	0	0	0	0.797
BORON & COMPOUNDS	8.83	0.156	0	0.456	9.44
BUTYLBENZENE ISOMERS	10.9	0	0	0	10.9
BUTYLCYCLOHEXANE	4.25	0	0	0	4.25
C10 OLEFINS	9.3	0	0	0	9.3
C11 OLEFINS	2.39	0	0	0	2.39
C12 OLEFINS	0.531	0	0	0	0.531
C8 OLEFINS	8.24	0	0	0	8.24
CADMIUM & COMPOUNDS	51.9	0.995	0	1.37	54.3
CARBON DIOXIDE	2350	447000	0	0	449000
CARBON MONOXIDE	5020	264	0	0	5280
CARBON TETRACHLORIDE	0.00302	0	0	0	0.00302
CHLOROBENZENE	0.000502	0	0	0	0.000502
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	0.345	0	0	0	0.345
CHROMIUM (III) COMPOUNDS	77	1.26	0	1.92	80.2
CHROMIUM (VI) COMPOUNDS	20.3	0.389	0	0.537	21.2
COBALT & COMPOUNDS	23.2	0.41	0	0.554	24.2
COPPER & COMPOUNDS	665	12.8	0	18.3	697
CUMENE (1-METHYLETHYLBENZENE)	1.41	0.0535	0	0.0416	1.51
CYCLOHEXANE	2.66	1.97	0	0	4.63
DECALINS (MIXED CIS,TRANS)	1.59	0	0	0	1.59
DI(2-ETHYLHEXYL)PHTHALATE	0.00151	0	0	0	0.00151
DIBROMOETHANE	0.00101	0	0	0	0.00101

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DICHLOROMETHANE {METHYLENE CHLORIDE}	109	0	0	0	109
DIETHYLCYCLOHEXANE	2.13	0	0	0	2.13
DIMETHYLBENZYLALCOHOL	0.531	0	0	0	0.531
DIMETHYLCYCLOBUTANONE	1.59	0	0	0	1.59
DIMETHYLCYCLOHEXANES	2.92	0	0	0	2.92
DIMETHYLCYCLOPENTANE	18.9	0	0	0	18.9
DIMETHYLHEPTANES	0.531	0	0	0	0.531
DIMETHYLHEXANES	8.77	0	0	0	8.77
DIMETHYLNONANES	5.58	0	0	0	5.58
DIMETHYLOCTANES	7.97	0	0	0	7.97
ETHANE	0.0602	0	0	0	0.0602
ETHYL ETHER	21.3	0	0	0	21.3
ETHYL PROPYLCYCLOHEXANES	1.59	0	0	0	1.59
ETHYLBENZENE	0.0722	0.00627	0	0.00487	0.0834
ETHYLCYCLOHEXANE	2.13	0	0	0	2.13
ETHYLDIMETHYLPHENOL	1.59	0	0	0	1.59
ETHYLHEPTENE	0.797	0	0	0	0.797
ETHYLHEXANE	1.33	0	0	0	1.33
ETHYLMETHYLCYCLOHEXANES	18.3	0	0	0	18.3
ETHYLMETHYLOCTANE	1.86	0	0	0	1.86
ETHYLOCTANE	0.531	0	0	0	0.531
ETHYLOCTENES	1.06	0	0	0	1.06
FLUORIDE COMPOUNDS	86.1	1.21	0	2.97	90.2
FORMALDEHYDE	0.0554	15.9	0	0	16
HEXADECANE	0.00367	0.000318	0	0.000247	0.00424
ISOMERS OF C9H16	3.19	0	0	0	3.19
ISOMERS OF DECANE (C10 PARAFFINS)	35.3	0	0	0	35.3
ISOMERS OF DODECANE (C12 PARAFFINS)	7.44	0	0	0	7.44
ISOMERS OF HEPTANE	0.112	0	0	0	0.112
ISOMERS OF HEXANE	0.116	0	0	0	0.116
ISOMERS OF OCTANE (C8 PARAFFIN)	0.00892	0	0	0	0.00892
ISOMERS OF PENTANE	0.271	0	0	0	0.271
ISOMERS OF PROPYLBENZENE	7.44	0	0	0	7.44
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.797	0	0	0	0.797
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.266	0	0	0	0.266
ISOMERS OF UNDECANE (C11 PARAFFINS)	24.7	0	0	0	24.7
ISOMERS OF XYLENE	102	0.0958	0	0.0745	103
LEAD & COMPOUNDS	532	10.1	0	13.9	556
MANGANESE & COMPOUNDS	4070	74.5	0	105	4250
MERCURY & COMPOUNDS	55.8	1.07	0	1.48	58.3
METHANE	2.85	70.3	0	0	73.2
METHYL ETHYL KETONE (MEK)	29.2	0	0	0	29.2

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(2-BUTANONE)					
METHYL HEXANE	33.7	0	0	0	33.7
METHYL PROPYLCYCLOHEXANES	6.91	0	0	0	6.91
METHYLCYCLOHEXANE	48.6	0	0	0	48.6
METHYLDECALINS	0.797	0	0	0	0.797
METHYLDECANES	12	0	0	0	12
METHYLDECENES	2.13	0	0	0	2.13
METHYLDODECANES	0.531	0	0	0	0.531
METHYLHEXENES	3.19	0	0	0	3.19
METHYLNONANE	19.9	0	0	0	19.9
METHYLNONENES	0.797	0	0	0	0.797
METHYLOCTANES	19.4	0	0	0	19.4
METHYLPROPYLNONANE	0.797	0	0	0	0.797
M-ETHYLTOLUENE	1.47	0.127	0	0.0991	1.7
METHYLUNDECANE	0.797	0	0	0	0.797
MOLYBDENUM	39.8	0.765	0	1.05	41.6
NAPHTHALENE	0.797	0	0	0	0.797
N-BUTANE	0.485	0	0	0	0.485
N-DODECANE	0.1	0.00871	0	0.00677	0.116
N-HEPTADECANE	0.00122	0.000106	0	0.000082	0.00141
N-HEPTANE	224	0	0	0	224
N-HEXANE	1.17	1.97	0	0	3.14
NICKEL & COMPOUNDS	192	3.63	0	5.36	201
NITRIC OXIDE	1.19	326	0	0	328
NITROGEN DIOXIDE	0.096	26.4	0	0	26.5
NITROUS OXIDE	0.00445	4.85	0	0	4.86
N-NONANE	23.1	0	0	0	23.1
NONADIENE	0.531	0	0	0	0.531
N-PENTADECANE	0.0171	0.00149	0	0.00116	0.0198
N-PENTANE	0.24	0	0	0	0.24
N-PENTYLCYCLOHEXANE	1.33	0	0	0	1.33
N-PROPYLBENZENE	2.08	0.0651	0	0.0506	2.19
N-TETRADECANE	0.049	0.00425	0	0.0033	0.0565
N-TRIDECANE	0.0673	0.00584	0	0.00454	0.0777
N-UNDECANE	0.0331	0.00287	0	0.00223	0.0382
O-DICHLOROBENZENE	0.00151	0	0	0	0.00151
O-ETHYLTOLUENE	1.26	0.109	0	0.0852	1.46
OXIDES OF NITROGEN	1.92	529	0	0	531
PARTICULATE MATTER ≤ 10 µm	1300000	25500	0	37000	1360000
PARTICULATE MATTER ≤ 2.5 µm	145000	2860	0	4190	152000
P-DICHLOROBENZENE	0.0523	0	0	0	0.0523
PENTAMETHYLBENZENE	0.797	0	0	0	0.797
PERCHLOROETHYLENE	197	0	0	0	197
P-ETHYLTOLUENE	2.42	0.21	0	0.163	2.79
PHENOL (CARBOLIC ACID)	0.0126	0	0	0	0.0126
POLYCHLORINATED DIOXINS AND FURANS	2.28x10 ⁻¹¹	9.76x10 ⁻¹⁰	0	0	9.99x10 ⁻¹⁰

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
POLYCYCLIC AROMATIC HYDROCARBONS	0.0000132	0.00219	0	0	0.0022
PROPANE	0.369	0	0	0	0.369
PROPENYL CYCLOHEXANE	0.531	0	0	0	0.531
SEC-BUTYL ALCOHOL	18.6	0	0	0	18.6
SELENIUM & COMPOUNDS	14.8	0.254	0	0.337	15.4
STYRENE (ETHENYLBENZENE)	0.000502	0	0	0	0.000502
SULFUR DIOXIDE	0.01	3.85	0	0	3.86
TETRAMETHYLCYCLOPENTANE	1.86	0	0	0	1.86
TETRAMETHYLTHIOUREA	0.266	0	0	0	0.266
TOLUENE	221	3.99	0	0.0229	225
TOTAL SUSPENDED PARTICULATE	4460000	83800	0	124000	4670000
TOTAL VOLATILE ORGANIC COMPOUNDS	2670	32.8	0	0.826	2710
TRICHLOROETHYLENE (TCE)	560	0	0	0	560
TRICHLOROTRIFLUOROETHANE-F113	109	0	0	0	109
TRIMETHYLBENZENES	8.24	0	0	0	8.24
TRIMETHYLCYCLOHEXANES	6.38	0	0	0	6.38
TRIMETHYLCYCLOPENTANE	9.56	0	0	0	9.56
TRIMETHYLHEPTANES	5.84	0	0	0	5.84
TRIMETHYLOCTANES	1.33	0	0	0	1.33
VANADIUM & COMPOUNDS	307	5.87	0	8.11	321
VINYL CHLORIDE MONOMER	0.00201	0	0	0	0.00201
ZINC & COMPOUNDS	1530	29.5	0	42.6	1600

A.50 PAINTS/POLISHES/ADHESIVES PRODUCTION

Table A-50: Annual emissions from paints/polishes/adhesives production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.169	0	0	0	0.169
(2-METHYLBUTYL)CYCLOHEXANE	0.203	0	0	0	0.203
1,1,1-TRICHLOROETHANE	42.9	0	0	0	42.9
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.0677	0	0	0	0.0677
1,1,2-TRIMETHYLCYCLOHEXANE	0.102	0	0	0	0.102
1,1,2-TRIMETHYLCYCLOPENTANE	0.339	0	0	0	0.339
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.271	0	0	0	0.271
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	1.05	0	0	0	1.05
1,1,3-TRIMETHYLCYCLOPENTANE	1.02	0	0	0	1.02
1,1,4-TRIMETHYLCYCLOHEXANE	0.237	0	0	0	0.237
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.377	0	0	0	0.377
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.102	0	0	0	0.102
1,1-DIMETHYLCYCLOHEXANE	0.406	0	0	0	0.406

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1-DIMETHYLCYCLOPENTANE	0.135	0	0	0	0.135
1,1-METHYLETHYLCYCLOPENTANE	0.102	0	0	0	0.102
1,2,3,5-TETRAMETHYLBENZENE	0.44	0	0	0	0.44
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	1.08	0	0	0	1.08
1,2,3-TRIMETHYLCYCLOHEXANE	0.61	0	0	0	0.61
1,2,4,5-TETRAMETHYLBENZENE	0.339	0	0	0	0.339
1,2,4-TRIMETHYLBENZENE	7.75	0	0	0	7.75
1,2,4-TRIMETHYLCYCLOPENTENE	2.1	0	0	0	2.1
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	0.937	0	0	0	0.937
1,2-DICHLOROETHANE	34	0	0	0	34
1,2-DICHLOROPROPANE	1.07	0	0	0	1.07
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.203	0	0	0	0.203
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.237	0	0	0	0.237
1,2-DIMETHYL-4-ETHYLBENZENE	0.508	0	0	0	0.508
1,2-DIMETHYLCYCLOPENTANE	1.79	0	0	0	1.79
1,3,5-TRIETHYL CYCLOHEXANE	0.102	0	0	0	0.102
1,3,5-TRIMETHYLBENZENE	5.33	0	0	0	5.33
1,3-BUTADIENE	0.0042	0	0	0	0.0042
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.228	0	0	0	0.228
1,3-DIETHYL-5-METHYLCYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0.169	0	0	0	0.169
1,3-DIMETHYL-2-ETHYLBENZENE	0.406	0	0	0	0.406
1,3-DIMETHYL-4-ETHYLBENZENE	0.203	0	0	0	0.203
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.0677	0	0	0	0.0677
1,3-DIMETHYL-5-ETHYLBENZENE	0.406	0	0	0	0.406
1,3-DIPROPYL-5-ETHYLCYCLOHEXANE	0	0	0	0	0
1,4-BUTANEDIOL	1340	0	0	0	1340
1,4-DIETHYL-CYCLOHEXANE	383	0	0	0	383
1,4-DIMETHYL-2-ETHYLBENZENE	0.305	0	0	0	0.305
1,4-DIOXANE	0.189	0	0	0	0.189
1-BUTENE	4.96	0	0	0	4.96
1-CHLOROBUTANE	0.0637	0	0	0	0.0637
1-ETHOXY-2-PROPANOL	0.0421	0	0	0	0.0421
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.102	0	0	0	0.102
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0.102	0	0	0	0.102
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0.0677	0	0	0	0.0677
1-ETHYL-2-PROPYL CYCLOHEXANE	1.73	0	0	0	1.73
1-ETHYL-4-ISOPROPYLBENZENE	0.237	0	0	0	0.237
1-HEXENE	1.07	0	0	0	1.07

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-METHYL INDAN	0.643	0	0	0	0.643
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-ISOPROPYLCYCLOHEXANE	0.474	0	0	0	0.474
1-METHYL-3-BUTYLBENZENE	0.0339	0	0	0	0.0339
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0.0339	0	0	0	0.0339
1-METHYL-3-ISOPROPYLBENZENE	0.643	0	0	0	0.643
1-METHYL-3-ISOPROPYLCYCLOHEXANE	0.542	0	0	0	0.542
1-METHYL-4-ISOBUTYLBENZENE	0.0677	0	0	0	0.0677
1-METHYL-4-ISOPROPYLBENZENE	0.0677	0	0	0	0.0677
1-METHYL-4-ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0.779	0	0	0	0.779
1-METHYL-4-PENTYL CYCLOHEXANE	0.102	0	0	0	0.102
1-PENTENE	0.268	0	0	0	0.268
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	400	0	0	0	400
2,2,3,3-TETRAMETHYLPENTANE	0.0339	0	0	0	0.0339
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXAN	157	0	0	0	157
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.169	0	0	0	0.169
2,2-DIMETHYLHEPTANE	0.0339	0	0	0	0.0339
2,3,4-TRIMETHYLPENTANE	0.135	0	0	0	0.135
2,3,5-TRIMETHYLHEPTANE	0.0339	0	0	0	0.0339
2,3-DIMETHYLHEPTANE	0.0339	0	0	0	0.0339
2,3-DIMETHYLHEXANE	0.474	0	0	0	0.474
2,3-DIMETHYLOCTANE	0.745	0	0	0	0.745
2,3-DIMETHYLPENTANE	0.237	0	0	0	0.237
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	0.474	0	0	0	0.474
2,4-DIMETHYLHEXANE	59.8	0	0	0	59.8
2,4-DIMETHYLNONANE	0.0677	0	0	0	0.0677
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	14.2	0	0	0	14.2
2,5-DIMETHYLHEPTANE	0.677	0	0	0	0.677
2,5-DIMETHYLHEXANE	0.0339	0	0	0	0.0339
2,5-DIMETHYLNONANE	0.576	0	0	0	0.576
2,5-DIMETHYLOCTANE	0.0339	0	0	0	0.0339
2,6-DIMETHYLDECANE	0.406	0	0	0	0.406
2,6-DIMETHYLHEPTANE	1.19	0	0	0	1.19
2,6-DIMETHYLNONANE	2.27	0	0	0	2.27
2,6-DIMETHYLOCTANE	3.59	0	0	0	3.59
2,6-DIMETHYLUDECANE	0.135	0	0	0	0.135
2,7-DIMETHYLDECANE	0.0339	0	0	0	0.0339
2,7-DIMETHYLOCTANE	0.102	0	0	0	0.102
2-BUTYLTETRAHYDROFURAN	0.00432	0	0	0	0.00432

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-ETHYL-1,3-DIMETHYLCYCLOHEXANE	0.169	0	0	0	0.169
2-ETHYL-1-HEXANOL	0.0291	0	0	0	0.0291
2-METHYL-3-ETHYLPENTANE	0.135	0	0	0	0.135
2-METHYL-3-HEXANONE	14.5	0	0	0	14.5
2-METHYL-BUTANE	0.669	0	0	0	0.669
2-METHYLDECALIN	0.203	0	0	0	0.203
2-METHYLDECANE	1.29	0	0	0	1.29
2-METHYLHEPTANE	3.45	0	0	0	3.45
2-METHYLHEXANE	2.03	0	0	0	2.03
2-METHYLNAPHTHALENE	0.0339	0	0	0	0.0339
2-METHYLNONANE	0.88	0	0	0	0.88
2-METHYLOCTANE	0.542	0	0	0	0.542
2-METHYLPROPANE; ISOBUTANE	0.957	0	0	0	0.957
2-METHYLUNDECANE {ISODODECANE}	0.474	0	0	0	0.474
3-(CHLOROMETHYL)-HEPTANE	0.0179	0	0	0	0.0179
3,3,5-TRIMETHYLHEPTANE	0.0677	0	0	0	0.0677
3,4-DIMETHYLHEXANE	0.237	0	0	0	0.237
3,4-DIMETHYLOCTANE	0.169	0	0	0	0.169
3,5-DIMETHYLNONANE	0.0339	0	0	0	0.0339
3,5-DIMETHYLOCTANE	0.169	0	0	0	0.169
3,6-DIMETHYL DECANE	0.135	0	0	0	0.135
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.203	0	0	0	0.203
3,7-DIMETHYLNONANE	0.677	0	0	0	0.677
3-ETHYL-2-METHYLHEPTANE	0.271	0	0	0	0.271
3-ETHYL-3-METHYLOCTANE	0.203	0	0	0	0.203
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.0677	0	0	0	0.0677
3-ETHYLHEPTANE	0.237	0	0	0	0.237
3-ETHYLHEXANE	0.474	0	0	0	0.474
3-ETHYLOCTANE	0.169	0	0	0	0.169
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	1.19	0	0	0	1.19
3-METHYLHEPTANE	2.17	0	0	0	2.17
3-METHYLHEXANE	0.237	0	0	0	0.237
3-METHYLNONANE	0.508	0	0	0	0.508
3-METHYLOCTANE	0.61	0	0	0	0.61
3-METHYLUNDECANE	0.271	0	0	0	0.271
3-PHENYLPENTANE	0.271	0	0	0	0.271
4,5-DIMETHYLDECANE	0.0677	0	0	0	0.0677
4,5-DIMETHYLOCTANE	0.271	0	0	0	0.271
4-ETHYLDECANE	0.237	0	0	0	0.237
4-METHYLDECANE	1.02	0	0	0	1.02
4-METHYLHEPTANE	0.948	0	0	0	0.948
4-METHYLINDAN	0.135	0	0	0	0.135

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYLNONANE	1.49	0	0	0	1.49
4-METHYLOCTANE	0.745	0	0	0	0.745
4-METHYLUNDECANE	0.169	0	0	0	0.169
5-ISOPROPYLNONANE	0.169	0	0	0	0.169
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.982	0	0	0	0.982
5-METHYLINDAN	0.813	0	0	0	0.813
5-METHYLUNDECANE	0.237	0	0	0	0.237
6-ETHYL-2-METHYLOCTANE	0.271	0	0	0	0.271
6-METHYLUNDECANE	0.271	0	0	0	0.271
ACETALDEHYDE	26.1	0	0	0	26.1
ACETIC ACID	25.8	0	0	0	25.8
ACETIC ANHYDRIDE	1.2	0	0	0	1.2
ACETONE	1870	0	0	0	1870
ACETYLENE	28.7	0	0	0	28.7
ACROLEIN (2-PROPENAL)	24	0	0	0	24
ACRYLONITRILE	12.7	0	0	0	12.7
AMMONIA (TOTAL)	28.4	0	0	0	28.4
ANTIMONY & COMPOUNDS	0.0263	0	0	0	0.0263
ARSENIC & COMPOUNDS	0.0215	0	0	0	0.0215
BENZALDEHYDE	0.937	0	0	0	0.937
BENZENE	130	0	0	0	130
BENZOIC ACID	2.01	0	0	0	2.01
BERYLLIUM & COMPOUNDS	0.00099	0	0	0	0.00099
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	934	0	0	0	934
BUTYLCYCLOHEXANE	5.54	0	0	0	5.54
BUTYRALDEHYDE	0.134	0	0	0	0.134
C10H12	376	0	0	0	376
C7 CYCLOPARAFFINS	23.4	0	0	0	23.4
C8 CYCLOPARAFFINS	0.402	0	0	0	0.402
C8 INTERNAL ALKENES	0.373	0	0	0	0.373
C9 CYCLOPARAFFINS	158	0	0	0	158
CADMIUM & COMPOUNDS	0.0297	0	0	0	0.0297
CARBON DIOXIDE	3110000	0	0	0	3110000
CARBON DISULFIDE	5.36	0	0	0	5.36
CARBON MONOXIDE	8170	0	0	0	8170
CARBON TETRACHLORIDE	4.58	0	0	0	4.58
CARBONYL SULFIDE	1.74	0	0	0	1.74
CHLOROBENZENE	40.5	0	0	0	40.5
CHLORODIFLUOROMETHANE (F-22)	9.64	0	0	0	9.64
CHLOROETHANE (ETHYL CHLORIDE)	17.2	0	0	0	17.2
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	9.77	0	0	0	9.77
CHLOROPENTAFLUOROETHANE (F115)	0.937	0	0	0	0.937
CHLOROPRENE (2-CHLORO-1,3-	20.3	0	0	0	20.3

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BUTADIENE)					
CHLOROTRIFLUOROMETHANE (F-13)	3.21	0	0	0	3.21
CHROMIUM (III) COMPOUNDS	0.0402	0	0	0	0.0402
CHROMIUM (VI) COMPOUNDS	0.00378	0	0	0	0.00378
CIS,CIS-1,2,4- TRIMETHYLCYCLOHEXANE	0.203	0	0	0	0.203
CIS,TRANS-1,2,3- TRIMETHYLCYCLOHEXANE	0.169	0	0	0	0.169
CIS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	0.44	0	0	0	0.44
CIS-1,2-DIMETHYLCYCLOHEXANE	0.135	0	0	0	0.135
CIS-1,3-DIMETHYLCYCLOHEXANE	3.89	0	0	0	3.89
CIS-1,3-DIMETHYLCYCLOPENTANE	0.643	0	0	0	0.643
CIS-1,4-DIMETHYLCYCLOHEXANE	0.237	0	0	0	0.237
CIS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0.508	0	0	0	0.508
CIS-1,CIS-3,5- TRIMETHYLCYCLOHEXANE	1.08	0	0	0	1.08
CIS-1,TRANS-2,3- TRIMETHYLCYCLOPENTANE	0.542	0	0	0	0.542
CIS-1-ETHYL-2- METHYLCYCLOHEXANE	0.0677	0	0	0	0.0677
CIS-1-ETHYL-2- METHYLCYCLOPENTANE	0.0339	0	0	0	0.0339
CIS-1-ETHYL-3- METHYLCYCLOHEXANE	0.677	0	0	0	0.677
CIS-1-METHYL-3- ETHYLCYCLOPENTANE	0.135	0	0	0	0.135
CIS-BICYCLO[3.3.0]OCTANE	0.0677	0	0	0	0.0677
CIS-BICYCLO[4.3.0]NONANE	0.237	0	0	0	0.237
CIS-DECALIN	0.0677	0	0	0	0.0677
COBALT & COMPOUNDS	0.0107	0	0	0	0.0107
COPPER & COMPOUNDS	0.0789	0	0	0	0.0789
CUMENE (1-METHYLETHYLBENZENE)	0.408	0	0	0	0.408
CYCLOHEXANE	16.9	0	0	0	16.9
CYCLOHEXANOL	2.14	0	0	0	2.14
CYCLOHEXANONE	2.14	0	0	0	2.14
DI(2-ETHYLHEXYL)PHTHALATE	0.283	0	0	0	0.283
DI(PROPYLENE GLYCOL) METHYL ETHER	680	0	0	0	680
DIACETONE ALCOHOL (4-HYDROXY- 4-METHYL-2-PENTANONE)	0.0225	0	0	0	0.0225
DIBROMOETHANE	0.189	0	0	0	0.189
DIBUTYL ETHER	0.00691	0	0	0	0.00691
DICHLOROBENZENES	1.2	0	0	0	1.2
DICHLORODIFLUOROMETHANE (F-12)	21.3	0	0	0	21.3
DICHLOROMETHANE {METHYLENE CHLORIDE}	44.5	0	0	0	44.5
DIETHYLBENZENES	0.669	0	0	0	0.669

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	436	0	0	0	436
DIMETHOXYMETHANE (METHYLAL)	5.86	0	0	0	5.86
DIMETHYL ADIPATE (DIMETHYLHEXANEDIOATE)	1580	0	0	0	1580
DIMETHYL ETHER	56.5	0	0	0	56.5
DIMETHYL SUCCINATE (DIMETHYL BUTANEOATE)	3.54	0	0	0	3.54
DIMETHYLAMINE	280	0	0	0	280
DIMETHYLCYCLOHEXANES	33.2	0	0	0	33.2
DIMETHYLHEPTANES	5.53	0	0	0	5.53
ETHANE	18.5	0	0	0	18.5
ETHYL ACETATE	5330	0	0	0	5330
ETHYL ACRYLATE	7.23	0	0	0	7.23
ETHYL ALCOHOL	25200	0	0	0	25200
ETHYL ETHER	7.63	0	0	0	7.63
ETHYL ISOPROPYL ETHER	0.15	0	0	0	0.15
ETHYLBENZENE	155	0	0	0	155
ETHYLCYCLOHEXANE	12.9	0	0	0	12.9
ETHYLCYCLOPENTANE	1.43	0	0	0	1.43
ETHYLENE	111	0	0	0	111
ETHYLENE GLYCOL	9.87	0	0	0	9.87
ETHYLENE OXIDE	0.937	0	0	0	0.937
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.776	0	0	0	0.776
FORMALDEHYDE	160	0	0	0	160
FORMIC ACID	1.34	0	0	0	1.34
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0.000211	0	0	0	0.000211
HEXAFLUOROETHANE {F-116}	24.1	0	0	0	24.1
HEXAMETHYLENEDIAMINE	20.3	0	0	0	20.3
HEXYLCYCLOHEXANE	0.102	0	0	0	0.102
HEXYLCYCLOPENTANE	0.169	0	0	0	0.169
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	0.0412	0	0	0	0.0412
INDAN	0.305	0	0	0	0.305
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0.474	0	0	0	0.474
ISOMERS OF BUTENE	1.74	0	0	0	1.74
ISOMERS OF DECANE (C10 PARAFFINS)	1830	0	0	0	1830
ISOMERS OF HEPTANE	0.0125	0	0	0	0.0125
ISOMERS OF HEXANE	4.77	0	0	0	4.77
ISOMERS OF NONANE (C9 PARAFFIN)	859	0	0	0	859
ISOMERS OF OCTANE (C8 PARAFFIN)	21.1	0	0	0	21.1
ISOMERS OF PENTANE	6740	0	0	0	6740
ISOMERS OF TETRADECANE (C14 PARAFFINS)	132	0	0	0	132
ISOMERS OF UNDECANE (C11	332	0	0	0	332

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARAFFINS)					
ISOMERS OF XYLENE	1180	0	0	0	1180
ISOPROPYL ALCOHOL	904	0	0	0	904
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.474	0	0	0	0.474
LEAD & COMPOUNDS	0.0668	0	0	0	0.0668
MALEIC ANHYDRIDE	4.02	0	0	0	4.02
MANGANESE & COMPOUNDS	1.67	0	0	0	1.67
MERCURY & COMPOUNDS	0.0103	0	0	0	0.0103
METHANE	15600	0	0	0	15600
METHYL ACETATE	18.5	0	0	0	18.5
METHYL ALCOHOL	41.4	0	0	0	41.4
METHYL AMYL KETONE	4.6	0	0	0	4.6
METHYL BROMIDE	60.7	0	0	0	60.7
METHYL CHLORIDE	0.15	0	0	0	0.15
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	5970	0	0	0	5970
METHYL FORMATE	13.3	0	0	0	13.3
METHYL ISOBUTYL KETONE	492	0	0	0	492
METHYL METHACRYLATE	5.76	0	0	0	5.76
METHYL PALMITATE {METHYL HEXADECANOATE}	0.0104	0	0	0	0.0104
METHYLCYCLOHEXANE	33.8	0	0	0	33.8
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	386	0	0	0	386
METHYLENE BROMIDE	2.01	0	0	0	2.01
METHYLNONANE	4.94	0	0	0	4.94
M-ETHYLTOLUENE	0.593	0	0	0	0.593
MOLYBDENUM	0.00199	0	0	0	0.00199
NAPHTHALENE	0.373	0	0	0	0.373
N-BUTANE	46.2	0	0	0	46.2
N-BUTYL ACETATE	265	0	0	0	265
N-BUTYL ACRYLATE	2.95	0	0	0	2.95
N-BUTYL ALCOHOL	1120	0	0	0	1120
N-BUTYLCYCLOPENTANE	5.06	0	0	0	5.06
N-DECANE	14.5	0	0	0	14.5
N-DODECANE	0.892	0	0	0	0.892
N-HEPTADECANE	0.00007	0	0	0	0.00007
N-HEPTANE	377	0	0	0	377
N-HEXANE	112	0	0	0	112
NICKEL & COMPOUNDS	0.169	0	0	0	0.169
NITRIC OXIDE	1580	0	0	0	1580
NITROGEN DIOXIDE	127	0	0	0	127
NITROUS OXIDE	6.17	0	0	0	6.17
N-NONANE	13.2	0	0	0	13.2
N-OCTANE	6.1	0	0	0	6.1
N-PENTADECANE	0.00328	0	0	0	0.00328
N-PENTANE	22.1	0	0	0	22.1

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTYLCYCLOHEXANE	0.339	0	0	0	0.339
N-PROPYL ALCOHOL	12600	0	0	0	12600
N-PROPYLBENZENE	0.111	0	0	0	0.111
N-TETRADECANE	0.00655	0	0	0	0.00655
N-TRIDECANE	0.0772	0	0	0	0.0772
N-UNDECANE	9.8	0	0	0	9.8
O-DICHLOROBENZENE	2.43	0	0	0	2.43
O-ETHYLTOLUENE	0.649	0	0	0	0.649
OXIDES OF NITROGEN	2550	0	0	0	2550
PARTICULATE MATTER ≤ 10 µm	10300	0	0	0	10300
PARTICULATE MATTER ≤ 2.5 µm	7630	0	0	0	7630
P-DICHLOROBENZENE	44.6	0	0	0	44.6
PENTANEDIOIC ACID, DIMETHYL ESTER (DIMETHYL GLUTARATE)	177	0	0	0	177
PENTYLCYCLOPENTANE	0.474	0	0	0	0.474
PERCHLOROETHYLENE	18.1	0	0	0	18.1
P-ETHYLTOLUENE	0.851	0	0	0	0.851
PHENOL (CARBOLIC ACID)	23.1	0	0	0	23.1
PHTHALIC ANHYDRIDE	12.2	0	0	0	12.2
POLYCHLORINATED DIOXINS AND FURANS	0.00000003	0	0	0	0.00000003
POLYCYCLIC AROMATIC HYDROCARBONS	0.019	0	0	0	0.019
POLYPROPYLENE GLYCOL	160	0	0	0	160
PROPANE	58.7	0	0	0	58.7
PROPYL ACETATE	5450	0	0	0	5450
PROPYLCYCLOHEXANE	0.711	0	0	0	0.711
PROPYLCYCLOPENTANE	0.102	0	0	0	0.102
PROPYLENE	35.8	0	0	0	35.8
PROPYLENE GLYCOL	0.359	0	0	0	0.359
PROPYLENE OXIDE	0.268	0	0	0	0.268
SEC-BUTYL ALCOHOL	20.3	0	0	0	20.3
SEC-BUTYLCYCLOHEXANE	2.12	0	0	0	2.12
SELENIUM & COMPOUNDS	0.0428	0	0	0	0.0428
STYRENE (ETHENYLBENZENE)	1510	0	0	0	1510
SUBSTITUTED C9 ESTER (C12)	0.823	0	0	0	0.823
SULFUR DIOXIDE	103	0	0	0	103
SULFUR TRIOXIDE	0.144	0	0	0	0.144
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	0.268	0	0	0	0.268
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	2.01	0	0	0	2.01
TIN & COMPOUNDS	0.000027	0	0	0	0.000027
TOLUENE	18200	0	0	0	18200
TOTAL SUSPENDED PARTICULATE	12600	0	0	0	12600
TOTAL VOLATILE ORGANIC COMPOUNDS	99900	0	0	0	99900
TRANS 1-METHYL-3-PROPYL	1.29	0	0	0	1.29

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOHEXANE					
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.44	0	0	0	0.44
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	1.05	0	0	0	1.05
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	1.9	0	0	0	1.9
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.982	0	0	0	0.982
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.102	0	0	0	0.102
TRANS-1,3-DIMETHYLCYCLOHEXANE	1.32	0	0	0	1.32
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.847	0	0	0	0.847
TRANS-1,4-DIMETHYLCYCLOHEXANE	1.32	0	0	0	1.32
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.203	0	0	0	0.203
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.339	0	0	0	0.339
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.135	0	0	0	0.135
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.271	0	0	0	0.271
TRICHLOROETHYLENE (TCE)	3.5	0	0	0	3.5
TRICHLOROFLUOROMETHANE	15.4	0	0	0	15.4
TRICHLOROTRIFLUOROETHANE-F113	1.2	0	0	0	1.2
TRIFLUOROMETHANE (F-23)	18.2	0	0	0	18.2
TRIMETHYLBENZENES	0.432	0	0	0	0.432
TRIMETHYLCYCLOHEXANES	17.9	0	0	0	17.9
TRIMETHYLCYCLOPENTANE	0.422	0	0	0	0.422
VANADIUM & COMPOUNDS	0.00325	0	0	0	0.00325
VINYL ACETATE	32.9	0	0	0	32.9
VINYL CHLORIDE MONOMER	21.9	0	0	0	21.9
ZINC & COMPOUNDS	1.06	0	0	0	1.06

A.51 PAPER OR PULP PRODUCTION

Table A-51: Annual emissions from paper or pulp production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	319	0	0	0	319
1,2,3-TRIMETHYLBENZENE	0.302	0	0	0	0.302
1,2,4-TRIMETHYLBENZENE	0.162	0	0	0	0.162
1,3,5-TRIMETHYLBENZENE	0.228	0	0	0	0.228
1,3-DIETHYL-5-METHYLCYCLOHEXANE	5.34	0	0	0	5.34
1,4-DIETHYL-CYCLOHEXANE	17	0	0	0	17
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.0799	0	0	0	0.0799
1-ETHYL-2-	0.0799	0	0	0	0.0799

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLCYCLOPENTANE					
2,4-DIMETHYLHEXANE	1.96	0	0	0	1.96
2,4-DIMETHYLPENTANE	0.463	0	0	0	0.463
2-METHYL-3-HEXANONE	15.1	0	0	0	15.1
ACETONE	16.3	0	0	0	16.3
AMMONIA (TOTAL)	3300	0	0	0	3300
ANTIMONY & COMPOUNDS	0.166	0	0	0	0.166
ARSENIC & COMPOUNDS	0.174	0	0	0	0.174
BENZALDEHYDE	4.46	0	0	0	4.46
BENZENE	363	0	0	0	363
BERYLLIUM & COMPOUNDS	0.00843	0	0	0	0.00843
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.24	0	0	0	0.24
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	1.76	0	0	0	1.76
BUTYLBENZENE ISOMERS	3.28	0	0	0	3.28
BUTYLCYCLOHEXANE	1.28	0	0	0	1.28
C10 OLEFINS	44.9	0	0	0	44.9
C11 OLEFINS	0.719	0	0	0	0.719
C12 OLEFINS	0.16	0	0	0	0.16
C8 INTERNAL ALKENES	0.0408	0	0	0	0.0408
C8 OLEFINS	2.48	0	0	0	2.48
CADMIUM & COMPOUNDS	0.806	0	0	0	0.806
CARBON DIOXIDE	87000000	0	0	0	87000000
CARBON MONOXIDE	59400	0	0	0	59400
CHLOROFORM (TRICHLOROMETHANE)	105	0	0	0	105
CHROMIUM (III) COMPOUNDS	0.956	0	0	0	0.956
CHROMIUM (VI) COMPOUNDS	0.0613	0	0	0	0.0613
COBALT & COMPOUNDS	0.114	0	0	0	0.114
COPPER & COMPOUNDS	0.983	0	0	0	0.983
CUMENE (1- METHYLETHYLBENZENE)	0.348	0	0	0	0.348
CYCLOHEXANE	91.6	0	0	0	91.6
DECALINS (MIXED CIS,TRANS)	0.48	0	0	0	0.48
DIBROMOETHANE	5.34	0	0	0	5.34
DICHLOROMETHANE {METHYLENE CHLORIDE}	198	0	0	0	198
DIETHYLCYCLOHEXANE	47.4	0	0	0	47.4
DIMETHYLBENZYLALCOHOL	0.16	0	0	0	0.16
DIMETHYLCYCLOBUTANONE	0.48	0	0	0	0.48
DIMETHYLCYCLOHEXANES	13.7	0	0	0	13.7
DIMETHYLCYCLOPENTANE	5.67	0	0	0	5.67
DIMETHYLHEPTANES	0.342	0	0	0	0.342
DIMETHYLHEXANES	2.64	0	0	0	2.64
DIMETHYLNONANES	1.68	0	0	0	1.68
DIMETHYLOCTANES	2.4	0	0	0	2.4
ETHYL ACETATE	8.23	0	0	0	8.23
ETHYL ETHER	6.39	0	0	0	6.39

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYL PROPYLCYCLOHEXANES	0.48	0	0	0	0.48
ETHYLBENZENE	7.64	0	0	0	7.64
ETHYLCYCLOHEXANE	1.03	0	0	0	1.03
ETHYLCYCLOPENTANE	0.0599	0	0	0	0.0599
ETHYLDIMETHYLPHENOL	0.48	0	0	0	0.48
ETHYLHEPTENE	13.5	0	0	0	13.5
ETHYLHEXANE	0.4	0	0	0	0.4
ETHYLMETHYLCYCLOHEXANES	5.51	0	0	0	5.51
ETHYLMETHYLOCTANE	0.559	0	0	0	0.559
ETHYLOCTANE	0.16	0	0	0	0.16
ETHYLOCTENES	0.32	0	0	0	0.32
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.808	0	0	0	0.808
FORMALDEHYDE	727	0	0	0	727
HEXADECANE	0.000646	0	0	0	0.000646
ISOMERS OF C10H18	26.1	0	0	0	26.1
ISOMERS OF C9H16	0.959	0	0	0	0.959
ISOMERS OF DECANE (C10 PARAFFINS)	48.6	0	0	0	48.6
ISOMERS OF DODECANE (C12 PARAFFINS)	2.24	0	0	0	2.24
ISOMERS OF HEXANE	88.7	0	0	0	88.7
ISOMERS OF NONANE (C9 PARAFFIN)	31.5	0	0	0	31.5
ISOMERS OF PENTANE	798	0	0	0	798
ISOMERS OF PROPYLBENZENE	2.24	0	0	0	2.24
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.24	0	0	0	0.24
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.0799	0	0	0	0.0799
ISOMERS OF UNDECANE (C11 PARAFFINS)	17	0	0	0	17
ISOMERS OF XYLENE	174	0	0	0	174
ISOPROPYL ALCOHOL	28.8	0	0	0	28.8
LEAD & COMPOUNDS	0.658	0	0	0	0.658
MANGANESE & COMPOUNDS	2.23	0	0	0	2.23
MERCURY & COMPOUNDS	0.208	0	0	0	0.208
METHANE	180000	0	0	0	180000
METHYL AMYL KETONE	3.32	0	0	0	3.32
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	34.8	0	0	0	34.8
METHYL HEXANE	10.1	0	0	0	10.1
METHYL ISOBUTYL KETONE	1.44	0	0	0	1.44
METHYL PROPYLCYCLOHEXANES	2.08	0	0	0	2.08
METHYLCYCLOHEXANE	72	0	0	0	72
METHYLDECALINS	0.24	0	0	0	0.24
METHYLDECANES	3.6	0	0	0	3.6
METHYLDECENES	0.639	0	0	0	0.639

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDODECANES	0.16	0	0	0	0.16
METHYLHEXENES	0.959	0	0	0	0.959
METHYLNONANE	5.99	0	0	0	5.99
METHYLNONENES	0.24	0	0	0	0.24
METHYLOCTANES	5.83	0	0	0	5.83
METHYLPROPYLNONANE	0.24	0	0	0	0.24
M-ETHYLTOLUENE	0.259	0	0	0	0.259
METHYLUNDECANE	0.24	0	0	0	0.24
MOLYBDENUM	0.0122	0	0	0	0.0122
NAPHTHALENE	0.24	0	0	0	0.24
N-BUTANE	798	0	0	0	798
N-BUTYL ACETATE	65.1	0	0	0	65.1
N-DODECANE	0.0177	0	0	0	0.0177
N-HEPTADECANE	0.000215	0	0	0	0.000215
N-HEPTANE	87.6	0	0	0	87.6
N-HEXANE	0.32	0	0	0	0.32
NICKEL & COMPOUNDS	1.54	0	0	0	1.54
NITRIC OXIDE	83600	0	0	0	83600
NITROGEN DIOXIDE	6740	0	0	0	6740
NITROUS OXIDE	165	0	0	0	165
N-NONANE	6.95	0	0	0	6.95
NONADIENE	0.16	0	0	0	0.16
N-PENTADECANE	0.00302	0	0	0	0.00302
N-PENTANE	532	0	0	0	532
N-PENTYLCYCLOHEXANE	0.4	0	0	0	0.4
N-PROPYLBENZENE	0.532	0	0	0	0.532
N-TETRADECANE	0.00862	0	0	0	0.00862
N-TRIDECANE	0.0119	0	0	0	0.0119
N-UNDECANE	14.7	0	0	0	14.7
O-ETHYLTOLUENE	0.222	0	0	0	0.222
OXIDES OF NITROGEN	135000	0	0	0	135000
PARTICULATE MATTER ≤ 10 µm	5860	0	0	0	5860
PARTICULATE MATTER ≤ 2.5 µm	5510	0	0	0	5510
P-DICHLOROBENZENE	17.6	0	0	0	17.6
PENTAMETHYLBENZENE	0.24	0	0	0	0.24
PERCHLOROETHYLENE	182	0	0	0	182
P-ETHYLTOLUENE	0.426	0	0	0	0.426
PHTHALIC ANHYDRIDE	4.46	0	0	0	4.46
POLYCHLORINATED DIOXINS AND FURANS	0.000000843	0	0	0	0.000000843
POLYCYCLIC AROMATIC HYDROCARBONS	0.488	0	0	0	0.488
PROPANE	355	0	0	0	355
PROPENYLCYCLOHEXANE	0.16	0	0	0	0.16
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	6.16	0	0	0	6.16
SEC-BUTYL ALCOHOL	5.59	0	0	0	5.59
SELENIUM & COMPOUNDS	0.0218	0	0	0	0.0218

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SULFUR DIOXIDE	371	0	0	0	371
TETRAMETHYLCYCLOPENTANE	0.559	0	0	0	0.559
TETRAMETHYLTHIOUREA	0.0799	0	0	0	0.0799
TOLUENE	428	0	0	0	428
TOTAL SUSPENDED PARTICULATE	7840	0	0	0	7840
TOTAL VOLATILE ORGANIC COMPOUNDS	6140	0	0	0	6140
TRICHLOROETHYLENE (TCE)	186	0	0	0	186
TRICHLOROTRIFLUOROETHANE-F113	32.8	0	0	0	32.8
TRIMETHYLBENZENES	2.94	0	0	0	2.94
TRIMETHYLCYCLOHEXANES	2.37	0	0	0	2.37
TRIMETHYLCYCLOPENTANE	2.92	0	0	0	2.92
TRIMETHYLHEPTANES	1.76	0	0	0	1.76
TRIMETHYLOCTANES	0.4	0	0	0	0.4
VANADIUM & COMPOUNDS	0.174	0	0	0	0.174
ZINC & COMPOUNDS	22.8	0	0	0	22.8

A.52 PAPER PRODUCTION USING RECYCLED MATERIALS

Table A-52: Annual emissions from paper production using recycled materials

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	16.3	0	0	0	16.3
AMMONIA (TOTAL)	225	0	0	0	225
ANTIMONY & COMPOUNDS	0.00105	0	0	0	0.00105
ARSENIC & COMPOUNDS	0.013	0	0	0	0.013
BENZENE	32	0	0	0	32
BERYLLIUM & COMPOUNDS	0.00076	0	0	0	0.00076
CADMIUM & COMPOUNDS	0.072	0	0	0	0.072
CARBON DIOXIDE	7840000	0	0	0	7840000
CARBON MONOXIDE	5360	0	0	0	5360
CHLOROFORM (TRICHLOROMETHANE)	12.2	0	0	0	12.2
CHROMIUM (III) COMPOUNDS	0.0838	0	0	0	0.0838
CHROMIUM (VI) COMPOUNDS	0.00448	0	0	0	0.00448
COBALT & COMPOUNDS	0.00556	0	0	0	0.00556
COPPER & COMPOUNDS	0.0583	0	0	0	0.0583
CYCLOHEXANE	8	0	0	0	8
DICHLOROMETHANE (METHYLENE CHLORIDE)	18.3	0	0	0	18.3
FORMALDEHYDE	66	0	0	0	66
ISOMERS OF HEXANE	8	0	0	0	8
ISOMERS OF PENTANE	72	0	0	0	72
ISOMERS OF XYLENE	12.2	0	0	0	12.2
LEAD & COMPOUNDS	0.0339	0	0	0	0.0339
MANGANESE & COMPOUNDS	0.0368	0	0	0	0.0368
MERCURY & COMPOUNDS	0.0169	0	0	0	0.0169

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHANE	20700	0	0	0	20700
MOLYBDENUM	0.0000774	0	0	0	0.0000774
N-BUTANE	72	0	0	0	72
NICKEL & COMPOUNDS	0.136	0	0	0	0.136
NITRIC OXIDE	7540	0	0	0	7540
NITROGEN DIOXIDE	608	0	0	0	608
NITROUS OXIDE	14.8	0	0	0	14.8
N-PENTANE	48	0	0	0	48
OXIDES OF NITROGEN	12200	0	0	0	12200
PARTICULATE MATTER ≤ 10 µm	1310	0	0	0	1310
PARTICULATE MATTER ≤ 2.5 µm	1310	0	0	0	1310
P-DICHLOROBENZENE	2.04	0	0	0	2.04
PERCHLOROETHYLENE	14.3	0	0	0	14.3
POLYCHLORINATED DIOXINS AND FURANS	0.000000076	0	0	0	0.000000076
POLYCYCLIC AROMATIC HYDROCARBONS	0.044	0	0	0	0.044
PROPANE	32	0	0	0	32
SELENIUM & COMPOUNDS	0.00155	0	0	0	0.00155
SULFUR DIOXIDE	33.4	0	0	0	33.4
TOLUENE	24.1	0	0	0	24.1
TOTAL SUSPENDED PARTICULATE	2200	0	0	0	2200
TOTAL VOLATILE ORGANIC COMPOUNDS	440	0	0	0	440
TRICHLOROETHYLENE (TCE)	2.04	0	0	0	2.04
VANADIUM & COMPOUNDS	0.0011	0	0	0	0.0011
ZINC & COMPOUNDS	1.86	0	0	0	1.86

A.53 PESTICIDES AND RELATED PRODUCTS PRODUCTION

Table A-53: Annual emissions from pesticides and related products production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.112	0	0	0.00781	0.119
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.0013	0	0	0.000264	0.00156
1,2,3-TRIMETHYLBENZENE	0.0121	0	0	0.0216	0.0337
1,2,4-TRIMETHYLBENZENE	0.00648	0	0	0.0116	0.0181
1,2-DICHLOROETHANE	0.000975	0	0	0.000198	0.00117
1,3,5-TRIMETHYLBENZENE	0.00911	0	0	0.0163	0.0254
1,3-BUTADIENE	0	0	0	0	0
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.000325	0	0	0.000066	0.000391
1,4-DIOXANE	0.00065	0	0	0.000132	0.000782
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEXANE	2.42	0	0	0	2.42
2,4-DIMETHYLPENTANE	0.571	0	0	0	0.571

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYL-3-HEXANONE	1.26	0	0	0	1.26
ACETALDEHYDE	0.00423	0	0	0.00086	0.00509
ACETONE	0.431	0	0	0.000993	0.432
AMMONIA (TOTAL)	1.82	0	0	0.00945	1.83
ANTIMONY & COMPOUNDS	0.00218	0	0	0.0312	0.0333
ARSENIC & COMPOUNDS	0.0011	0	0	0.00596	0.00706
BENZENE	2.07	0	0	0.00258	2.07
BERYLLIUM & COMPOUNDS	0.0000408	0	0	0	0.0000408
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	2.18	0	0	0	2.18
C8 INTERNAL ALKENES	0.0504	0	0	0	0.0504
CADMIUM & COMPOUNDS	0.00394	0	0	0.00137	0.00531
CARBON DIOXIDE	435000	0	0	0	435000
CARBON MONOXIDE	245	0	0	0	245
CARBON TETRACHLORIDE	0.00195	0	0	0.000397	0.00235
CHLOROBENZENE	0.000325	0	0	0.000066	0.000391
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	0.0837	0	0	0.00586	0.0896
CHROMIUM (III) COMPOUNDS	0.00476	0	0	0.00545	0.0102
CHROMIUM (VI) COMPOUNDS	0.000518	0	0	0.00234	0.00286
COBALT & COMPOUNDS	0.00102	0	0	0.0105	0.0116
COPPER & COMPOUNDS	0.00774	0	0	0.0678	0.0756
CUMENE (1-METHYLETHYLBENZENE)	0.00435	0	0	0.00778	0.0121
CYCLOHEXANE	0.687	0	0	0	0.687
DI(2-ETHYLHEXYL)PHTHALATE	0.000975	0	0	0.000198	0.00117
DIBROMOETHANE	0.00065	0	0	0.000132	0.000782
DICHLOROMETHANE {METHYLENE CHLORIDE}	0.126	0	0	0.00879	0.134
DIMETHYLCYCLOHEXANES	1.35	0	0	0	1.35
DIMETHYLHEPTANES	0.225	0	0	0	0.225
ETHYL ACETATE	0.685	0	0	0	0.685
ETHYL ALCOHOL	6.69	0	0	0	6.69
ETHYLBENZENE	0.182	0	0	0.00091	0.183
ETHYLCYCLOHEXANE	0.48	0	0	0	0.48
ETHYLCYCLOPENTANE	0.0739	0	0	0	0.0739
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.0671	0	0	0	0.0671
FORMALDEHYDE	4.12	0	0	0.000976	4.13
HEXADECANE	0.000025	0	0	0.000046	0.000071
HYDROCHLORIC ACID	0.258	0	0	0	0.258
ISOMERS OF HEXANE	0.342	0	0	0	0.342
ISOMERS OF NONANE (C9 PARAFFIN)	0.937	0	0	0	0.937
ISOMERS OF PENTANE	3.08	0	0	0	3.08
ISOMERS OF XYLENE	2.84	0	0	0.02	2.86
LEAD & COMPOUNDS	0.0057	0	0	0.0568	0.0625

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	0.027	0	0	0.367	0.394
MERCURY & COMPOUNDS	0.00119	0	0	0.00412	0.00531
METHANE	164	0	0	9.73	174
METHYL ALCOHOL	10000	0	0	0	10000
METHYL AMYL KETONE	0.279	0	0	0	0.279
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0.181	0	0	0	0.181
METHYL ISOBUTYL KETONE	0.121	0	0	0	0.121
METHYLCYCLOHEXANE	1.21	0	0	0	1.21
M-ETHYLTOLUENE	0.0103	0	0	0.0185	0.0289
MOLYBDENUM	0.000927	0	0	0.00229	0.00322
N-BUTANE	3.08	0	0	0	3.08
N-BUTYL ACETATE	3.19	0	0	0	3.19
N-DECANE	3.13	0	0	0	3.13
N-DODECANE	2.91	0	0	0.00127	2.91
N-HEPTADECANE	0.000008	0	0	0.000015	0.000023
N-HEPTANE	1	0	0	0	1
N-HEXANE	0.171	0	0	0	0.171
NICKEL & COMPOUNDS	0.00766	0	0	0.0055	0.0132
NITRIC OXIDE	240	0	0	0	240
NITROGEN DIOXIDE	19.4	0	0	0	19.4
NITROUS OXIDE	1.71	0	0	0	1.71
N-NONANE	0.751	0	0	0	0.751
N-OCTANE	0.0799	0	0	0	0.0799
N-PENTADECANE	1.15	0	0	0.000216	1.15
N-PENTANE	2.05	0	0	0	2.05
N-PROPYLBENZENE	0.00529	0	0	0.00946	0.0147
N-TETRADECANE	1.87	0	0	0.000617	1.87
N-TRIDECANE	2.83	0	0	0.000848	2.83
N-UNDECANE	3.24	0	0	0.000416	3.24
O-DICHLOROBENZENE	0.000975	0	0	0.000198	0.00117
O-ETHYLTOLUENE	0.00889	0	0	0.0159	0.0248
OXIDES OF NITROGEN	387	0	0	0	387
PARTICULATE MATTER ≤ 10 µm	1840	0	0	107	1940
PARTICULATE MATTER ≤ 2.5 µm	1630	0	0	40.6	1670
P-DICHLOROBENZENE	0.014	0	0	0.000976	0.0149
PERCHLOROETHYLENE	0.0977	0	0	0.00684	0.105
P-ETHYLTOLUENE	0.017	0	0	0.0305	0.0475
PHENOL (CARBOLIC ACID)	0.00813	0	0	0.00166	0.00978
POLYCHLORINATED DIOXINS AND FURANS	3.46x10 ⁻⁰⁹	0	0	0	3.46x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0.00237	0	0	0	0.00237
PROPANE	1.37	0	0	0	1.37
PROPYLENE	420	0	0	0	420
SELENIUM & COMPOUNDS	0.000146	0	0	0.000917	0.00106
STYRENE (ETHENYLBENZENE)	0.000325	0	0	0.000066	0.000391
SULFUR DIOXIDE	1.43	0	0	0	1.43

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOLUENE	14.3	0	0	0.00818	14.3
TOTAL SUSPENDED PARTICULATE	1860	0	0	478	2340
TOTAL VOLATILE ORGANIC COMPOUNDS	10500	0	0	0.196	10500
TRICHLOROETHYLENE (TCE)	0.014	0	0	0.000976	0.0149
TRIMETHYLBENZENES	0.0369	0	0	0	0.0369
TRIMETHYLCYCLOHEXANES	0.557	0	0	0	0.557
TRIMETHYLCYCLOPENTANE	0.0571	0	0	0	0.0571
VANADIUM & COMPOUNDS	0.00364	0	0	0.000917	0.00456
VINYL CHLORIDE MONOMER	0.0013	0	0	0.000264	0.00156
ZINC & COMPOUNDS	0.131	0	0	0.454	0.585

A.54 PETROCHEMICAL PRODUCTION

Table A-54: Annual emissions from petrochemical production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	38	0	0	0	38
1,2,4-TRIMETHYLBENZENE	20.4	0	0	0	20.4
1,3,5-TRIMETHYLBENZENE	28.7	0	0	0	28.7
1,3-BUTADIENE	2.48	0	0	0	2.48
1-BUTENE	1120	0	0	0	1120
1-DECENE	23.4	0	0	0	23.4
1-HEXENE	31.8	0	0	0	31.8
2,4-DIMETHYLPENTANE	56	0	0	0	56
2-METHYL-BUTANE	10.7	0	0	0	10.7
2-METHYLPROPANE; ISOBUTANE	21300	0	0	0	21300
ACETYLENE	4	0	0	0	4
AMMONIA (TOTAL)	3010	0	0	0	3010
ANTIMONY & COMPOUNDS	1.34	0	0	0	1.34
ARSENIC & COMPOUNDS	3.25	0	0	0	3.25
BENZENE	16100	0	0	0	16100
BERYLLIUM & COMPOUNDS	0.144	0	0	0	0.144
BUTYLBENZENE ISOMERS	29.2	0	0	0	29.2
C10 ALKYL CYCLOHEXANES	16	0	0	0	16
C10 DIALKYL BENZENES	9.09	0	0	0	9.09
C6 OLEFINS (HEXENE ISOMERS)	1640	0	0	0	1640
C7 CYCLOPARAFFINS	16700	0	0	0	16700
C7 INTERNAL ALKENES	32.3	0	0	0	32.3
C8 ALKYL CYCLOHEXANES	10.7	0	0	0	10.7
C8 CYCLOPARAFFINS	4860	0	0	0	4860
C9 ALKYL CYCLOHEXANES	30.7	0	0	0	30.7
C9 CYCLOPARAFFINS	809	0	0	0	809
CADMIUM & COMPOUNDS	3.21	0	0	0	3.21
CARBON DIOXIDE	397000000	0	0	0	397000000
CARBON MONOXIDE	257000	0	0	0	257000
CHROMIUM (III) COMPOUNDS	5.21	0	0	0	5.21

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CHROMIUM (VI) COMPOUNDS	0.711	0	0	0	0.711
CIS-2-PENTENE	9.2	0	0	0	9.2
COBALT & COMPOUNDS	1.17	0	0	0	1.17
COPPER & COMPOUNDS	4.93	0	0	0	4.93
CUMENE (1-METHYLETHYLBENZENE)	13.7	0	0	0	13.7
CYCLOHEXANE	776	0	0	0	776
ETHANE	44500	0	0	0	44500
ETHYLBENZENE	1550	0	0	0	1550
ETHYLENE	30000	0	0	0	30000
FLUORIDE COMPOUNDS	3020	0	0	0	3020
FORMALDEHYDE	66800	0	0	0	66800
HEXADECANE	0.0814	0	0	0	0.0814
HYDROCHLORIC ACID	21700	0	0	0	21700
ISOMERS OF DECANE (C10 PARAFFINS)	2080	0	0	0	2080
ISOMERS OF HEPTANE	4630	0	0	0	4630
ISOMERS OF HEXANE	30800	0	0	0	30800
ISOMERS OF NONANE (C9 PARAFFIN)	3320	0	0	0	3320
ISOMERS OF OCTANE (C8 PARAFFIN)	2940	0	0	0	2940
ISOMERS OF PENTANE	124000	0	0	0	124000
ISOMERS OF XYLENE	1880	0	0	0	1880
LEAD & COMPOUNDS	5.91	0	0	0	5.91
MANGANESE & COMPOUNDS	18.4	0	0	0	18.4
MERCURY & COMPOUNDS	2.33	0	0	0	2.33
METHANE	106000	0	0	0	106000
METHYL ALCOHOL	28.2	0	0	0	28.2
METHYLCYCLOHEXANE	6.6	0	0	0	6.6
M-ETHYLTOLUENE	32.6	0	0	0	32.6
MOLYBDENUM	0.0917	0	0	0	0.0917
N-BUTANE	60500	0	0	0	60500
N-DECANE	5480	0	0	0	5480
N-DODECANE	3.37	0	0	0	3.37
N-HEPTADECANE	0.0271	0	0	0	0.0271
N-HEPTANE	9130	0	0	0	9130
N-HEXANE	29100	0	0	0	29100
NICKEL & COMPOUNDS	7.16	0	0	0	7.16
NITRIC OXIDE	679000	0	0	0	679000
NITROGEN DIOXIDE	54800	0	0	0	54800
NITROUS OXIDE	1200	0	0	0	1200
N-NONANE	4150	0	0	0	4150
N-OCTANE	12700	0	0	0	12700
N-PENTADECANE	0.832	0	0	0	0.832
N-PENTANE	36400	0	0	0	36400
N-PROPYLBENZENE	16.6	0	0	0	16.6
N-TETRADECANE	1.82	0	0	0	1.82

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	2.6	0	0	0	2.6
N-UNDECANE	8.61	0	0	0	8.61
O-ETHYLTOLUENE	28	0	0	0	28
OXIDES OF NITROGEN	1100000	0	0	0	1100000
PARTICULATE MATTER ≤ 10 µm	24000	0	0	0	24000
PARTICULATE MATTER ≤ 2.5 µm	17500	0	0	0	17500
P-ETHYLTOLUENE	53.6	0	0	0	53.6
POLYCHLORINATED DIOXINS AND FURANS	0.0000133	0	0	0	0.0000133
POLYCYCLIC AROMATIC HYDROCARBONS	2.17	0	0	0	2.17
PROPANE	145000	0	0	0	145000
PROPYLENE	12900	0	0	0	12900
SELENIUM & COMPOUNDS	7.18	0	0	0	7.18
SULFUR DIOXIDE	229000	0	0	0	229000
SULFURIC ACID	2170	0	0	0	2170
TIN & COMPOUNDS	0.027	0	0	0	0.027
TOLUENE	6740	0	0	0	6740
TOTAL SUSPENDED PARTICULATE	40500	0	0	0	40500
TOTAL VOLATILE ORGANIC COMPOUNDS	699000	0	0	0	699000
TRIMETHYLBENZENES	16.6	0	0	0	16.6
VANADIUM & COMPOUNDS	1.3	0	0	0	1.3
ZINC & COMPOUNDS	91.3	0	0	0	91.3

A.55 PETROLEUM PRODUCTS AND FUEL PRODUCTION

Table A-55: Annual emissions from petroleum products and fuel production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	11	0	0	0	11
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.00441	0	0	0	0.00441
1,2,3-TRIMETHYLBENZENE	233	0	0	0	233
1,2,4-TRIMETHYLBENZENE	207	0	0	0	207
1,2-DICHLOROETHANE	0.00331	0	0	0	0.00331
1,3,5-TRIMETHYLBENZENE	179	0	0	0	179
1,3-BUTADIENE	6.78	0	0	0	6.78
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.0011	0	0	0	0.0011
1,3-DIETHYL-5-METHYL CYCLOHEXANE	11.9	0	0	0	11.9
1,4-DIETHYL-CYCLOHEXANE	276	0	0	0	276
1,4-DIOXANE	0.00221	0	0	0	0.00221
1,4-PENTADIENE	269	0	0	0	269
1-BUTENE	3960	0	0	3.75	3960
1-CHLOROBUTANE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-ETHOXY-2-PROPANOL	0.0498	0	0	0	0.0498
1-NONENE	3.05	0	0	0	3.05
1-OCTENE	3.05	0	0	0	3.05
1-PENTENE	1480	0	0	0	1480
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.0266	0	0	0	0.0266
2,2,3-TRIMETHYLHEXANE	26.9	0	0	0	26.9
2,2,3-TRIMETHYLBUTANE	53.8	0	0	0	53.8
2,2,4-TRIMETHYLPENTANE	1810	0	0	0	1810
2,2-DIMETHYLBUTANE	520	0	0	0	520
2,2-DIMETHYLHEXANE	53.8	0	0	0	53.8
2,2-DIMETHYLPENTANE	135	0	0	0	135
2,3,3-TRIMETHYLPENTANE	135	0	0	0	135
2,3,4-TRIMETHYLPENTANE	135	0	0	0	135
2,3-DIMETHYLBUTANE	2450	0	0	0	2450
2,3-DIMETHYLHEXANE	215	0	0	0	215
2,3-DIMETHYLPENTANE	640	0	0	0	640
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEXANE	385	0	0	0	385
2,4-DIMETHYLPENTANE	513	0	0	0	513
2,5-DIMETHYLHEXANE	188	0	0	0	188
2-BUTYLTETRAHYDROFURAN	0.00512	0	0	0	0.00512
2-ETHYL-1-HEXANOL	0.0345	0	0	0	0.0345
2-METHYL-1-BUTENE	3040	0	0	0	3040
2-METHYL-1-PENTENE	6.1	0	0	0	6.1
2-METHYL-2-BUTENE	11900	0	0	0	11900
2-METHYL-3-HEXANONE	20.7	0	0	0	20.7
2-METHYL-BUTANE	7900	0	0	0	7900
2-METHYLHEPTANE	615	0	0	0	615
2-METHYLHEXANE	1730	0	0	0	1730
2-METHYLNONANE	26.9	0	0	0	26.9
2-METHYLOCTANE	26.9	0	0	0	26.9
2-METHYLPENTANE	15100	0	0	0	15100
2-METHYLPROPANE; ISOBUTANE	46100	0	0	72.2	46200
2-METHYLPROPENE (ISOBUTENE)	6.1	0	0	0	6.1
3-(CHLOROMETHYL)-HEPTANE	0.0212	0	0	0	0.0212
3,3-DIMETHYLPENTANE	162	0	0	0	162
3-ETHYLPENTANE	269	0	0	0	269
3-METHYL-1-BUTENE	80.8	0	0	0	80.8
3-METHYLHEPTANE	489	0	0	0	489
3-METHYLHEXANE	2240	0	0	0	2240
3-METHYLOCTANE	53.8	0	0	0	53.8
3-METHYLPENTANE	7570	0	0	0	7570
4-METHYLHEPTANE	215	0	0	0	215
4-METHYLOCTANE	26.9	0	0	0	26.9
ACETALDEHYDE	143	0	0	0	143
ACETONE	153	0	0	0	153
ACETYLENE	97.6	0	0	0	97.6

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	19300	0	0	34	19300
ANTIMONY & COMPOUNDS	24.2	0	0	0.0163	24.2
ARSENIC & COMPOUNDS	16.6	0	0	0.0174	16.6
BENZALDEHYDE	9.91	0	0	0	9.91
BENZENE	9040	0	0	41.1	9080
BERYLLIUM & COMPOUNDS	1.09	0	0	0.000846	1.09
BIPHENYL {PHENYL BENZENE}	52.5	0	0	0	52.5
BORON & COMPOUNDS	0.00763	0	0	0	0.00763
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	7.49	0	0	0	7.49
BUTYLBENZENE ISOMERS	444	0	0	0	444
C10 ALKYL CYCLOHEXANES	243	0	0	0	243
C10 DIALKYL BENZENES	138	0	0	0	138
C10 OLEFINS	99.8	0	0	0	99.8
C10H12	234	0	0	0	234
C7 CYCLOPARAFFINS	18800	0	0	56.7	18900
C7 INTERNAL ALKENES	3.05	0	0	0	3.05
C8 ALKYL CYCLOHEXANES	162	0	0	0	162
C8 CYCLOPARAFFINS	5590	0	0	16.5	5600
C8 INTERNAL ALKENES	0.158	0	0	0	0.158
C9 ALKYL CYCLOHEXANES	468	0	0	0	468
C9 CYCLOPARAFFINS	654	0	0	2.75	656
C9 OLEFINS	12.2	0	0	0	12.2
CADMIUM & COMPOUNDS	17.9	0	0	0.0806	17.9
CARBON DIOXIDE	1240000000	0	0	8050000	1240000000
CARBON MONOXIDE	1380000	0	0	2880	1380000
CARBON TETRACHLORIDE	0.00662	0	0	0	0.00662
CHLORINE	3.44	0	0	0	3.44
CHLOROBENZENE	0.0011	0	0	0	0.0011
CHLOROETHANE (ETHYL CHLORIDE)	0.0212	0	0	0	0.0212
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	8.21	0	0	0	8.21
CHROMIUM (III) COMPOUNDS	30.7	0	0	0.0943	30.8
CHROMIUM (VI) COMPOUNDS	13.5	0	0	0.0078	13.5
CIS-1,3-DIMETHYLCYCLOPENTANE	592	0	0	0	592
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	377	0	0	0	377
CIS-1-2-DIMETHYLCYCLOPENTANE	377	0	0	0	377
CIS-2-BUTENE	814	0	0	0	814
CIS-2-PENTENE	4360	0	0	0	4360
COBALT & COMPOUNDS	10.1	0	0	0.0113	10.1
COPPER & COMPOUNDS	22.5	0	0	0.0915	22.6
CUMENE (1-METHYLETHYLBENZENE)	127	0	0	0	127
CYCLOHEXANE	3310	0	0	9.9	3320
CYCLOPENTANE	619	0	0	0	619

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CYCLOPENTENE	80.8	0	0	0	80.8
DI(2-ETHYLHEXYL)PHTHALATE	0.00331	0	0	0	0.00331
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0.0266	0	0	0	0.0266
DIBROMOETHANE	11.9	0	0	0	11.9
DIBUTYL ETHER	0.00819	0	0	0	0.00819
DICHLOROMETHANE {METHYLENE CHLORIDE}	28.4	0	0	0	28.4
DIETHYLCYCLOHEXANE	104	0	0	0	104
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	271	0	0	0	271
DIMETHOXYMETHANE (METHYLAL)	0.92	0	0	0	0.92
DIMETHYL ETHER	1260	0	0	0	1260
DIMETHYLCYCLOHEXANES	30.6	0	0	0	30.6
DIMETHYLHEPTANES	0.774	0	0	0	0.774
ETHANE	88400	0	0	156	88500
ETHYL ACETATE	93.4	0	0	0	93.4
ETHYL ALCOHOL	111	0	0	0	111
ETHYL ISOPROPYL ETHER	0.177	0	0	0	0.177
ETHYLBENZENE	1920	0	0	0	1920
ETHYLCYCLOHEXANE	79.1	0	0	0	79.1
ETHYLCYCLOPENTANE	81	0	0	0	81
ETHYLENE	192	0	0	0	192
ETHYLENE GLYCOL	0.0198	0	0	0	0.0198
ETHYLHEPTENE	29.5	0	0	0	29.5
ETHYLTOLUENES {METHYLETHYLBENZENES}	1.11	0	0	0	1.11
FLUORIDE COMPOUNDS	2370	0	0	0	2370
FORMALDEHYDE	78300	0	0	288	78600
HEXADECANE	0.492	0	0	0	0.492
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	0.0488	0	0	0	0.0488
HYDROGEN SULFIDE	5610	0	0	1610	7210
ISOBUTYRALDEHYDE	6.1	0	0	0	6.1
ISOMERS OF BUTENE	79.3	0	0	0	79.3
ISOMERS OF C10H18	58	0	0	0	58
ISOMERS OF DECANE (C10 PARAFFINS)	21600	0	0	6.99	21600
ISOMERS OF HEPTANE	3680	0	0	15.7	3690
ISOMERS OF HEXANE	29500	0	0	112	29600
ISOMERS OF NONANE (C9 PARAFFIN)	10300	0	0	11.2	10300
ISOMERS OF OCTANE (C8 PARAFFIN)	2270	0	0	9.99	2280
ISOMERS OF PENTANE	237000	0	0	487	237000
ISOMERS OF TETRADECANE (C14 PARAFFINS)	82.1	0	0	0	82.1
ISOMERS OF UNDECANE (C11 PARAFFINS)	924	0	0	0	924
ISOMERS OF XYLENE	10600	0	0	4.75	10600
ISOPROPYL ALCOHOL	208	0	0	0	208

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
LEAD & COMPOUNDS	64.5	0	0	0.0653	64.6
MANGANESE & COMPOUNDS	98.7	0	0	0.219	99
MERCURY & COMPOUNDS	4.6	0	0	0.0208	4.62
METHANE	159000	0	0	771	160000
METHYL AMYL KETONE	4.61	0	0	0	4.61
METHYL CHLORIDE	0.0188	0	0	0	0.0188
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	388	0	0	0	388
METHYL ISOBUTYL KETONE	244	0	0	0	244
METHYL PALMITATE {METHYL HEXADECANOATE}	0.0123	0	0	0	0.0123
METHYLCYCLOHEXANE	1090	0	0	0	1090
METHYLCYCLOPENTANE	2310	0	0	0	2310
M-ETHYLTOLUENE	361	0	0	0	361
MOLYBDENUM	0.223	0	0	0.00994	0.233
NAPHTHALENE	926	0	0	0	926
N-BUTANE	138000	0	0	271	138000
N-BUTYL ACETATE	268	0	0	0	268
N-BUTYL ALCOHOL	263	0	0	0	263
N-DECANE	38700	0	0	18.5	38700
N-DODECANE	31900	0	0	0	31900
N-HEPTADECANE	0.164	0	0	0	0.164
N-HEPTANE	8590	0	0	31	8630
N-HEXANE	52900	0	0	96.4	53000
NICKEL & COMPOUNDS	221	0	0	0.154	221
NITRIC OXIDE	1170000	0	0	5780	1180000
NITROGEN DIOXIDE	94700	0	0	426	95100
NITROUS OXIDE	2800	0	0	11.5	2810
N-NONANE	11600	0	0	14	11600
N-OCTANE	10200	0	0	43.2	10200
N-PENTADECANE	12600	0	0	0	12600
N-PENTANE	52000	0	0	167	52100
N-PROPYLBENZENE	154	0	0	0	154
N-TETRADECANE	20400	0	0	0	20400
N-TRIDECANE	31000	0	0	0	31000
N-UNDECANE	35600	0	0	0	35600
O-DICHLOROBENZENE	0.00331	0	0	0	0.00331
O-ETHYLTOLUENE	172	0	0	0	172
OXIDES OF NITROGEN	1890000	0	0	8520	1900000
PARTICULATE MATTER ≤ 10 µm	179000	0	0	690	180000
PARTICULATE MATTER ≤ 2.5 µm	98400	0	0	655	99100
P-DICHLOROBENZENE	1.37	0	0	0	1.37
PERCHLOROETHYLENE	9.58	0	0	0	9.58
P-ETHYLTOLUENE	405	0	0	0	405
PHENOL (CARBOLIC ACID)	80900	0	0	0	80900
PHTHALIC ANHYDRIDE	9.91	0	0	0	9.91
POLYCHLORINATED DIOXINS AND FURANS	0.0000186	0	0	0.00000178	0.0000204

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
POLYCYCLIC AROMATIC HYDROCARBONS	916	0	0	0.0452	916
PROPANE	184000	0	0	528	184000
PROPYL ACETATE	65.7	0	0	0	65.7
PROPYLENE	23700	0	0	43.7	23800
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	13.7	0	0	0	13.7
SELENIUM & COMPOUNDS	16.8	0	0	0.00217	16.8
STYRENE (ETHENYLBENZENE)	8.29	0	0	0	8.29
SUBSTITUTED C9 ESTER (C12)	0.975	0	0	0	0.975
SULFUR DIOXIDE	3110000	0	0	7620	3120000
SULFURIC ACID	110000	0	0	1370	111000
TIN & COMPOUNDS	39.3	0	0	0	39.3
TOLUENE	16600	0	0	26.8	16600
TOTAL SUSPENDED PARTICULATE	347000	0	0	1530	349000
TOTAL VOLATILE ORGANIC COMPOUNDS	1420000	0	0	2530	1420000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	26.9	0	0	0	26.9
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	80.8	0	0	0	80.8
TRANS-1,3-DIMETHYLCYCLOPENTANE	188	0	0	0	188
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	108	0	0	0	108
TRANS-1-2-DIMETHYLCYCLOPENTANE	135	0	0	0	135
TRANS-2-BUTENE	7660	0	0	0	7660
TRANS-2-ETHYLMETHYLCYCLOPENTANE	80.8	0	0	0	80.8
TRANS-2-PENTENE	7920	0	0	0	7920
TRICHLOROETHYLENE (TCE)	1.37	0	0	0	1.37
TRIMETHYLBENZENES	254	0	0	0	254
TRIMETHYLCYCLOHEXANES	1.91	0	0	0	1.91
TRIMETHYLCYCLOPENTANE	0.179	0	0	0	0.179
VANADIUM & COMPOUNDS	10.9	0	0	0.0353	10.9
VINYL ACETATE	0.00409	0	0	0	0.00409
VINYL CHLORIDE MONOMER	0.00441	0	0	0	0.00441
ZINC & COMPOUNDS	242	0	0	2.29	244

A.56 PETROLEUM PRODUCTS STORAGE

Table A-56: Annual emissions from petroleum products storage

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	6.11	0	0	0	6.11
1,2,3-TRIMETHYLBENZENE	2000	1420	166	0	3590
1,2,4-TRIMETHYLBENZENE	1200	828	88.9	0	2120
1,3,5-TRIMETHYLBENZENE	1510	1070	125	0	2710

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-BUTADIENE	0.42	0	0	0	0.42
1,3-DIETHYL-5-METHYL CYCLOHEXANE	4.38	0	0	0	4.38
1,4-DIETHYL-CYCLOHEXANE	13.9	0	0	0	13.9
1,4-PENTADIENE	424	215	0	0	639
1-BUTENE	3040	1010	0	0	4040
1-CHLOROBUTANE	0.136	0	0	0	0.136
1-ETHOXY-2-PROPANOL	0.0897	0	0	0	0.0897
1-PENTENE	2330	1180	0	0	3520
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.0479	0	0	0	0.0479
2,2,3-TRIMETHYLHEXANE	42.4	21.5	0	0	63.9
2,2,3-TRIMETHYLBUTANE	84.8	43.1	0	0	128
2,2,4-TRIMETHYLPENTANE	2130	1060	0	0	3180
2,2-DIMETHYLBUTANE	648	323	0	0	971
2,2-DIMETHYLHEXANE	84.8	43.1	0	0	128
2,2-DIMETHYLPENTANE	212	108	0	0	320
2,3,3-TRIMETHYLPENTANE	212	108	0	0	320
2,3,4-TRIMETHYLPENTANE	212	108	0	0	320
2,3-DIMETHYLBUTANE	3460	1750	0	0	5210
2,3-DIMETHYLHEXANE	339	172	0	0	512
2,3-DIMETHYLPENTANE	779	388	0	0	1170
2,4-DIMETHYLHEXANE	636	302	0	0	937
2,4-DIMETHYLPENTANE	697	345	0	0	1040
2,5-DIMETHYLHEXANE	297	151	0	0	448
2,6-DIMETHYL-4-HEPTANONE (DIISOBUTYL KETONE)	0	0	0	0	0
2-BUTYLTETRAHYDROFURAN	0.00921	0	0	0	0.00921
2-ETHYL-1-HEXANOL	0.062	0	0	0	0.062
2-METHYL-1-BUTENE	4790	2430	0	0	7230
2-METHYL-2-BUTENE	18800	9540	0	0	28300
2-METHYL-3-HEXANONE	114	0	0	0	114
2-METHYL-BUTANE	825	0	0	0	825
2-METHYLHEPTANE	658	323	0	0	981
2-METHYLHEXANE	2200	1100	0	0	3300
2-METHYLNONANE	42.4	21.5	0	0	63.9
2-METHYLOCTANE	42.4	21.5	0	0	63.9
2-METHYLPENTANE	20500	10300	0	0	30800
2-METHYLPROPANE; ISOBUTANE	13700	6960	1	0	20700
3-(CHLOROMETHYL)-HEPTANE	0.0381	0	0	0	0.0381
3,3-DIMETHYLPENTANE	254	129	0	0	384
3-ETHYLPENTANE	424	215	0	0	639
3-METHYL-1-BUTENE	127	64.6	0	0	192
3-METHYLHEPTANE	605	302	0	0	906
3-METHYLHEXANE	2730	1360	0	0	4080
3-METHYLOCTANE	84.8	43.1	0	0	128
3-METHYLPENTANE	10100	5040	0	0	15100
4-METHYLHEPTANE	339	172	0	0	512

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYLOCTANE	42.4	21.5	0	0	63.9
ACETIC ACID	168	0	0	0	168
ACETONE	209	0	0	0	209
ACETYLENE	0.677	0	0	0	0.677
AMMONIA (TOTAL)	44.8	0	0	0	44.8
ANTIMONY & COMPOUNDS	0.843	0.00708	0	0	0.85
ARSENIC & COMPOUNDS	0.21	0.00134	0	0	0.211
BENZALDEHYDE	3.66	0	0	0	3.66
BENZENE	11300	1740	0.259	0	13000
BERYLLIUM & COMPOUNDS	0.00124	0	0	0	0.00124
BUTANE, BRANCHED & LINEAR	132000	0	0	0	132000
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	38.5	0	0	0	38.5
C10 OLEFINS	34.5	0	0	0	34.5
C6 OLEFINS (HEXENE ISOMERS)	453	0	0	0	453
C7 CYCLOPARAFFINS	223	258	0	0	481
C8 CYCLOPARAFFINS	64.9	74.9	0	0	140
C9 CYCLOPARAFFINS	10.8	12.5	0	0	23.3
CADMIUM & COMPOUNDS	0.157	0.000571	0	0	0.158
CARBON DIOXIDE	122000000	0	0	0	122000000
CARBON MONOXIDE	1460000	0	0	0	1460000
CHLOROETHANE (ETHYL CHLORIDE)	0.0381	0	0	0	0.0381
CHLOROFORM (TRICHLOROMETHANE)	4.58	0	0	0	4.58
CHROMIUM (III) COMPOUNDS	0.893	0.00118	0	0	0.894
CHROMIUM (VI) COMPOUNDS	0.345	0.000504	0	0	0.345
CIS-1,3-DIMETHYLCYCLOPENTANE	933	474	0	0	1410
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	594	302	0	0	895
CIS-1-2-DIMETHYLCYCLOPENTANE	594	302	0	0	895
CIS-2-BUTENE	1270	646	0	0	1920
CIS-2-PENTENE	6870	3490	0	0	10400
COBALT & COMPOUNDS	0.288	0.00178	0	0	0.289
COPPER & COMPOUNDS	2.73	0.0149	0	0	2.74
CUMENE (1-METHYLETHYLBENZENE)	720	511	59.6	0	1290
CYCLOHEXANE	339	117	0	0	456
CYCLOPENTANE	64	0	0	0	64
CYCLOPENTENE	127	64.6	0	0	192
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	0.0479	0	0	0	0.0479
DIBROMOETHANE	4.38	0	0	0	4.38
DIBUTYL ETHER	0.0147	0	0	0	0.0147
DICHLOROMETHANE {METHYLENE CHLORIDE}	13.1	0	0	0	13.1

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIETHANOLAMINE	960	0	0	0	960
DIETHYLCYCLOHEXANE	38.3	0	0	0	38.3
DIMETHOXYMETHANE (METHYLAL)	1.66	0	0	0	1.66
DIMETHYLCYCLOHEXANES	33.4	0	0	0	33.4
DIMETHYLHEPTANES	3.95	0	0	0	3.95
ETHANE	1210	703	0.291	0	1920
ETHYL ACETATE	636	0	0	0	636
ETHYL ALCOHOL	9150	1900	204	0	11300
ETHYL ISOPROPYL ETHER	0.319	0	0	0	0.319
ETHYLBENZENE	1100	275	6.97	0	1380
ETHYLCYCLOHEXANE	16	0	0	0	16
ETHYLCYCLOPENTANE	127	64.6	0	0	192
ETHYLENE	698	0	0	0	698
ETHYLENE GLYCOL	0.0356	0	0	0	0.0356
ETHYLHEPTENE	10.9	0	0	0	10.9
ETHYLTOLUENES {METHYLETHYLBENZENES}	6.11	0	0	0	6.11
FORMALDEHYDE	999	1010	0	0	2010
HEXADECANE	4.29	3.04	0.354	0	7.68
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0.0878	0	0	0	0.0878
HYDROCHLORIC ACID	15900	0	0	0	15900
HYDROGEN SULFIDE	360	0	0	0	360
ISOMERS OF C10H18	21.4	0	0	0	21.4
ISOMERS OF DECANE (C10 PARAFFINS)	58.7	31.8	0	0	90.4
ISOMERS OF HEPTANE	87.1	102	0.539	0	189
ISOMERS OF HEXANE	438	503	0.55	0	942
ISOMERS OF NONANE (C9 PARAFFIN)	82.6	51.1	0	0	134
ISOMERS OF OCTANE (C8 PARAFFIN)	41.3	47.8	0.0431	0	89.2
ISOMERS OF PENTANE	212000	109000	1.21	0	320000
ISOMERS OF UNDECANE (C11 PARAFFINS)	7.9	0	0	0	7.9
ISOMERS OF XYLENE	3850	2120	107	0	6080
ISOPROPYL ALCOHOL	225	0	0	0	225
LEAD & COMPOUNDS	8.43	0.0124	0	0	8.44
MANGANESE & COMPOUNDS	12.1	0.0822	0	0	12.2
MERCURY & COMPOUNDS	0.14	0.00103	0	0	0.141
METHANE	16300	1530	0.949	0	17800
METHYL ALCOHOL	158	0	0	0	158
METHYL AMYL KETONE	25.2	0	0	0	25.2
METHYL CHLORIDE	0.0338	0	0	0	0.0338
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	35.9	0	0	0	35.9
METHYL ISOBUTYL KETONE	10.9	0	0	0	10.9
METHYL PALMITATE {METHYL	0.0221	0	0	0	0.0221

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXADECANOATE}					
METHYLCYCLOHEXANE	145	0	0	0	145
METHYLCYCLOPENTANE	1390	625	0	0	2010
M-ETHYLTOLUENE	1970	1350	142	0	3460
MOLYBDENUM	0.147	0.000632	0	0	0.148
N-BUTANE	59100	29800	2.24	0	88900
N-BUTYL ACETATE	142	0	0	0	142
N-BUTYL ALCOHOL	1.23	0	0	0	1.23
N-DECANE	2150	493	0	0	2640
N-DODECANE	2000	443	9.69	0	2460
N-HEPTADECANE	1.43	1.01	0.118	0	2.56
N-HEPTANE	1930	995	0.216	0	2920
N-HEXANE	1660	941	0.507	0	2600
NICKEL & COMPOUNDS	15.3	0.00187	0	0	15.3
NITRIC OXIDE	330000	0	0	0	330000
NITROGEN DIOXIDE	26600	0	0	0	26600
NITROUS OXIDE	195	0	0	0	195
N-NONANE	584	178	0	0	762
N-OCTANE	247	206	0	0	453
N-PENTADECANE	766	157	1.65	0	924
N-PENTANE	1520	606	1.09	0	2130
N-PROPYLBENZENE	961	665	72.4	0	1700
N-TETRADECANE	1270	272	4.73	0	1550
N-TRIDECANE	1930	406	6.5	0	2340
N-UNDECANE	2150	429	3.19	0	2590
O-ETHYLTOLUENE	1470	1050	122	0	2640
OXIDES OF NITROGEN	533000	0	0	0	533000
PARTICULATE MATTER ≤ 10 µm	45300	21.5	0	0	45300
PARTICULATE MATTER ≤ 2.5 µm	43500	4.1	0	0	43500
P-DICHLOROBENZENE	0.764	0	0	0	0.764
PERCHLOROETHYLENE	5.35	0	0	0	5.35
P-ETHYLTOLUENE	2950	2070	233	0	5250
PHTHALIC ANHYDRIDE	3.66	0	0	0	3.66
POLYCHLORINATED DIOXINS AND FURANS	0.0000134	0	0	0	0.0000134
POLYCYCLIC AROMATIC HYDROCARBONS	0.0444	0	0	0	0.0444
PROPANE	23800	2330	1.74	0	26200
PROPYLENE	1090	199	0	0	1290
PROPYLENE OXIDE	859	0	0	0	859
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	5.05	0	0	0	5.05
SELENIUM & COMPOUNDS	0.0302	0.000225	0	0	0.0304
SUBSTITUTED C9 ESTER (C12)	1.76	0	0	0	1.76
SULFUR DIOXIDE	737000	0	0	0	737000
SULFUR TRIOXIDE	132000	0	0	0	132000
TIN & COMPOUNDS	0.0027	0	0	0	0.0027
TOLUENE	9050	4430	32.9	0	13500

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL SUSPENDED PARTICULATE	56200	98.8	0	0	56300
TOTAL VOLATILE ORGANIC COMPOUNDS	630000	233000	1390	0	864000
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	42.4	21.5	0	0	63.9
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	127	64.6	0	0	192
TRANS-1,3-DIMETHYLCYCLOPENTANE	297	151	0	0	448
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	170	86.2	0	0	256
TRANS-1-2-DIMETHYLCYCLOPENTANE	212	108	0	0	320
TRANS-2-BUTENE	12000	6100	0	0	18100
TRANS-2-ETHYLMETHYLCYCLOPENTANE	127	64.6	0	0	192
TRANS-2-PENTENE	12500	6330	0	0	18800
TRICHLOROETHYLENE (TCE)	0.764	0	0	0	0.764
TRIMETHYLBENZENES	3.47	0	0	0	3.47
TRIMETHYLCYCLOHEXANES	9.23	0	0	0	9.23
VANADIUM & COMPOUNDS	51.8	0.00679	0	0	51.8
VINYL ACETATE	263	0	0	0	263
ZINC & COMPOUNDS	17.7	0.081	0	0	17.7

A.57 PHARMACEUTICAL AND VETERINARY PRODUCTS PRODUCTION

Table A-57: Annual emissions from pharmaceutical and veterinary products production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.0277	0	0	0	0.0277
(2-METHYLBUTYL)CYCLOHEXANE	0.037	0	0	0	0.037
1,1,1-TRICHLOROETHANE	239	0	0	0	239
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.00923	0	0	0	0.00923
1,1,2-TRIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
1,1,2-TRIMETHYLCYCLOPENTANE	0.0555	0	0	0	0.0555
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.0462	0	0	0	0.0462
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.185	0	0	0	0.185
1,1,3-TRIMETHYLCYCLOPENTANE	0.185	0	0	0	0.185
1,1,4-TRIMETHYLCYCLOHEXANE	0.037	0	0	0	0.037
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.45	0	0	0	0.45
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.0185	0	0	0	0.0185

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1-DIMETHYLCYCLOHEXANE	0.0739	0	0	0	0.0739
1,1-DIMETHYLCYCLOPENTANE	0.0277	0	0	0	0.0277
1,1-METHYLETHYLCYCLOPENTANE	0.0185	0	0	0	0.0185
1,2,3,5-TETRAMETHYLBENZENE	0.0832	0	0	0	0.0832
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.248	0	0	0	0.248
1,2,3-TRIMETHYLCYCLOHEXANE	0.111	0	0	0	0.111
1,2,4,5-TETRAMETHYLBENZENE	0.0555	0	0	0	0.0555
1,2,4-TRIMETHYLBENZENE	0.427	0	0	0	0.427
1,2,4-TRIMETHYLCYCLOPENTENE	0.379	0	0	0	0.379
1,2-DICHLOROETHANE	0.338	0	0	0	0.338
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.037	0	0	0	0.037
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.0462	0	0	0	0.0462
1,2-DIMETHYL-4-ETHYLBENZENE	0.0925	0	0	0	0.0925
1,2-DIMETHYLCYCLOPENTANE	0.324	0	0	0	0.324
1,3,5-TRIETHYL CYCLOHEXANE	0.0185	0	0	0	0.0185
1,3,5-TRIMETHYLBENZENE	0.0824	0	0	0	0.0824
1,3-BUTADIENE	0.103	0	0	0	0.103
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.113	0	0	0	0.113
1,3-DIETHYL-5-METHYLCYCLOHEXANE	18	0	0	0	18
1,3-DIETHYL-CYCLOHEXANE	0.0277	0	0	0	0.0277
1,3-DIMETHYL-2-ETHYLBENZENE	0.0739	0	0	0	0.0739
1,3-DIMETHYL-4-ETHYLBENZENE	0.037	0	0	0	0.037
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.00923	0	0	0	0.00923
1,3-DIMETHYL-5-ETHYLBENZENE	0.0739	0	0	0	0.0739
1,3-DIPROPYL-5-ETHYLCYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	71.8	0	0	0	71.8
1,4-DIMETHYL-2-ETHYLBENZENE	0.0555	0	0	0	0.0555
1,4-DIOXANE	0.225	0	0	0	0.225
1-BUTENE	0.196	0	0	0	0.196
1-CHLOROBUTANE	0.346	0	0	0	0.346
1-ETHOXY-2-PROPANOL	0.229	0	0	0	0.229
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
1-ETHYL-2,2,6-TRIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
1-ETHYL-2,4-DIMETHYLCYCLOHEXANE	0.00923	0	0	0	0.00923
1-ETHYL-2-PROPYL CYCLOHEXANE	0.314	0	0	0	0.314
1-ETHYL-4-ISOPROPYLBENZENE	0.037	0	0	0	0.037
1-METHYL INDAN	0.111	0	0	0	0.111
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2-	0.0832	0	0	0	0.0832

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOPROPYLCYCLOHEXANE					
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0.111	0	0	0	0.111
1-METHYL-3- ISOPROPYLCYCLOHEXANE	0.0925	0	0	0	0.0925
1-METHYL-4-ISOBUTYLBENZENE	0.00923	0	0	0	0.00923
1-METHYL-4-ISOPROPYLBENZENE	0.00923	0	0	0	0.00923
1-METHYL-4- ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0.139	0	0	0	0.139
1-METHYL-4-PENTYL CYCLOHEXANE	0.0185	0	0	0	0.0185
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.62	0	0	0	0.62
2,2,3,3-TETRAMETHYLPENTANE	0.00923	0	0	0	0.00923
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.0277	0	0	0	0.0277
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.0185	0	0	0	0.0185
2,3,5-TRIMETHYLHEPTANE	0.00923	0	0	0	0.00923
2,3-DIMETHYLHEPTANE	0	0	0	0	0
2,3-DIMETHYLHEXANE	0.0832	0	0	0	0.0832
2,3-DIMETHYLOCTANE	0.139	0	0	0	0.139
2,3-DIMETHYLPENTANE	0.0462	0	0	0	0.0462
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	0.0832	0	0	0	0.0832
2,4-DIMETHYLHEXANE	7.48	0	0	0	7.48
2,4-DIMETHYLNONANE	0.00923	0	0	0	0.00923
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	1.75	0	0	0	1.75
2,4-TOLUENE DIISOCYANATE {TDI}	0.0764	0	0	0	0.0764
2,5-DIMETHYLHEPTANE	0.12	0	0	0	0.12
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0.102	0	0	0	0.102
2,5-DIMETHYLOCTANE	0.00923	0	0	0	0.00923
2,6-DIMETHYLDECANE	0.0739	0	0	0	0.0739
2,6-DIMETHYLHEPTANE	0.213	0	0	0	0.213
2,6-DIMETHYLNONANE	0.407	0	0	0	0.407
2,6-DIMETHYLOCTANE	0.157	0	0	0	0.157
2,6-DIMETHYLUDECANE	0.0185	0	0	0	0.0185
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.0185	0	0	0	0.0185
2-BUTYLTETRAHYDROFURAN	0.0235	0	0	0	0.0235
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0.221	0	0	0	0.221
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	0.332	0	0	0	0.332
2-ETHYL-1,3-	0.0277	0	0	0	0.0277

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOHEXANE					
2-ETHYL-1-HEXANOL	0.158	0	0	0	0.158
2-METHYL-3-ETHYLPENTANE	0.0185	0	0	0	0.0185
2-METHYL-3-HEXANONE	3.83	0	0	0	3.83
2-METHYLDECALIN	0.037	0	0	0	0.037
2-METHYLDECANE	0.231	0	0	0	0.231
2-METHYLHEPTANE	0.619	0	0	0	0.619
2-METHYLHEXANE	0.37	0	0	0	0.37
2-METHYLNAPHTHALENE	0.00923	0	0	0	0.00923
2-METHYLNONANE	0.157	0	0	0	0.157
2-METHYLOCTANE	0.0925	0	0	0	0.0925
2-METHYLPROPANE; ISOBUTANE	0.00565	0	0	0	0.00565
2-METHYLUNDECANE {ISODODECANE}	0.0832	0	0	0	0.0832
3-(CHLOROMETHYL)-HEPTANE	0.0971	0	0	0	0.0971
3,3,5-TRIMETHYLHEPTANE	0.00923	0	0	0	0.00923
3,4-DIMETHYLHEXANE	0.037	0	0	0	0.037
3,4-DIMETHYLOCTANE	0.0277	0	0	0	0.0277
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.0277	0	0	0	0.0277
3,6-DIMETHYL DECANE	0.0277	0	0	0	0.0277
3,6-DIMETHYL UNDECANE	0.636	0	0	0	0.636
3,6-DIMETHYLOCTANE	0.0369	0	0	0	0.0369
3,7-DIMETHYL-1-OCTANOL	0.153	0	0	0	0.153
3,7-DIMETHYLNONANE	0.12	0	0	0	0.12
3-ETHYL-2-METHYLHEPTANE	0.0462	0	0	0	0.0462
3-ETHYL-3-METHYLOCTANE	0.037	0	0	0	0.037
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.00923	0	0	0	0.00923
3-ETHYLHEPTANE	0.037	0	0	0	0.037
3-ETHYLHEXANE	0.0832	0	0	0	0.0832
3-ETHYLOCTANE	0.0277	0	0	0	0.0277
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.213	0	0	0	0.213
3-METHYLHEPTANE	0.388	0	0	0	0.388
3-METHYLHEXANE	0.037	0	0	0	0.037
3-METHYLNONANE	0.0924	0	0	0	0.0924
3-METHYLOCTANE	0.111	0	0	0	0.111
3-METHYLUNDECANE	0.0462	0	0	0	0.0462
3-PHENYLPENTANE	0.0462	0	0	0	0.0462
4,5-DIMETHYLDECANE	0.00923	0	0	0	0.00923
4,5-DIMETHYLOCTANE	0.0462	0	0	0	0.0462
4-ETHYLDECANE	0.037	0	0	0	0.037
4-METHYLDECANE	0.185	0	0	0	0.185
4-METHYLHEPTANE	0.166	0	0	0	0.166
4-METHYLINDAN	0.0185	0	0	0	0.0185
4-METHYLNONANE	0.268	0	0	0	0.268

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
4-METHYLOCTANE	0.139	0	0	0	0.139
4-METHYLUNDECANE	0.0277	0	0	0	0.0277
5-ISOPROPYLNONANE	0.0277	0	0	0	0.0277
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.176	0	0	0	0.176
5-METHYLINDAN	0.148	0	0	0	0.148
5-METHYLUNDECANE	0.037	0	0	0	0.037
6-ETHYL-2-METHYLOCTANE	0.0462	0	0	0	0.0462
6-METHYLUNDECANE	0.0462	0	0	0	0.0462
ACETALDEHYDE	1.46	0	0	0	1.46
ACETONE	7.97	0	0	0	7.97
ACETYLENE	0.166	0	0	0	0.166
AMMONIA (TOTAL)	321	0	0	0	321
ANTIMONY & COMPOUNDS	0.049	0	0	0.0000474	0.049
ARSENIC & COMPOUNDS	0.0417	0	0	0.00000907	0.0417
BENZALDEHYDE	15.1	0	0	0	15.1
BENZENE	66.1	0	0	0	66.1
BENZOIC ACID	0.0509	0	0	0	0.0509
BERYLLIUM & COMPOUNDS	0.00146	0	0	0	0.00146
BIPHENYLOL {2-PHENYLPHENOL}	0.178	0	0	0	0.178
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	9.46	0	0	0	9.46
BUTYL ISOPROPYL PHTHALATE	32.5	0	0	0	32.5
BUTYLCYCLOHEXANE	0.166	0	0	0	0.166
C10 OLEFINS	143	0	0	0	143
C10H12	14.2	0	0	0	14.2
C5 KETONES	0.406	0	0	0	0.406
C7 CYCLOPARAFFINS	0.0622	0	0	0	0.0622
C8 CYCLOPARAFFINS	0.00646	0	0	0	0.00646
C8 INTERNAL ALKENES	0.153	0	0	0	0.153
C9 CYCLOPARAFFINS	6.19	0	0	0	6.19
CADMIUM & COMPOUNDS	0.138	0	0	0.00000209	0.138
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0.111	0	0	0	0.111
CARBON DIOXIDE	1510000	0	0	0	1510000
CARBON MONOXIDE	10000	0	0	0	10000
CARBON TETRACHLORIDE	0.675	0	0	0	0.675
CARYOPHYLLENE	0.28	0	0	0	0.28
CHLOROENZENE	0.113	0	0	0	0.113
CHLOROETHANE (ETHYL CHLORIDE)	0.0971	0	0	0	0.0971
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	178	0	0	0	178
CHROMIUM (III) COMPOUNDS	0.172	0	0	0.0000083	0.172
CHROMIUM (VI) COMPOUNDS	0.0125	0	0	0.00000356	0.0125
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.0369	0	0	0	0.0369

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.0277	0	0	0	0.0277
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.074	0	0	0	0.074
CIS-1,2-DIMETHYLCYCLOHEXANE	0.0277	0	0	0	0.0277
CIS-1,3-DIMETHYLCYCLOHEXANE	0.703	0	0	0	0.703
CIS-1,3-DIMETHYLCYCLOPENTANE	0.111	0	0	0	0.111
CIS-1,4-DIMETHYLCYCLOHEXANE	0.037	0	0	0	0.037
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0925	0	0	0	0.0925
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0.194	0	0	0	0.194
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.0925	0	0	0	0.0925
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.00923	0	0	0	0.00923
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.00923	0	0	0	0.00923
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0.12	0	0	0	0.12
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.0277	0	0	0	0.0277
CIS-BICYCLO[3.3.0]OCTANE	0.00923	0	0	0	0.00923
CIS-BICYCLO[4.3.0]NONANE	0.037	0	0	0	0.037
CIS-DECALIN	0.00923	0	0	0	0.00923
COBALT & COMPOUNDS	0.0264	0	0	0.000016	0.0264
COPPER & COMPOUNDS	0.211	0	0	0.000103	0.211
CUMENE (1-METHYLETHYLBENZENE)	0.0908	0	0	0	0.0908
CYCLOHEXANE	27.6	0	0	0	27.6
CYCLOHEXANONE	662	0	0	0	662
CYCLOHEXENE	0.56	0	0	0	0.56
DI(2-ETHYLHEXYL)PHTHALATE	0.338	0	0	0	0.338
DI(PROPYLENE GLYCOL) METHYL ETHER	0.277	0	0	0	0.277
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	2.83	0	0	0	2.83
DIBROMOETHANE	18.3	0	0	0	18.3
DIBUTYL ETHER	0.0376	0	0	0	0.0376
DIBUTYL PHTHALATE	25.4	0	0	0	25.4
DICHLOROMETHANE {METHYLENE CHLORIDE}	291	0	0	0	291
DIETHYLCYCLOHEXANE	158	0	0	0	158
DIMETHOXYMETHANE (METHYLAL)	4.22	0	0	0	4.22
DIMETHYLAMINE	0.5	0	0	0	0.5
DIMETHYLCYCLOHEXANES	43.5	0	0	0	43.5
DIMETHYLHEPTANES	0.684	0	0	0	0.684
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	0.102	0	0	0	0.102

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
EICOSANE	1.22	0	0	0	1.22
ETHANE	0.041	0	0	0	0.041
ETHYL ACETATE	493	0	0	0	493
ETHYL ALCOHOL	15200	0	0	0	15200
ETHYL ISOPROPYL ETHER	0.814	0	0	0	0.814
ETHYLBENZENE	19.1	0	0	0	19.1
ETHYLCYCLOHEXANE	1.75	0	0	0	1.75
ETHYLCYCLOPENTANE	0.382	0	0	0	0.382
ETHYLENE	0.421	0	0	0	0.421
ETHYLENE GLYCOL	3.18	0	0	0	3.18
ETHYLHEPTENE	44.8	0	0	0	44.8
ETHYLOCTANE	1.12	0	0	0	1.12
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.204	0	0	0	0.204
FORMALDEHYDE	153	0	0	0	153
HENEICOSANE	0.764	0	0	0	0.764
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	8.45	0	0	0	8.45
HEXYLCYCLOHEXANE	0.0185	0	0	0	0.0185
HEXYLCYCLOPENTANE	0.0277	0	0	0	0.0277
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0.224	0	0	0	0.224
INDAN	0.0555	0	0	0	0.0555
ISOBUTYL ALCOHOL	1.9	0	0	0	1.9
ISOBUTYLCYCLOHEXANE (2- METHYLPROPYL CYCLOHEXANE)	0.0832	0	0	0	0.0832
ISOMERS OF C10H18	88.2	0	0	0	88.2
ISOMERS OF DECANE (C10 PARAFFINS)	128	0	0	0	128
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	9.39	0	0	0	9.39
ISOMERS OF HEXANE	15.4	0	0	0	15.4
ISOMERS OF NONANE (C9 PARAFFIN)	111	0	0	0	111
ISOMERS OF OCTADECANE (C18 PARAFFINS)	4.3	0	0	0	4.3
ISOMERS OF PENTADECANE (C15 PARAFFINS)	0.382	0	0	0	0.382
ISOMERS OF PENTANE	138	0	0	0	138
ISOMERS OF TETRADECANE (C14 PARAFFINS)	5.68	0	0	0	5.68
ISOMERS OF UNDECANE (C11 PARAFFINS)	43	0	0	0	43
ISOMERS OF XYLENE	344	0	0	0	344
ISOPROPYL ACETATE	76.6	0	0	0	76.6
ISOPROPYL ALCOHOL	5710	0	0	0	5710
ISOPROPYLAMINE	20	0	0	0	20
ISOPROPYLCYCLOHEXANE (2- METHYLETHYL CYCLOHEXANE)	0.0832	0	0	0	0.0832

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
LEAD & COMPOUNDS	0.155	0	0	0.0000865	0.155
MANGANESE & COMPOUNDS	0.623	0	0	0.000558	0.623
MERCURY & COMPOUNDS	0.0388	0	0	0.00000628	0.0388
METHANE	296000	0	0	0	296000
METHYL ALCOHOL	34	0	0	0	34
METHYL AMYL KETONE	1.25	0	0	0	1.25
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	0.213	0	0	0	0.213
METHYL CHLORIDE	0.0861	0	0	0	0.0861
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	88.4	0	0	0	88.4
METHYL ISOBUTYL KETONE	4.46	0	0	0	4.46
METHYL PALMITATE {METHYL HEXADECANOATE}	0.0564	0	0	0	0.0564
METHYLCYCLOHEXANE	197	0	0	0	197
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0	0	0	0	0
METHYLENE BROMIDE	0.0404	0	0	0	0.0404
METHYLETHYLPENTANOATE	0.0764	0	0	0	0.0764
METHYLHEPTANOL	0.178	0	0	0	0.178
M-ETHYLTOLUENE	0.155	0	0	0	0.155
METHYLUNDECANE	4.33	0	0	0	4.33
MOLYBDENUM	0.00362	0	0	0.00000349	0.00362
NAPHTHALENE	0.0647	0	0	0	0.0647
N-BUTANE	138	0	0	0	138
N-BUTYL ACETATE	200	0	0	0	200
N-BUTYL ALCOHOL	4.69	0	0	0	4.69
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	1.54	0	0	0	1.54
N-DODECANE	0.41	0	0	0	0.41
N-HEPTADECANE	0.000048	0	0	0	0.000048
N-HEPTANE	65.3	0	0	0	65.3
N-HEXANE	0.0149	0	0	0	0.0149
NICKEL & COMPOUNDS	0.264	0	0	0.00000837	0.264
NITRIC OXIDE	9160	0	0	0	9160
NITROGEN DIOXIDE	739	0	0	0	739
NITROUS OXIDE	28.5	0	0	0	28.5
N-NONANE	0.397	0	0	0	0.397
N-OCTANE	1.11	0	0	0	1.11
NONADECANE	2.27	0	0	0	2.27
N-PENTADECANE	0.099	0	0	0	0.099
N-PENTANE	92.2	0	0	0	92.2
N-PENTYLCYCLOHEXANE	0.0555	0	0	0	0.0555
N-PHENYLANILINE {DIPHENYLAMINE}	0.102	0	0	0	0.102
N-PROPYLBENZENE	0.0409	0	0	0	0.0409
N-TETRADECANE	0.162	0	0	0	0.162
N-TRIDECANE	0.254	0	0	0	0.254

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-UNDECANE	51.3	0	0	0	51.3
O-DICHLOROBENZENE	0.338	0	0	0	0.338
O-ETHYLTOLUENE	0.155	0	0	0	0.155
OXIDES OF NITROGEN	14800	0	0	0	14800
PARTICULATE MATTER ≤ 10 µm	1050	0	0	0.134	1050
PARTICULATE MATTER ≤ 2.5 µm	945	0	0	0.0324	945
P-DICHLOROBENZENE	29.6	0	0	0	29.6
PENTYLCYCLOPENTANE	0.0832	0	0	0	0.0832
PERCHLOROETHYLENE	207	0	0	0	207
P-ETHYLTOLUENE	0.222	0	0	0	0.222
PHENOL (CARBOLIC ACID)	2.81	0	0	0	2.81
PHTHALIC ANHYDRIDE	15.1	0	0	0	15.1
POLYCHLORINATED DIOXINS AND FURANS	0.000000146	0	0	0	0.000000146
POLYCYCLIC AROMATIC HYDROCARBONS	0.0863	0	0	0	0.0863
PROPANE	61.5	0	0	0	61.5
PROPYL ACETATE	70.5	0	0	0	70.5
PROPYLCYCLOHEXANE	0.12	0	0	0	0.12
PROPYLCYCLOPENTANE	0.0185	0	0	0	0.0185
PROPYLENE	0.254	0	0	0	0.254
PROPYLENE GLYCOL	1.14	0	0	0	1.14
PROPYLENE GLYCOL METHYL ETHER	0.277	0	0	0	0.277
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	0.554	0	0	0	0.554
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	20.8	0	0	0	20.8
SEC-BUTYL ALCOHOL	2.69	0	0	0	2.69
SELENIUM & COMPOUNDS	0.00503	0	0	0.0000014	0.00503
STYRENE (ETHENYLBENZENE)	0.113	0	0	0	0.113
SUBSTITUTED C9 ESTER (C12)	4.47	0	0	0	4.47
SULFUR DIOXIDE	64.8	0	0	0	64.8
TIN & COMPOUNDS	0.000739	0	0	0	0.000739
TOLUENE	508	0	0	0	508
TOTAL SUSPENDED PARTICULATE	1640	0	0	0.698	1640
TOTAL VOLATILE ORGANIC COMPOUNDS	26500	0	0	0	26500
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.231	0	0	0	0.231
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.0832	0	0	0	0.0832
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.185	0	0	0	0.185
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.342	0	0	0	0.342
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.176	0	0	0	0.176

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.0185	0	0	0	0.0185
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.231	0	0	0	0.231
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.148	0	0	0	0.148
TRANS-1,4-DIMETHYLCYCLOHEXANE	0.24	0	0	0	0.24
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.0369	0	0	0	0.0369
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.0647	0	0	0	0.0647
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.0277	0	0	0	0.0277
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0462	0	0	0	0.0462
TRICHLOROETHYLENE (TCE)	29.6	0	0	0	29.6
TRIMETHYLBENZENES	0.112	0	0	0	0.112
TRIMETHYLCYCLOHEXANES	1.69	0	0	0	1.69
TRIMETHYLCYCLOPENTANE	0.174	0	0	0	0.174
TRIMETHYLDECANE	0.764	0	0	0	0.764
TRIMETHYLOCTANES	2.06	0	0	0	2.06
VANADIUM & COMPOUNDS	0.00428	0	0	0.0000014	0.00428
VINYL ACETATE	0.0188	0	0	0	0.0188
VINYL CHLORIDE MONOMER	0.45	0	0	0	0.45
ZINC & COMPOUNDS	4.16	0	0	0.000691	4.16

A.58 PIG ACCOMMODATION

Table A-58: Annual emissions from pig accommodation

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	4.95	0	0	3.26	8.2
1,2,3-TRIMETHYLBENZENE	0	0	0	0.0522	0.0522
1,2,4-TRIMETHYLBENZENE	0	0	0	0.028	0.028
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0393	0.0393
AMMONIA (TOTAL)	41200	0	0	18300	59600
ANTIMONY & COMPOUNDS	0.00598	0	0	0	0.00598
ARSENIC & COMPOUNDS	0.00114	0	0	0	0.00114
CADMIUM & COMPOUNDS	0.000264	0	0	0	0.000264
CHLOROFORM (TRICHLOROMETHANE)	3.71	0	0	2.44	6.15
CHROMIUM (III) COMPOUNDS	0.00105	0	0	0	0.00105
CHROMIUM (VI) COMPOUNDS	0.000449	0	0	0	0.000449
COBALT & COMPOUNDS	0.00202	0	0	0	0.00202
COPPER & COMPOUNDS	0.013	0	0	0	0.013
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.0188	0.0188
DICHLOROMETHANE	5.57	0	0	3.66	9.23

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
{METHYLENE CHLORIDE}					
ETHYLBENZENE	0	0	0	0.0022	0.0022
FORMALDEHYDE	0.619	0	0	0.407	1.03
HEXADECANE	0	0	0	0.000111	0.000111
ISOMERS OF XYLENE	3.71	0	0	2.48	6.19
LEAD & COMPOUNDS	0.0109	0	0	0	0.0109
MANGANESE & COMPOUNDS	0.0704	0	0	0	0.0704
MERCURY & COMPOUNDS	0.000792	0	0	0	0.000792
METHANE	6160	0	0	4050	10200
M-ETHYLTOLUENE	0	0	0	0.0447	0.0447
MOLYBDENUM	0.00044	0	0	0	0.00044
N-DODECANE	0	0	0	0.00305	0.00305
N-HEPTADECANE	0	0	0	0.000037	0.000037
NICKEL & COMPOUNDS	0.00106	0	0	0	0.00106
N-PENTADECANE	0	0	0	0.000521	0.000521
N-PROPYLBENZENE	0	0	0	0.0228	0.0228
N-TETRADECANE	0	0	0	0.00149	0.00149
N-TRIDECANE	0	0	0	0.00205	0.00205
N-UNDECANE	0	0	0	0.001	0.001
O-ETHYLTOLUENE	0	0	0	0.0384	0.0384
PARTICULATE MATTER ≤ 10 µm	16.9	0	0	0	16.9
PARTICULATE MATTER ≤ 2.5 µm	4.09	0	0	0	4.09
P-DICHLOROBENZENE	0.619	0	0	0.407	1.03
PERCHLOROETHYLENE	4.33	0	0	2.85	7.18
P-ETHYLTOLUENE	0	0	0	0.0735	0.0735
SELENIUM & COMPOUNDS	0.000176	0	0	0	0.000176
TOLUENE	2.47	0	0	1.64	4.11
TOTAL SUSPENDED PARTICULATE	88	0	0	0	88
TOTAL VOLATILE ORGANIC COMPOUNDS	26.6	0	0	17.9	44.5
TRICHLOROETHYLENE (TCE)	0.619	0	0	0.407	1.03
VANADIUM & COMPOUNDS	0.00625	0	0	0	0.00625
ZINC & COMPOUNDS	0.0872	0	0	0	0.0872

A.59 PLASTICS RESINS PRODUCTION

Table A-59: Annual emissions from plastics resins production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,4-TOLUENE DIISOCYANATE {TDI}	0.455	0	0	0	0.455
2,6-TOLUENE DIISOCYANATE	0.455	0	0	0	0.455
2-METHYLPROPANE; ISOBUTANE	0.00377	0	0	0	0.00377
ACETONE	5	0	0	0	5
AMMONIA (TOTAL)	18.2	0	0	0	18.2
ANTIMONY & COMPOUNDS	0.136	0	0	0	0.136
ARSENIC & COMPOUNDS	0.0349	0	0	0	0.0349

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZENE	33.7	0	0	0	33.7
BERYLLIUM & COMPOUNDS	0.000634	0	0	0	0.000634
BUTANE, BRANCHED & LINEAR	140	0	0	0	140
CADMIUM & COMPOUNDS	0.0543	0	0	0	0.0543
CARBON DIOXIDE	3010000	0	0	0	3010000
CARBON MONOXIDE	25700	0	0	0	25700
CHROMIUM (III) COMPOUNDS	0.0756	0	0	0	0.0756
CHROMIUM (VI) COMPOUNDS	0.019	0	0	0	0.019
COBALT & COMPOUNDS	0.0497	0	0	0	0.0497
COPPER & COMPOUNDS	0.314	0	0	0	0.314
CYCLOHEXANE	2.47	0	0	0	2.47
DICHLOROMETHANE {METHYLENE CHLORIDE}	112000	0	0	0	112000
ETHANE	4490	0	0	0	4490
ETHYL ALCOHOL	795	0	0	0	795
ETHYLENE	259	0	0	0	259
FORMALDEHYDE	2920	0	0	0	2920
ISOMERS OF HEPTANE	0.00239	0	0	0	0.00239
ISOMERS OF HEXANE	2.02	0	0	0	2.02
ISOMERS OF OCTANE (C8 PARAFFIN)	0.00432	0	0	0	0.00432
ISOMERS OF PENTANE	18.2	0	0	0	18.2
LEAD & COMPOUNDS	0.271	0	0	0	0.271
MANGANESE & COMPOUNDS	1.62	0	0	0	1.62
MERCURY & COMPOUNDS	0.0295	0	0	0	0.0295
METHANE	3010	0	0	0	3010
MOLYBDENUM	0.04	0	0	0	0.04
N-BUTANE	18.2	0	0	0	18.2
N-HEPTANE	0.000276	0	0	0	0.000276
N-HEXANE	0.00994	0	0	0	0.00994
NICKEL & COMPOUNDS	0.116	0	0	0	0.116
NITRIC OXIDE	4490	0	0	0	4490
NITROGEN DIOXIDE	361	0	0	0	361
NITROUS OXIDE	5.74	0	0	0	5.74
N-PENTANE	12.1	0	0	0	12.1
OXIDES OF NITROGEN	7230	0	0	0	7230
PARTICULATE MATTER ≤ 10 µm	801	0	0	0	801
PARTICULATE MATTER ≤ 2.5 µm	509	0	0	0	509
POLYCHLORINATED DIOXINS AND FURANS	0.00000585	0	0	0	0.00000585
POLYCYCLIC AROMATIC HYDROCARBONS	0.0169	0	0	0	0.0169
PROPANE	4760	0	0	0	4760
PROPYLENE	1380	0	0	0	1380
SELENIUM & COMPOUNDS	0.00563	0	0	0	0.00563
SULFUR DIOXIDE	14.2	0	0	0	14.2
SULFUR TRIOXIDE	0.0276	0	0	0	0.0276
TOLUENE	21.8	0	0	0	21.8

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOLUENE DIISOCYANATE (MIXED ISOMERS)	211	0	0	0	211
TOTAL SUSPENDED PARTICULATE	2420	0	0	0	2420
TOTAL VOLATILE ORGANIC COMPOUNDS	128000	0	0	0	128000
VANADIUM & COMPOUNDS	0.146	0	0	0	0.146
ZINC & COMPOUNDS	3.24	0	0	0	3.24

A.60 PRINTING, PACKAGING AND VISUAL MEDIA PRODUCTION

Table A-60: Annual emissions from printing, packaging and visual media production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	1590	0	0	0	1590
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	0.0152	0	0	0	0.0152
1,2,3-TRIMETHYLBENZENE	0.114	0.0121	0	0	0.126
1,2,4-TRIMETHYLBENZENE	0.0611	0.00648	0	0	0.0676
1,2-DICHLOROETHANE	0.0114	0	0	0	0.0114
1,3,5-TRIMETHYLBENZENE	0.0858	0.00911	0	0	0.0949
1,3-BUTADIENE	3.34	0	0	0	3.34
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	0.00381	0	0	0	0.00381
1,3-DIETHYL-5-METHYL CYCLOHEXANE	46.5	0	0	0	46.5
1,4-DIETHYL-CYCLOHEXANE	21100	0	0	0	21100
1,4-DIOXANE	0.00762	0	0	0	0.00762
1-BUTENE	24800	0	0	0	24800
1-PENTENE	21700	0	0	0	21700
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-TOLUENE DIISOCYANATE {TDI}	240	21.8	0	0	262
2-AMINO-2-METHYL-1-PROPANOL	6000	0	0	0	6000
3,6-DIMETHYL UNDECANE	2000	182	0	0	2180
3,7-DIMETHYL-1-OCTANOL	481	43.6	0	0	524
ACETALDEHYDE	0.0495	0	0	0	0.0495
ACETONE	21700	0	0	0	21700
ACETYLENE	5.39	0	0	0	5.39
AMMONIA (TOTAL)	49.5	0	0	0	49.5
ANTIMONY & COMPOUNDS	0.0276	0.00069	0	0	0.0283
ARSENIC & COMPOUNDS	0.239	0.000132	0	0	0.239
BENZALDEHYDE	38.9	0	0	0	38.9
BENZENE	27.9	0	0	0	27.9
BENZOIC ACID	160	14.5	0	0	175
BERYLLIUM & COMPOUNDS	0.00066	0	0	0	0.00066
BIPHENYLOL {2-PHENYLPHENOL}	561	50.9	0	0	612

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BUTYL ISOPROPYL PHTHALATE	102000	9280	0	0	111000
C10 OLEFINS	1810	131	0	0	1940
C10H12	20600	0	0	0	20600
C9 CYCLOPARAFFINS	8870	0	0	0	8870
CADMIUM & COMPOUNDS	0.0852	0.0000304	0	0	0.0853
CARBON DIOXIDE	6830000	0	0	0	6830000
CARBON MONOXIDE	4790	0	0	0	4790
CARBON TETRACHLORIDE	0.0229	0	0	0	0.0229
CARYOPHYLLENE	881	80	0	0	961
CHLOROBENZENE	0.00381	0	0	0	0.00381
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	70.1	0	0	0	70.1
CHROMIUM (III) COMPOUNDS	0.292	0.000121	0	0	0.292
CHROMIUM (VI) COMPOUNDS	0.017	0.0000517	0	0	0.0171
COBALT & COMPOUNDS	0.0139	0.000233	0	0	0.0141
COPPER & COMPOUNDS	0.109	0.0015	0	0	0.11
CUMENE (1- METHYLETHYLBENZENE)	0.0409	0.00435	0	0	0.0453
CYCLOHEXANE	36600	3320	0	0	39900
CYCLOHEXENE	1760	160	0	0	1920
DI(2-ETHYLHEXYL)PHTHALATE	0.0114	0	0	0	0.0114
DIBROMOETHANE	46.5	0	0	0	46.5
DIBUTYL PHTHALATE	80000	7260	0	0	87300
DICHLOROMETHANE {METHYLENE CHLORIDE}	167	0	0	0	167
DIETHYLCYCLOHEXANE	407	0	0	0	407
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	8600	0	0	0	8600
DIMETHYLCYCLOHEXANES	102	0	0	0	102
DIMETHYLHEPTANOL (2,6- DIMETHYL-2-HEPTANOL)	320	29.1	0	0	350
EICOSANE	3840	349	0	0	4190
ETHANE	1.34	0	0	0	1.34
ETHYL ACETATE	108000	2720	0	0	111000
ETHYL ALCOHOL	149000	3860	0	0	153000
ETHYLBENZENE	47.7	0.000508	0	0	47.7
ETHYLENE	3650	0	0	0	3650
ETHYLHEPTENE	116	0	0	0	116
ETHYLOCTANE	3520	320	0	0	3840
FORMALDEHYDE	39700	0	0	0	39700
HENEICOSANE	2400	218	0	0	2620
HEXADECANE	26600	2410	0	0	29000
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	34000	0	0	0	34000
ISOMERS OF C10H18	228	0	0	0	228
ISOMERS OF DECANE (C10 PARAFFINS)	331	0	0	0	331

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	29600	2680	0	0	32200
ISOMERS OF HEXANE	5.95	0	0	0	5.95
ISOMERS OF NONANE (C9 PARAFFIN)	6790	0	0	0	6790
ISOMERS OF OCTADECANE (C18 PARAFFINS)	13500	1230	0	0	14800
ISOMERS OF PENTADECANE (C15 PARAFFINS)	1200	109	0	0	1310
ISOMERS OF PENTANE	53.5	0	0	0	53.5
ISOMERS OF TETRADECANE (C14 PARAFFINS)	7920	0	0	0	7920
ISOMERS OF UNDECANE (C11 PARAFFINS)	15100	0	0	0	15100
ISOMERS OF XYLENE	20400	0.00778	0	0	20400
ISOPROPYL ACETATE	241000	21900	0	0	263000
ISOPROPYL ALCOHOL	65500	0	0	0	65500
LEAD & COMPOUNDS	0.151	0.00126	0	0	0.153
MANGANESE & COMPOUNDS	0.346	0.00812	0	0	0.354
MERCURY & COMPOUNDS	0.0182	0.0000913	0	0	0.0183
METHANE	148000	0	0	0	148000
METHYL ALCOHOL	292	0	0	0	292
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	320	29.1	0	0	350
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	30400	0	0	0	30400
METHYL ISOBUTYL KETONE	14900	0	0	0	14900
METHYLCYCLOHEXANE	491	0	0	0	491
METHYLETHYLPENTANOATE	240	21.8	0	0	262
METHYLHEPTANOL	561	50.9	0	0	612
M-ETHYLTOLUENE	0.0975	0.0103	0	0	0.108
METHYLUNDECANE	13600	1240	0	0	14900
MOLYBDENUM	0.00203	0.0000507	0	0	0.00208
N,N-DIMETHYLETHANOLAMINE	3000	0	0	0	3000
NAPHTHALENE	0.154	0	0	0	0.154
N-BUTANE	53.5	0	0	0	53.5
N-BUTYL ACETATE	6130	0	0	0	6130
N-BUTYL ALCOHOL	8650	0	0	0	8650
N-DECANE	37	0	0	0	37
N-DODECANE	34.4	0.000707	0	0	34.4
N-HEPTADECANE	0.000079	0.000008	0	0	0.000087
N-HEPTANE	157	0	0	0	157
NICKEL & COMPOUNDS	0.144	0.000122	0	0	0.145
NITRIC OXIDE	3800	0	0	0	3800
NITROGEN DIOXIDE	307	0	0	0	307
NITROUS OXIDE	13.1	0	0	0	13.1
N-NONANE	8.88	0	0	0	8.88
N-OCTANE	0.954	0	0	0	0.954
NONADECANE	7130	647	0	0	7780

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-PENTADECANE	13.6	0.00012	0	0	13.6
N-PENTANE	35.7	0	0	0	35.7
N-PHENYLANILINE {DIPHENYLAMINE}	320	29.1	0	0	350
N-PROPYL ALCOHOL	107000	3810	0	0	110000
N-PROPYLBENZENE	0.0498	0.00529	0	0	0.0551
N-TETRADECANE	22.1	0.000344	0	0	22.1
N-TRIDECANE	33.4	0.000474	0	0	33.4
N-UNDECANE	167	0.000232	0	0	167
O-DICHLOROBENZENE	0.0114	0	0	0	0.0114
O-ETHYLTOLUENE	0.0838	0.00889	0	0	0.0926
OXIDES OF NITROGEN	6130	0	0	0	6130
PARTICULATE MATTER ≤ 10 µm	541	1.95	0	0	543
PARTICULATE MATTER ≤ 2.5 µm	481	0.471	0	0	482
P-DICHLOROBENZENE	11.7	0	0	0	11.7
PERCHLOROETHYLENE	81.7	0	0	0	81.7
P-ETHYLTOLUENE	0.161	0.017	0	0	0.178
PHENOL (CARBOLIC ACID)	0.0953	0	0	0	0.0953
PHTHALIC ANHYDRIDE	38.9	0	0	0	38.9
POLYCHLORINATED DIOXINS AND FURANS	0.000000066	0	0	0	0.000000066
POLYCYCLIC AROMATIC HYDROCARBONS	0.0602	0	0	0	0.0602
PROPANE	23.8	0	0	0	23.8
PROPYL ACETATE	325000	23800	0	0	349000
PROPYLENE	61200	0	0	0	61200
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	53.7	0	0	0	53.7
SELENIUM & COMPOUNDS	0.0236	0.0000203	0	0	0.0236
STYRENE (ETHENYLBENZENE)	0.00381	0	0	0	0.00381
SULFUR DIOXIDE	29.7	0	0	0	29.7
TIN & COMPOUNDS	0.0215	0	0	0	0.0215
TOLUENE	22900	0.00239	0	0	22900
TOTAL SUSPENDED PARTICULATE	870	10.1	0	0	880
TOTAL VOLATILE ORGANIC COMPOUNDS	1740000	86200	0	0	1830000
TRICHLOROETHYLENE (TCE)	11.7	0	0	0	11.7
TRIMETHYLDECANE	2400	218	0	0	2620
TRIMETHYLOCTANES	6490	589	0	0	7080
VANADIUM & COMPOUNDS	0.0147	0.0000203	0	0	0.0147
VINYL CHLORIDE MONOMER	0.0152	0	0	0	0.0152
ZINC & COMPOUNDS	2.23	0.0101	0	0	2.24

A.61 RAILWAY SYSTEMS ACTIVITIES**Table A-61: Annual emissions from railway systems activities**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	14.4	0	0	0	14.4
1,2,3-TRIMETHYLBENZENE	0.113	0	0	0	0.113
1,2,4-TRIMETHYLBENZENE	0.0608	0	0	0	0.0608
1,3,5-TRIMETHYLBENZENE	0.0853	0	0	0	0.0853
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0.00648	0	0	0	0.00648
1-ETHYL-2-METHYLCYCLOPENTANE	0.00648	0	0	0	0.00648
2,4-DIMETHYLHEXANE	16.9	0	0	0	16.9
2,4-DIMETHYLPENTANE	4	0	0	0	4
2-METHYL-3-HEXANONE	8.81	0	0	0	8.81
ACETONE	3.89	0	0	0	3.89
ANTIMONY & COMPOUNDS	21.5	0	0	0	21.5
ARSENIC & COMPOUNDS	4.06	0	0	0	4.06
BENZENE	0.648	0	0	0	0.648
BERYLLIUM & COMPOUNDS	0.00376	0	0	0	0.00376
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.0194	0	0	0	0.0194
BORON & COMPOUNDS	0.246	0	0	0	0.246
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	15.2	0	0	0	15.2
BUTYLBENZENE ISOMERS	0.266	0	0	0	0.266
BUTYLCYCLOHEXANE	0.104	0	0	0	0.104
C10 OLEFINS	0.227	0	0	0	0.227
C11 OLEFINS	0.0583	0	0	0	0.0583
C12 OLEFINS	0.013	0	0	0	0.013
C8 INTERNAL ALKENES	0.353	0	0	0	0.353
C8 OLEFINS	0.201	0	0	0	0.201
CADMIUM & COMPOUNDS	3.25	0	0	0	3.25
CHROMIUM (III) COMPOUNDS	4.08	0	0	0	4.08
CHROMIUM (VI) COMPOUNDS	1.37	0	0	0	1.37
COBALT & COMPOUNDS	1.9	0	0	0	1.9
COPPER & COMPOUNDS	42.7	0	0	0	42.7
CUMENE (1-METHYLETHYLBENZENE)	0.0602	0	0	0	0.0602
CYCLOHEXANE	1.29	0	0	0	1.29
DECALINS (MIXED CIS,TRANS)	0.0389	0	0	0	0.0389
DICHLOROMETHANE {METHYLENE CHLORIDE}	2.66	0	0	0	2.66
DIETHYLCYCLOHEXANE	0.0518	0	0	0	0.0518
DIMETHYLBENZYLALCOHOL	0.013	0	0	0	0.013
DIMETHYLCYCLOBUTANONE	0.0389	0	0	0	0.0389
DIMETHYLCYCLOHEXANES	9.5	0	0	0	9.5
DIMETHYLCYCLOPENTANE	0.46	0	0	0	0.46
DIMETHYLHEPTANES	1.59	0	0	0	1.59

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLHEXANES	0.214	0	0	0	0.214
DIMETHYLNONANES	0.136	0	0	0	0.136
DIMETHYLOCTANES	0.194	0	0	0	0.194
ETHYL ACETATE	4.79	0	0	0	4.79
ETHYL ETHER	0.518	0	0	0	0.518
ETHYL PROPYLCYCLOHEXANES	0.0389	0	0	0	0.0389
ETHYLBENZENE	1.27	0	0	0	1.27
ETHYLCYCLOHEXANE	3.41	0	0	0	3.41
ETHYLCYCLOPENTANE	0.517	0	0	0	0.517
ETHYLDIMETHYLPHENOL	0.0389	0	0	0	0.0389
ETHYLHEPTENE	0.0194	0	0	0	0.0194
ETHYLHEXANE	0.0324	0	0	0	0.0324
ETHYLMETHYLCYCLOHEXANES	0.447	0	0	0	0.447
ETHYLMETHYLOCTANE	0.0454	0	0	0	0.0454
ETHYLOCTANE	0.013	0	0	0	0.013
ETHYLOCTENES	0.0259	0	0	0	0.0259
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.47	0	0	0	0.47
FLUORIDE COMPOUNDS	2.51	0	0	0	2.51
HEXADECANE	0.000239	0	0	0	0.000239
ISOMERS OF C ₉ H ₁₆	0.0778	0	0	0	0.0778
ISOMERS OF DECANE (C ₁₀ PARAFFINS)	0.862	0	0	0	0.862
ISOMERS OF DODECANE (C ₁₂ PARAFFINS)	0.181	0	0	0	0.181
ISOMERS OF NONANE (C ₉ PARAFFIN)	6.56	0	0	0	6.56
ISOMERS OF PROPYLBENZENE	0.181	0	0	0	0.181
ISOMERS OF TETRADECANE (C ₁₄ PARAFFINS)	0.0194	0	0	0	0.0194
ISOMERS OF TRIDECANE (C ₁₃ PARAFFINS)	0.00648	0	0	0	0.00648
ISOMERS OF UNDECANE (C ₁₁ PARAFFINS)	0.603	0	0	0	0.603
ISOMERS OF XYLENE	21.7	0	0	0	21.7
LEAD & COMPOUNDS	35.3	0	0	0	35.3
MANGANESE & COMPOUNDS	256	0	0	0	256
MERCURY & COMPOUNDS	3.65	0	0	0	3.65
METHYL AMYL KETONE	1.95	0	0	0	1.95
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1.98	0	0	0	1.98
METHYL HEXANE	0.823	0	0	0	0.823
METHYL ISOBUTYL KETONE	0.846	0	0	0	0.846
METHYL PROPYLCYCLOHEXANES	0.168	0	0	0	0.168
METHYLCYCLOHEXANE	9.67	0	0	0	9.67
METHYLDECALINS	0.0194	0	0	0	0.0194
METHYLDECANES	0.292	0	0	0	0.292
METHYLDECENES	0.0518	0	0	0	0.0518

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLDODECANES	0.013	0	0	0	0.013
METHYLHEXENES	0.0778	0	0	0	0.0778
METHYLNONANE	0.486	0	0	0	0.486
METHYLNONENES	0.0194	0	0	0	0.0194
METHYLOCTANES	0.473	0	0	0	0.473
METHYLPROPYLNONANE	0.0194	0	0	0	0.0194
M-ETHYLTOLUENE	0.0969	0	0	0	0.0969
METHYLUNDECANE	0.0194	0	0	0	0.0194
MOLYBDENUM	2.57	0	0	0	2.57
NAPHTHALENE	0.0194	0	0	0	0.0194
N-BUTYL ACETATE	22.3	0	0	0	22.3
N-DODECANE	0.00662	0	0	0	0.00662
N-HEPTADECANE	0.000077	0	0	0	0.000077
N-HEPTANE	12.4	0	0	0	12.4
N-HEXANE	0.0259	0	0	0	0.0259
NICKEL & COMPOUNDS	9.96	0	0	0	9.96
N-NONANE	0.564	0	0	0	0.564
NONADIENE	0.013	0	0	0	0.013
N-PENTADECANE	0.00113	0	0	0	0.00113
N-PENTYLCYCLOHEXANE	0.0324	0	0	0	0.0324
N-PROPYLBENZENE	0.0819	0	0	0	0.0819
N-TETRADECANE	0.00323	0	0	0	0.00323
N-TRIDECANE	0.00444	0	0	0	0.00444
N-UNDECANE	0.00218	0	0	0	0.00218
O-ETHYLTOLUENE	0.0833	0	0	0	0.0833
PARTICULATE MATTER ≤ 10 µm	79600	0	0	0	79600
PARTICULATE MATTER ≤ 2.5 µm	9140	0	0	0	9140
PENTAMETHYLBENZENE	0.0194	0	0	0	0.0194
PERCHLOROETHYLENE	4.8	0	0	0	4.8
P-ETHYLTOLUENE	0.16	0	0	0	0.16
PROPENYLCYCLOHEXANE	0.013	0	0	0	0.013
SEC-BUTYL ALCOHOL	0.454	0	0	0	0.454
SELENIUM & COMPOUNDS	0.87	0	0	0	0.87
TETRAMETHYLCYCLOPENTANE	0.0454	0	0	0	0.0454
TETRAMETHYLTHIOUREA	0.00648	0	0	0	0.00648
TOLUENE	94.4	0	0	0	94.4
TOTAL SUSPENDED PARTICULATE	282000	0	0	0	282000
TOTAL VOLATILE ORGANIC COMPOUNDS	298	0	0	0	298
TRICHLOROETHYLENE (TCE)	13.7	0	0	0	13.7
TRICHLOROTRIFLUOROETHANE-F113	2.66	0	0	0	2.66
TRIMETHYLBENZENES	0.459	0	0	0	0.459
TRIMETHYLCYCLOHEXANES	4.06	0	0	0	4.06
TRIMETHYLCYCLOPENTANE	0.633	0	0	0	0.633
TRIMETHYLHEPTANES	0.143	0	0	0	0.143
TRIMETHYLOCTANES	0.0324	0	0	0	0.0324

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
VANADIUM & COMPOUNDS	19.4	0	0	0	19.4
ZINC & COMPOUNDS	117	0	0	0	117

A.62 RECOVERY OF WASTE

Table A-62: Annual emissions from recovery of waste

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	0.444	0.444
1,2,3-TRIMETHYLBENZENE	1.17	0	0	1.53	2.71
1,2,4-TRIMETHYLBENZENE	0.63	0	0	0.822	1.45
1,3,5-TRIMETHYLBENZENE	0.884	0	0	1.15	2.04
2-METHYL-3-BUTENENITRILE	0	0	0	67.7	67.7
2-METHYL-3-HEXANONE	115	0	0	0	115
2-METHYLPROPENE (ISOBUTENE)	0	0	0	37.4	37.4
ACETIC ACID	0	0	0	378	378
ACETONE	39.1	0	0	551	590
AMMONIA (TOTAL)	0	0	0	9750	9750
ANTIMONY & COMPOUNDS	12.1	0.0181	0	0.109	12.2
ARSENIC & COMPOUNDS	2.41	0.0159	0	0.0222	2.44
BENZENE	0	0	0	3.66	3.66
BERYLLIUM & COMPOUNDS	0.0242	0.00269	0	0.0000868	0.027
BORON & COMPOUNDS	1.43	0.145	0	0	1.58
CADMIUM & COMPOUNDS	1.95	0.00451	0	0.0149	1.97
CARBON DIOXIDE	0	0	0	896000	896000
CARBON DISULFIDE	0	0	0	1.17	1.17
CARBON MONOXIDE	0	0	0	614	614
CHLOROFORM (TRICHLOROMETHANE)	0	0	0	0.333	0.333
CHROMIUM (III) COMPOUNDS	6.96	0.617	0	0.0281	7.61
CHROMIUM (VI) COMPOUNDS	0.755	0.000596	0	0.00847	0.764
COBALT & COMPOUNDS	1.32	0.0699	0	0.0329	1.43
COPPER & COMPOUNDS	57	4.89	0	0.24	62.1
CUMENE (1-METHYLETHYLBENZENE)	0.422	0	0	0.551	0.973
CYCLOHEXANE	15.9	0	0	0.914	16.8
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	0.499	0.499
DIMETHYL DISULFIDE	0	0	0	21	21
DIMETHYL SULFIDE	0	0	0	50.2	50.2
ETHYL ACETATE	62.9	0	0	52.6	115
ETHYL ALCOHOL	0	0	0	1740	1740
ETHYL BUTYRATE	0	0	0	3.5	3.5
ETHYLBENZENE	16.6	0	0	0.0645	16.7
ETHYLTOLUENES {METHYLETHYLBENZENES}	6.17	0	0	1.17	7.34
FLUORIDE COMPOUNDS	14.8	1.73	0	0	16.6
FORMALDEHYDE	0	0	0	7.37	7.37
FREON	0	0	0	166	166

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXADECANE	0.00251	0	0	0.00328	0.00579
ISOMERS OF HEXANE	0	0	0	0.914	0.914
ISOMERS OF PENTANE	0	0	0	8.23	8.23
ISOMERS OF XYLENE	163	0	0	1.32	164
ISOPROPYL ALCOHOL	0	0	0	908	908
LEAD & COMPOUNDS	21.8	0.314	0	0.198	22.3
MANGANESE & COMPOUNDS	209	8.77	0	1.27	219
MERCURY & COMPOUNDS	2.08	0.00216	0	0.017	2.1
METHANE	0	0	0	7230	7230
METHYL ALCOHOL	0	0	0	590	590
METHYL AMYL KETONE	25.4	0	0	0	25.4
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	16.6	0	0	102	118
METHYL ISOBUTYL KETONE	11	0	0	0	11
METHYLCYCLOPENTANE	0	0	0	11.7	11.7
M-ETHYLTOLUENE	1	0	0	1.31	2.32
MOLYBDENUM	1.48	0.00117	0	0.0088	1.49
N-BUTANE	0	0	0	8.23	8.23
N-BUTYL ACETATE	66	0	0	0	66
N-BUTYL ALCOHOL	0	0	0	11.7	11.7
N-DODECANE	0.0687	0	0	0.0897	0.158
N-HEPTADECANE	0.000835	0	0	0.00109	0.00193
N-HEPTANE	10.9	0	0	16.4	27.3
N-HEXANE	0	0	0	72.4	72.4
NICKEL & COMPOUNDS	40.5	5.05	0	0.0393	45.5
NITRIC OXIDE	0	0	0	453	453
NITROGEN DIOXIDE	0	0	0	36.6	36.6
NITROUS OXIDE	0	0	0	1.7	1.7
N-OCTANE	0	0	0	3.5	3.5
N-PENTADECANE	0.0117	0	0	0.0153	0.027
N-PENTANE	0	0	0	5.48	5.48
N-PROPYL ALCOHOL	0	0	0	204	204
N-PROPYLBENZENE	0.513	0	0	0.67	1.18
N-TETRADECANE	0.0335	0	0	0.0437	0.0772
N-TRIDECANE	0.0461	0	0	0.0601	0.106
N-UNDECANE	0.0226	0	0	0.0295	0.0521
OCTAMETHYLCYCLOTETRASILOXANE	0	0	0	2.34	2.34
O-ETHYLTOLUENE	0.863	0	0	1.13	1.99
OXIDES OF NITROGEN	0	0	0	731	731
PARTICULATE MATTER ≤ 10 µm	87700	6990	0	447	95100
PARTICULATE MATTER ≤ 2.5 µm	13600	1400	0	170	15100
P-DICHLOROBENZENE	0	0	0	0.0555	0.0555
PERCHLOROETHYLENE	0	0	0	0.388	0.388
P-ETHYLTOLUENE	1.65	0	0	2.16	3.82
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	8.68x10 ⁻⁰⁹	8.68x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	0.00503	0.00503

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPANE	0	0	0	3.66	3.66
PROPYL ACETATE	0	0	0	60.7	60.7
SELENIUM & COMPOUNDS	0.958	0.0619	0	0.0035	1.02
SULFUR DIOXIDE	0	0	0	3.82	3.82
TOLUENE	112	0	0	2.35	114
TOTAL SUSPENDED PARTICULATE	283000	19800	0	1700	305000
TOTAL VOLATILE ORGANIC COMPOUNDS	671	0	0	5110	5780
TRICHLOROETHYLENE (TCE)	0	0	0	0.0555	0.0555
TRIMETHYLBENZENES	3.51	0	0	0	3.51
VANADIUM & COMPOUNDS	11.4	0.009	0	0.018	11.4
ZINC & COMPOUNDS	62.5	0.832	0	1.64	64.9

A.63 RECOVERY OF WASTE OIL

Table A-63: Annual emissions from recovery of waste oil

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.117	0	0	0	0.117
(2-METHYLBUTYL)CYCLOHEXANE	0.156	0	0	0	0.156
1,1,1-TRICHLOROETHANE	37.4	0	0	16.7	54.2
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.039	0	0	0	0.039
1,1,2-TRIMETHYLCYCLOHEXANE	0.0779	0	0	0	0.0779
1,1,2-TRIMETHYLCYCLOPENTANE	0.234	0	0	0	0.234
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.195	0	0	0	0.195
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	0.779	0	0	0	0.779
1,1,3-TRIMETHYLCYCLOPENTANE	0.779	0	0	0	0.779
1,1,4-TRIMETHYLCYCLOHEXANE	0.156	0	0	0	0.156
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.0779	0	0	0	0.0779
1,1-DIMETHYLCYCLOHEXANE	0.312	0	0	0	0.312
1,1-DIMETHYLCYCLOPENTANE	0.117	0	0	0	0.117
1,1-METHYLETHYLCYCLOPENTANE	0.0779	0	0	0	0.0779
1,2,3,5-TETRAMETHYLBENZENE	0.351	0	0	0	0.351
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	0.937	0	0	0	0.937
1,2,3-TRIMETHYLCYCLOHEXANE	0.467	0	0	0	0.467
1,2,4,5-TETRAMETHYLBENZENE	0.234	0	0	0	0.234
1,2,4-TRIMETHYLBENZENE	1.75	0	0	0	1.75
1,2,4-TRIMETHYLCYCLOPENTENE	1.6	0	0	0	1.6
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.156	0	0	0	0.156
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.195	0	0	0	0.195
1,2-DIMETHYL-4-ETHYLBENZENE	0.39	0	0	0	0.39
1,2-DIMETHYLCYCLOPENTANE	1.36	0	0	0	1.36
1,3,5-TRIETHYL CYCLOHEXANE	0.0779	0	0	0	0.0779

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3,5-TRIMETHYLBENZENE	0.289	0	0	0	0.289
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0	0
1,3-DIETHYL-CYCLOHEXANE	0.117	0	0	0	0.117
1,3-DIMETHYL-2-ETHYLBENZENE	0.312	0	0	0	0.312
1,3-DIMETHYL-4-ETHYLBENZENE	0.156	0	0	0	0.156
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.039	0	0	0	0.039
1,3-DIMETHYL-5-ETHYLBENZENE	0.312	0	0	0	0.312
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-DIETHYL-CYCLOHEXANE	0.156	0	0	0	0.156
1,4-DIMETHYL-2-ETHYLBENZENE	0.234	0	0	0	0.234
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.0779	0	0	0	0.0779
1-ETHYL-2,2,6- TRIMETHYLCYCLOHEXANE	0.0779	0	0	0	0.0779
1-ETHYL-2,4- DIMETHYLCYCLOHEXANE	0.039	0	0	0	0.039
1-ETHYL-2-PROPYL CYCLOHEXANE	1.32	0	0	0	1.32
1-ETHYL-4-ISOPROPYLBENZENE	0.156	0	0	0	0.156
1-METHYL INDAN	0.467	0	0	0	0.467
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2- ISOPROPYLCYCLOHEXANE	0.351	0	0	0	0.351
1-METHYL-3-BUTYLBENZENE	0	0	0	0	0
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0	0	0	0	0
1-METHYL-3-ISOPROPYLBENZENE	0.467	0	0	0	0.467
1-METHYL-3- ISOPROPYLCYCLOHEXANE	0.39	0	0	0	0.39
1-METHYL-4-ISOBUTYLBENZENE	0.039	0	0	0	0.039
1-METHYL-4-ISOPROPYLBENZENE	0.039	0	0	0	0.039
1-METHYL-4- ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	0.584	0	0	0	0.584
1-METHYL-4-PENTYL CYCLOHEXANE	0.0779	0	0	0	0.0779
1-NONENE	0.019	0	0	0	0.019
1-OCTENE	0.019	0	0	0	0.019
1-PENTENE	0.019	0	0	0	0.019
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	2.1	0	0	0	2.1
2,2,3,3-TETRAMETHYLPENTANE	0.039	0	0	0	0.039
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	0.117	0	0	0	0.117
2,2-DIMETHYLBUTANE	0.019	0	0	0	0.019
2,2-DIMETHYLHEPTANE	0	0	0	0	0
2,3,4-TRIMETHYLPENTANE	0.0779	0	0	0	0.0779
2,3,5-TRIMETHYLHEPTANE	0.039	0	0	0	0.039
2,3-DIMETHYLHEPTANE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,3-DIMETHYLHEXANE	0.351	0	0	0	0.351
2,3-DIMETHYLOCTANE	0.584	0	0	0	0.584
2,3-DIMETHYLPENTANE	0.195	0	0	0	0.195
2,4-DIMETHYLHEPTANE	0.351	0	0	0	0.351
2,4-DIMETHYLHEXANE	0.545	0	0	0	0.545
2,4-DIMETHYLNONANE	0.039	0	0	0	0.039
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	0.0969	0	0	0	0.0969
2,5-DIMETHYLHEPTANE	0.506	0	0	0	0.506
2,5-DIMETHYLHEXANE	0	0	0	0	0
2,5-DIMETHYLNONANE	0.428	0	0	0	0.428
2,5-DIMETHYLOCTANE	0.039	0	0	0	0.039
2,6-DIMETHYLDECANE	0.312	0	0	0	0.312
2,6-DIMETHYLHEPTANE	0.896	0	0	0	0.896
2,6-DIMETHYLNONANE	1.71	0	0	0	1.71
2,6-DIMETHYLOCTANE	0.662	0	0	0	0.662
2,6-DIMETHYLUDECANE	0.0779	0	0	0	0.0779
2,7-DIMETHYLDECANE	0	0	0	0	0
2,7-DIMETHYLOCTANE	0.0779	0	0	0	0.0779
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	0.935	0	0	0	0.935
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	1.4	0	0	0	1.4
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0.117	0	0	0	0.117
2-METHYL-1-PENTENE	0.0379	0	0	0	0.0379
2-METHYL-2-BUTENE	0.019	0	0	0	0.019
2-METHYL-3-ETHYLPENTANE	0.0779	0	0	0	0.0779
2-METHYLDECALIN	0.156	0	0	0	0.156
2-METHYLDECANE	0.974	0	0	0	0.974
2-METHYLHEPTANE	2.61	0	0	0	2.61
2-METHYLHEXANE	1.56	0	0	0	1.56
2-METHYLNAPHTHALENE	0.039	0	0	0	0.039
2-METHYLNONANE	0.662	0	0	0	0.662
2-METHYLOCTANE	0.39	0	0	0	0.39
2-METHYLPROPANE; ISOBUTANE	0.838	0	0	5.57	6.41
2-METHYLPROPENE (ISOBUTENE)	0.0379	0	0	0	0.0379
2-METHYLUDECANE {ISODODECANE}	0.351	0	0	0	0.351
3,3,5-TRIMETHYLHEPTANE	0.039	0	0	0	0.039
3,4-DIMETHYLHEXANE	0.156	0	0	0	0.156
3,4-DIMETHYLOCTANE	0.117	0	0	0	0.117
3,5-DIMETHYLNONANE	0	0	0	0	0
3,5-DIMETHYLOCTANE	0.117	0	0	0	0.117
3,6-DIMETHYL DECANE	0.117	0	0	0	0.117
3,6-DIMETHYL UNDECANE	0	0	0	0	0
3,6-DIMETHYLOCTANE	0.156	0	0	0	0.156
3,7-DIMETHYLNONANE	0.506	0	0	0	0.506

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3-ETHYL-2-METHYLHEPTANE	0.195	0	0	0	0.195
3-ETHYL-3-METHYLOCTANE	0.156	0	0	0	0.156
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.039	0	0	0	0.039
3-ETHYLHEPTANE	0.156	0	0	0	0.156
3-ETHYLHEXANE	0.351	0	0	0	0.351
3-ETHYLOCTANE	0.117	0	0	0	0.117
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	0.896	0	0	0	0.896
3-METHYLHEPTANE	1.67	0	0	0	1.67
3-METHYLHEXANE	0.175	0	0	0	0.175
3-METHYLNONANE	0.39	0	0	0	0.39
3-METHYLOCTANE	0.467	0	0	0	0.467
3-METHYLPENTANE	0.0379	0	0	0	0.0379
3-METHYLUNDECANE	0.195	0	0	0	0.195
3-PHENYLPENTANE	0.195	0	0	0	0.195
4,5-DIMETHYLDECANE	0.039	0	0	0	0.039
4,5-DIMETHYLOCTANE	0.195	0	0	0	0.195
4-ETHYLDECANE	0.156	0	0	0	0.156
4-METHYLDECANE	0.779	0	0	0	0.779
4-METHYLHEPTANE	0.701	0	0	0	0.701
4-METHYLINDAN	0.0779	0	0	0	0.0779
4-METHYLNONANE	1.13	0	0	0	1.13
4-METHYLOCTANE	0.584	0	0	0	0.584
4-METHYLUNDECANE	0.117	0	0	0	0.117
5-ISOPROPYLNONANE	0.117	0	0	0	0.117
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	0.74	0	0	0	0.74
5-METHYLINDAN	0.623	0	0	0	0.623
5-METHYLUNDECANE	0.156	0	0	0	0.156
6-ETHYL-2-METHYLOCTANE	0.195	0	0	0	0.195
6-METHYLUNDECANE	0.195	0	0	0	0.195
ACETALDEHYDE	0.0569	0	0	0	0.0569
ACETONE	13.5	0	0	0	13.5
ACETYLENE	0.607	0	0	0	0.607
AMMONIA (TOTAL)	42.1	0	0	329	371
ANTIMONY & COMPOUNDS	0.094	0	0	0.000738	0.0948
ARSENIC & COMPOUNDS	0.034	0	0	0.223	0.257
BENZENE	30.7	0	0	10.1	40.7
BERYLLIUM & COMPOUNDS	0.00114	0	0	0.17	0.172
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	12	0	0	0	12
BUTYLCYCLOHEXANE	0.701	0	0	0	0.701
C10 OLEFINS	0.0379	0	0	0	0.0379
C5 KETONES	1.71	0	0	0	1.71
C7 INTERNAL ALKENES	0.019	0	0	0	0.019
C9 OLEFINS	0.0759	0	0	0	0.0759

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.0924	0	0	0.171	0.263
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	0.467	0	0	0	0.467
CARBON DIOXIDE	8190000	0	0	8770000	17000000
CARBON MONOXIDE	5660	0	0	2080	7730
CHLORINE	0.00201	0	0	0	0.00201
CHLOROFORM (TRICHLOROMETHANE)	25.1	0	0	12.6	37.7
CHROMIUM (III) COMPOUNDS	0.116	0	0	0.12	0.236
CHROMIUM (VI) COMPOUNDS	0.0162	0	0	0.0512	0.0674
CIS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.156	0	0	0	0.156
CIS,TRANS-1,2,3-TRIMETHYLCYCLOHEXANE	0.117	0	0	0	0.117
CIS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	0.312	0	0	0	0.312
CIS-1,2-DIMETHYLCYCLOHEXANE	0.117	0	0	0	0.117
CIS-1,3-DIMETHYLCYCLOHEXANE	2.96	0	0	0	2.96
CIS-1,3-DIMETHYLCYCLOPENTANE	0.467	0	0	0	0.467
CIS-1,4-DIMETHYLCYCLOHEXANE	0.156	0	0	0	0.156
CIS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.39	0	0	0	0.39
CIS-1,CIS-3,5-TRIMETHYLCYCLOHEXANE	0.818	0	0	0	0.818
CIS-1,TRANS-2,3-TRIMETHYLCYCLOPENTANE	0.39	0	0	0	0.39
CIS-1-ETHYL-2-METHYLCYCLOHEXANE	0.039	0	0	0	0.039
CIS-1-ETHYL-2-METHYLCYCLOPENTANE	0.039	0	0	0	0.039
CIS-1-ETHYL-3-METHYLCYCLOHEXANE	0.506	0	0	0	0.506
CIS-1-METHYL-3-ETHYLCYCLOPENTANE	0.117	0	0	0	0.117
CIS-2-BUTENE	0.0379	0	0	0	0.0379
CIS-BICYCLO[3.3.0]OCTANE	0.039	0	0	0	0.039
CIS-BICYCLO[4.3.0]NONANE	0.156	0	0	0	0.156
CIS-DECALIN	0.039	0	0	0	0.039
COBALT & COMPOUNDS	0.0393	0	0	0.000153	0.0394
COPPER & COMPOUNDS	0.258	0	0	0.343	0.6
CUMENE (1-METHYLETHYLBENZENE)	0.337	0	0	0	0.337
CYCLOHEXANE	7.79	0	0	2.52	10.3
CYCLOPENTANE	0.0379	0	0	0	0.0379
DI(PROPYLENE GLYCOL) METHYL ETHER	1.17	0	0	0	1.17
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	11.5	0	0	0	11.5
DICHLOROMETHANE {METHYLENE CHLORIDE}	37.7	0	0	18.8	56.5

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHANE	37.8	0	0	0	37.8
ETHYL ACETATE	5.84	0	0	0	5.84
ETHYL ALCOHOL	9.43	0	0	0	9.43
ETHYLBENZENE	0.533	0	0	0	0.533
ETHYLCYCLOHEXANE	1.21	0	0	0	1.21
ETHYLCYCLOPENTANE	0.662	0	0	0	0.662
ETHYLENE	1.19	0	0	0	1.19
ETHYLENE GLYCOL	13	0	0	0	13
FLUORIDE COMPOUNDS	0.00896	0	0	0	0.00896
FORMALDEHYDE	74.3	0	0	88.4	163
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	0.000381	0	0	0	0.000381
HEXYLCYCLOHEXANE	0.0779	0	0	0	0.0779
HEXYLCYCLOPENTANE	0.117	0	0	0	0.117
INDAN	0.234	0	0	0	0.234
ISOBUTYL ALCOHOL	8.02	0	0	0	8.02
ISOBUTYLCYCLOHEXANE (2-METHYLPROPYL CYCLOHEXANE)	0.351	0	0	0	0.351
ISOBUTYRALDEHYDE	0.0379	0	0	0	0.0379
ISOMERS OF BUTENE	0.493	0	0	0	0.493
ISOMERS OF DECANE (C10 PARAFFINS)	0.729	0	0	0	0.729
ISOMERS OF HEPTANE	0.0884	0	0	3.53	3.62
ISOMERS OF HEXANE	7.67	0	0	9.58	17.3
ISOMERS OF NONANE (C9 PARAFFIN)	0.291	0	0	0	0.291
ISOMERS OF OCTANE (C8 PARAFFIN)	0.054	0	0	6.39	6.44
ISOMERS OF PENTANE	68.8	0	0	30.1	98.9
ISOMERS OF UNDECANE (C11 PARAFFINS)	0.0259	0	0	0	0.0259
ISOMERS OF XYLENE	104	0	0	12.6	117
ISOPROPYL ALCOHOL	5.84	0	0	0	5.84
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	0.351	0	0	0	0.351
LEAD & COMPOUNDS	0.209	0	0	0.513	0.722
MANGANESE & COMPOUNDS	1.12	0	0	0.35	1.47
MERCURY & COMPOUNDS	0.0331	0	0	0.171	0.204
METHANE	42300	0	0	21000	63200
METHYL ALCOHOL	0.428	0	0	0	0.428
METHYL AMYL KETONE	1.01	0	0	0	1.01
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	0.467	0	0	0	0.467
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	16.2	0	0	0	16.2
METHYL ISOBUTYL KETONE	12.3	0	0	0	12.3
METHYLCYCLOHEXANE	11.9	0	0	0	11.9
METHYLCYCLOOCTANE	0	0	0	0	0
METHYLCYCLOPENTANE	0.0759	0	0	0	0.0759
M-ETHYLTOLUENE	0.561	0	0	0	0.561
MOLYBDENUM	0.0263	0	0	0.0000784	0.0264

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NAPHTHALENE	0.273	0	0	0	0.273
N-BUTANE	70.5	0	0	39.2	110
N-BUTYL ACETATE	16.6	0	0	0	16.6
N-BUTYL ALCOHOL	0	0	0	0	0
N-BUTYLCYCLOPENTANE	0	0	0	0	0
N-DECANE	5.52	0	0	0	5.52
N-DODECANE	0.937	0	0	0	0.937
N-HEPTADECANE	0.000127	0	0	0	0.000127
N-HEPTANE	6.2	0	0	0.408	6.61
N-HEXANE	0.0787	0	0	14.7	14.8
NICKEL & COMPOUNDS	0.203	0	0	0.172	0.375
NITRIC OXIDE	4190	0	0	5080	9270
NITROGEN DIOXIDE	338	0	0	410	748
NITROUS OXIDE	15.6	0	0	81.6	97.2
N-NONANE	1.49	0	0	0	1.49
N-OCTANE	4.68	0	0	0	4.68
N-PENTADECANE	0.106	0	0	0	0.106
N-PENTANE	46	0	0	21.5	67.4
N-PENTYLCYCLOHEXANE	0.234	0	0	0	0.234
N-PROPYLBENZENE	0.117	0	0	0	0.117
N-TETRADECANE	0.175	0	0	0	0.175
N-TRIDECANE	0.303	0	0	0	0.303
N-UNDECANE	5.69	0	0	0	5.69
O-ETHYLTOLUENE	0.578	0	0	0	0.578
OXIDES OF NITROGEN	6760	0	0	8200	15000
PARTICULATE MATTER ≤ 10 µm	860	0	0	216	1080
PARTICULATE MATTER ≤ 2.5 µm	662	0	0	212	874
P-DICHLOROBENZENE	4.19	0	0	2.09	6.28
PENTYLCYCLOPENTANE	0.351	0	0	0	0.351
PERCHLOROETHYLENE	29.3	0	0	14.7	44
P-ETHYLTOLUENE	0.758	0	0	0	0.758
POLYCHLORINATED DIOXINS AND FURANS	0.00000386	0	0	6.17x10 ⁻⁰⁸	0.00000392
POLYCYCLIC AROMATIC HYDROCARBONS	0.0558	0	0	0.486	0.542
PROPANE	47.2	0	0	11.7	58.9
PROPYL ACETATE	2.34	0	0	0	2.34
PROPYLCYCLOHEXANE	0.506	0	0	0	0.506
PROPYLCYCLOPENTANE	0.0779	0	0	0	0.0779
PROPYLENE	3.2	0	0	0	3.2
PROPYLENE GLYCOL	4.83	0	0	0	4.83
PROPYLENE GLYCOL METHYL	1.17	0	0	0	1.17
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	2.34	0	0	0	2.34
SEC-BUTYL ALCOHOL	11.4	0	0	0	11.4
SELENIUM & COMPOUNDS	0.00576	0	0	0.852	0.858
STYRENE (ETHENYLBENZENE)	0	0	0	0	0
SULFUR DIOXIDE	53.6	0	0	6110	6170

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
SULFUR TRIOXIDE	0.245	0	0	81.5	81.8
TOLUENE	85.1	0	0	13.4	98.5
TOTAL SUSPENDED PARTICULATE	1960	0	0	229	2190
TOTAL VOLATILE ORGANIC COMPOUNDS	984	0	0	337	1320
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	0.974	0	0	0	0.974
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.351	0	0	0	0.351
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	0.779	0	0	0	0.779
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	1.44	0	0	0	1.44
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	0.74	0	0	0	0.74
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.0779	0	0	0	0.0779
TRANS-1,3-DIMETHYLCYCLOHEXANE	0.974	0	0	0	0.974
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.623	0	0	0	0.623
TRANS-1,4-DIMETHYLCYCLOHEXANE	1.01	0	0	0	1.01
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.156	0	0	0	0.156
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	0.273	0	0	0	0.273
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.117	0	0	0	0.117
TRANS-2-BUTENE	0.247	0	0	0	0.247
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.195	0	0	0	0.195
TRANS-2-PENTENE	0.019	0	0	0	0.019
TRICHLOROETHYLENE (TCE)	4.19	0	0	2.09	6.28
VANADIUM & COMPOUNDS	0.0435	0	0	0.000467	0.0439
ZINC & COMPOUNDS	3.62	0	0	0.242	3.87

A.64 RECOVERY OF WASTE TYRES

Table A-64: Annual emissions from recovery of waste tyres

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-BUTADIENE	52.3	0	0	0	52.3
ANTIMONY & COMPOUNDS	0.000911	0	0	0	0.000911
ARSENIC & COMPOUNDS	0.000174	0	0	0	0.000174
BENZENE	9.15	0	0	0	9.15
C7 CYCLOPARAFFINS	37.7	0	0	0	37.7
C8 CYCLOPARAFFINS	5.23	0	0	0	5.23
CADMIUM & COMPOUNDS	0.0000402	0	0	0	0.0000402
CHROMIUM (III) COMPOUNDS	0.000159	0	0	0	0.000159
CHROMIUM (VI) COMPOUNDS	0.0000683	0	0	0	0.0000683
COBALT & COMPOUNDS	0.000308	0	0	0	0.000308

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
COPPER & COMPOUNDS	0.00198	0	0	0	0.00198
CYCLOHEXANE	14.6	0	0	0	14.6
CYCLOPENTANE	0.183	0	0	0	0.183
ISOMERS OF HEPTANE	4.26	0	0	0	4.26
ISOMERS OF HEXANE	21.1	0	0	0	21.1
ISOMERS OF OCTANE (C8 PARAFFIN)	0.706	0	0	0	0.706
LEAD & COMPOUNDS	0.00166	0	0	0	0.00166
MANGANESE & COMPOUNDS	0.0107	0	0	0	0.0107
MERCURY & COMPOUNDS	0.000121	0	0	0	0.000121
METHYLCYCLOPENTANE	44.8	0	0	0	44.8
MOLYBDENUM	0.000067	0	0	0	0.000067
N-HEPTANE	1.65	0	0	0	1.65
N-HEXANE	34.3	0	0	0	34.3
NICKEL & COMPOUNDS	0.000161	0	0	0	0.000161
N-OCTANE	0.34	0	0	0	0.34
PARTICULATE MATTER ≤ 10 µm	2.57	0	0	0	2.57
PARTICULATE MATTER ≤ 2.5 µm	0.622	0	0	0	0.622
SELENIUM & COMPOUNDS	0.0000268	0	0	0	0.0000268
STYRENE (ETHENYLBENZENE)	34.9	0	0	0	34.9
TOLUENE	0.34	0	0	0	0.34
TOTAL SUSPENDED PARTICULATE	13.4	0	0	0	13.4
TOTAL VOLATILE ORGANIC COMPOUNDS	261	0	0	0	261
VANADIUM & COMPOUNDS	0.0000268	0	0	0	0.0000268
ZINC & COMPOUNDS	0.0133	0	0	0	0.0133

A.65 RENDERING OR FAT EXTRACTION

Table A-65: Annual emissions from rendering or fat extraction

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	102	0	0	10.4	112
1,2,3-TRIMETHYLBENZENE	0.683	0	0	0.0242	0.708
1,2,4-TRIMETHYLBENZENE	0.369	0	0	0.013	0.382
1,3,5-TRIMETHYLBENZENE	0.515	0	0	0.0182	0.533
1,3-DIETHYL-5-METHYL CYCLOHEXANE	0	0	0	0.148	0.148
1,4-DIETHYL-CYCLOHEXANE	0	0	0	0.471	0.471
1,4-PENTADIENE	0.00658	0	0	0	0.00658
1-BUTENE	0.0303	0	0	0	0.0303
1-CHLOROBUTANE	0.0665	0	0	0	0.0665
1-ETHOXY-2-PROPANOL	0.044	0	0	0	0.044
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	0.0216	0	0	0	0.0216
1-ETHYL-2-METHYLCYCLOPENTANE	0.0216	0	0	0	0.0216
1-PENTENE	0.0362	0	0	0	0.0362

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	0.0235	0	0	0	0.0235
2,2,3,TRIMETHYLHEXANE	0.000657	0	0	0	0.000657
2,2,3-TRIMETHYLBUTANE	0.00132	0	0	0	0.00132
2,2,4-TRIMETHYLPENTANE	0.0322	0	0	0	0.0322
2,2-DIMETHYLBUTANE	0.00987	0	0	0	0.00987
2,2-DIMETHYLHEXANE	0.00132	0	0	0	0.00132
2,2-DIMETHYLPENTANE	0.00329	0	0	0	0.00329
2,3,3-TRIMETHYLPENTANE	0.00329	0	0	0	0.00329
2,3,4-TRIMETHYLPENTANE	0.00329	0	0	0	0.00329
2,3-DIMETHYLBUTANE	0.0533	0	0	0	0.0533
2,3-DIMETHYLHEXANE	0.00526	0	0	0	0.00526
2,3-DIMETHYLPENTANE	0.0118	0	0	0	0.0118
2,4-DIMETHYLHEXANE	0.0817	0	0	1.45	1.53
2,4-DIMETHYLPENTANE	0.0276	0	0	0.348	0.376
2,5-DIMETHYLHEXANE	0.0046	0	0	0	0.0046
2-BUTYLTETRAHYDROFURAN	0.00452	0	0	0	0.00452
2-ETHYL-1-HEXANOL	0.0304	0	0	0	0.0304
2-METHYL-1-BUTENE	0.0743	0	0	0	0.0743
2-METHYL-2-BUTENE	0.291	0	0	0	0.291
2-METHYL-3-HEXANONE	0.0378	0	0	2.31	2.34
2-METHYLHEPTANE	0.00987	0	0	0	0.00987
2-METHYLHEXANE	0.0335	0	0	0	0.0335
2-METHYLNONANE	0.000657	0	0	0	0.000657
2-METHYLOCTANE	0.000657	0	0	0	0.000657
2-METHYLPENTANE	0.314	0	0	0	0.314
2-METHYLPROPANE; ISOBUTANE	0.201	0	0	0	0.201
3-(CHLOROMETHYL)-HEPTANE	0.0187	0	0	0	0.0187
3,3-DIMETHYLPENTANE	0.00395	0	0	0	0.00395
3-ETHYLPENTANE	0.00658	0	0	0	0.00658
3-METHYL-1-BUTENE	0.00197	0	0	0	0.00197
3-METHYLHEPTANE	0.00921	0	0	0	0.00921
3-METHYLHEXANE	0.0414	0	0	0	0.0414
3-METHYLOCTANE	0.00132	0	0	0	0.00132
3-METHYLPENTANE	0.154	0	0	0	0.154
4-METHYLHEPTANE	0.00526	0	0	0	0.00526
4-METHYLOCTANE	0.000657	0	0	0	0.000657
ACETONE	3.04	0	0	0.782	3.82
AMMONIA (TOTAL)	1040	0	0	5860	6900
ANTIMONY & COMPOUNDS	0.54	0	0	0.0207	0.561
ARSENIC & COMPOUNDS	0.145	0	0	0.0143	0.159
BENZALDEHYDE	0	0	0	0.124	0.124
BENZENE	106	0	0	23.5	130
BERYLLIUM & COMPOUNDS	0.00254	0	0	0.000614	0.00316
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0.0648	0	0	0	0.0648
BUTYL CELLOSOLVE {2- BUTOXYETHANOL} {EGBE}	0.0653	0	0	1.33	1.39

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BUTYLBENZENE ISOMERS	0.886	0	0	0	0.886
BUTYLCYCLOHEXANE	0.346	0	0	0	0.346
C10 OLEFINS	0.756	0	0	1.17	1.93
C11 OLEFINS	0.194	0	0	0	0.194
C12 OLEFINS	0.0432	0	0	0	0.0432
C8 INTERNAL ALKENES	0.00151	0	0	0	0.00151
C8 OLEFINS	0.67	0	0	0	0.67
CADMIUM & COMPOUNDS	0.294	0	0	0.0592	0.353
CARBON DIOXIDE	25800000	0	0	5930000	31700000
CARBON MONOXIDE	17600	0	0	4050	21600
CHLOROETHANE (ETHYL CHLORIDE)	0.0187	0	0	0	0.0187
CHLOROFORM (TRICHLOROMETHANE)	40.4	0	0	7.81	48.2
CHROMIUM (III) COMPOUNDS	0.366	0	0	0.0702	0.436
CHROMIUM (VI) COMPOUNDS	0.0533	0	0	0.00608	0.0594
CIS-1,3-DIMETHYLCYCLOPENTANE	0.0145	0	0	0	0.0145
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.00921	0	0	0	0.00921
CIS-1-2-DIMETHYLCYCLOPENTANE	0.00921	0	0	0	0.00921
CIS-2-BUTENE	0.0197	0	0	0	0.0197
CIS-2-PENTENE	0.107	0	0	0	0.107
COBALT & COMPOUNDS	0.131	0	0	0.0104	0.141
COPPER & COMPOUNDS	1.3	0	0	0.0858	1.39
CUMENE (1-METHYLETHYLBENZENE)	0.31	0	0	0.00869	0.319
CYCLOHEXANE	26.3	0	0	6.18	32.5
CYCLOPENTENE	0.00197	0	0	0	0.00197
DECALINS (MIXED CIS,TRANS)	0.13	0	0	0	0.13
DIACETONE ALCOHOL (4-HYDROXY- 4-METHYL-2-PENTANONE)	0.0235	0	0	0	0.0235
DIBROMOETHANE	0	0	0	0.148	0.148
DIBUTYL ETHER	0.00723	0	0	0	0.00723
DICHLOROMETHANE {METHYLENE CHLORIDE}	69.6	0	0	11.9	81.5
DIETHYLCYCLOHEXANE	0.173	0	0	1.3	1.47
DIMETHOXYMETHANE (METHYLAL)	0.812	0	0	0	0.812
DIMETHYLBENZYLALCOHOL	0.0432	0	0	0	0.0432
DIMETHYLCYCLOBUTANONE	0.13	0	0	0	0.13
DIMETHYLCYCLOHEXANES	0.278	0	0	1.14	1.42
DIMETHYLCYCLOPENTANE	1.53	0	0	0	1.53
DIMETHYLHEPTANES	0.0499	0	0	0.136	0.186
DIMETHYLHEXANES	0.713	0	0	0	0.713
DIMETHYLNONANES	0.454	0	0	0	0.454
DIMETHYLOCTANES	0.648	0	0	0	0.648
ETHANE	3.45	0	0	3.02	6.47
ETHYL ACETATE	0.0205	0	0	1.26	1.28
ETHYL ETHER	1.73	0	0	0	1.73
ETHYL ISOPROPYL ETHER	0.157	0	0	0	0.157
ETHYL PROPYLCYCLOHEXANES	0.13	0	0	0	0.13

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLBENZENE	0.0408	0	0	0.484	0.525
ETHYLCYCLOHEXANE	0.187	0	0	0.272	0.46
ETHYLCYCLOPENTANE	0.00419	0	0	0	0.00419
ETHYLDIMETHYLPHENOL	0.13	0	0	0	0.13
ETHYLENE GLYCOL	0.0175	0	0	0	0.0175
ETHYLHEPTENE	0.0648	0	0	0.368	0.433
ETHYLHEXANE	0.108	0	0	0	0.108
ETHYLMETHYLCYCLOHEXANES	1.49	0	0	0	1.49
ETHYLMETHYLOCTANE	0.151	0	0	0	0.151
ETHYLOCTANE	0.0432	0	0	0	0.0432
ETHYLOCTENES	0.0864	0	0	0	0.0864
ETHYLTOLUENES {METHYLETHYLBENZENES}	0.00201	0	0	0.123	0.126
FORMALDEHYDE	218	0	0	50.2	268
HEXADECANE	0.00146	0	0	0.00005	0.00151
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	0.0431	0	0	0	0.0431
ISOMERS OF C10H18	0	0	0	0.726	0.726
ISOMERS OF C9H16	0.259	0	0	0	0.259
ISOMERS OF DECANE (C10 PARAFFINS)	2.87	0	0	1.05	3.93
ISOMERS OF DODECANE (C12 PARAFFINS)	0.605	0	0	0	0.605
ISOMERS OF HEXANE	26.1	0	0	5.86	31.9
ISOMERS OF NONANE (C9 PARAFFIN)	0.0281	0	0	1.31	1.33
ISOMERS OF PENTANE	238	0	0	52.8	291
ISOMERS OF PROPYLBENZENE	0.605	0	0	0	0.605
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0.0648	0	0	0	0.0648
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0.0216	0	0	0	0.0216
ISOMERS OF UNDECANE (C11 PARAFFINS)	2.04	0	0	0.266	2.3
ISOMERS OF XYLENE	49.2	0	0	12	61.1
ISOPROPYL ALCOHOL	0	0	0	0.801	0.801
LEAD & COMPOUNDS	1.04	0	0	0.0629	1.1
MANGANESE & COMPOUNDS	6.32	0	0	0.261	6.58
MERCURY & COMPOUNDS	0.138	0	0	0.0164	0.154
METHANE	68500	0	0	13300	81800
METHYL AMYL KETONE	0.0397	0	0	0.508	0.548
METHYL CHLORIDE	0.0166	0	0	0	0.0166
METHYL ETHYL KETONE (MEK) (2- BUTANONE)	2.38	0	0	0.993	3.37
METHYL HEXANE	2.74	0	0	0	2.74
METHYL ISOBUTYL KETONE	0.00363	0	0	0.22	0.224
METHYL PALMITATE {METHYL HEXADECANOATE}	0.0108	0	0	0	0.0108
METHYL PROPYLCYCLOHEXANES	0.562	0	0	0	0.562
METHYLCYCLOHEXANE	3.99	0	0	1.89	5.88

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
METHYLCYCLOPENTANE	0.0191	0	0	0	0.0191
METHYLDECALINS	0.0648	0	0	0	0.0648
METHYLDECANES	0.972	0	0	0	0.972
METHYLDECENES	0.173	0	0	0	0.173
METHYLDODECANES	0.0432	0	0	0	0.0432
METHYLHEXENES	0.259	0	0	0	0.259
METHYLNONANE	1.62	0	0	0	1.62
METHYLNONENES	0.0648	0	0	0	0.0648
METHYLOCTANES	1.58	0	0	0	1.58
METHYLPROPYLNONANE	0.0648	0	0	0	0.0648
M-ETHYLTOLUENE	0.589	0	0	0.0207	0.61
METHYLUNDECANE	0.0648	0	0	0	0.0648
MOLYBDENUM	0.0582	0	0	0.0069	0.0651
NAPHTHALENE	0.0648	0	0	0	0.0648
N-BUTANE	235	0	0	52.8	288
N-BUTYL ACETATE	0.0957	0	0	3.93	4.03
N-BUTYL ALCOHOL	0.605	0	0	0	0.605
N-DECANE	0.00698	0	0	0	0.00698
N-DODECANE	0.04	0	0	0.00141	0.0414
N-HEPTADECANE	0.000485	0	0	0.000016	0.000501
N-HEPTANE	18.3	0	0	0.974	19.3
N-HEXANE	0.101	0	0	0	0.101
NICKEL & COMPOUNDS	0.62	0	0	0.114	0.734
NITRIC OXIDE	24200	0	0	4400	28600
NITROGEN DIOXIDE	1950	0	0	355	2300
NITROUS OXIDE	48.7	0	0	11.2	60
N-NONANE	1.88	0	0	0	1.88
NONADIENE	0.0432	0	0	0	0.0432
N-PENTADECANE	0.00682	0	0	0.00024	0.00706
N-PENTANE	156	0	0	35.2	192
N-PENTYLCYCLOHEXANE	0.108	0	0	0	0.108
N-PROPYLBENZENE	0.408	0	0	0.0106	0.419
N-TETRADECANE	0.0195	0	0	0.000688	0.0202
N-TRIDECANE	0.0268	0	0	0.000948	0.0278
N-UNDECANE	0.0168	0	0	0.41	0.426
O-ETHYLTOLUENE	0.503	0	0	0.0178	0.52
OXIDES OF NITROGEN	39000	0	0	7100	46100
PARTICULATE MATTER ≤ 10 µm	3330	0	0	453	3780
PARTICULATE MATTER ≤ 2.5 µm	1910	0	0	406	2320
P-DICHLOROBENZENE	6.73	0	0	1.3	8.03
PENTAMETHYLBENZENE	0.0648	0	0	0	0.0648
PERCHLOROETHYLENE	63.1	0	0	9.11	72.2
P-ETHYLTOLUENE	0.965	0	0	0.0341	0.999
PHTHALIC ANHYDRIDE	0	0	0	0.124	0.124
POLYCHLORINATED DIOXINS AND FURANS	0.00000141	0	0	0.00000108	0.00000249
POLYCYCLIC AROMATIC HYDROCARBONS	0.145	0	0	0.0333	0.178

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPANE	108	0	0	26.5	134
PROPENYLCYCLOHEXANE	0.0432	0	0	0	0.0432
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	0	0	0	0.171	0.171
SEC-BUTYL ALCOHOL	1.51	0	0	0	1.51
SELENIUM & COMPOUNDS	0.0229	0	0	0.00186	0.0247
SUBSTITUTED C9 ESTER (C12)	0.86	0	0	0	0.86
SULFUR DIOXIDE	114	0	0	25.2	139
TETRAMETHYLCYCLOPENTANE	0.151	0	0	0	0.151
TETRAMETHYLTHIOUREA	0.0216	0	0	0	0.0216
TOLUENE	97.6	0	0	27.5	125
TOTAL SUSPENDED PARTICULATE	8970	0	0	690	9660
TOTAL VOLATILE ORGANIC COMPOUNDS	1680	0	0	365	2040
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.000657	0	0	0	0.000657
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.00197	0	0	0	0.00197
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0046	0	0	0	0.0046
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.00263	0	0	0	0.00263
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.00329	0	0	0	0.00329
TRANS-2-BUTENE	0.186	0	0	0	0.186
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.00197	0	0	0	0.00197
TRANS-2-PENTENE	0.193	0	0	0	0.193
TRICHLOROETHYLENE (TCE)	52.3	0	0	1.3	53.6
TRICHLOROTRIFLUOROETHANE-F113	8.86	0	0	0	8.86
TRIMETHYLBENZENES	0.671	0	0	0.0702	0.741
TRIMETHYLCYCLOHEXANES	0.535	0	0	0.318	0.853
TRIMETHYLCYCLOPENTANE	0.779	0	0	0	0.779
TRIMETHYLHEPTANES	0.475	0	0	0	0.475
TRIMETHYLOCTANES	0.108	0	0	0	0.108
VANADIUM & COMPOUNDS	0.294	0	0	0.0141	0.308
VINYL ACETATE	0.00361	0	0	0	0.00361
ZINC & COMPOUNDS	11.5	0	0	1.76	13.3

A.66 ROAD CONSTRUCTION

Table A-66: Annual emissions from road construction

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-BUTADIENE	5.46	0	0	0	5.46
1-BUTENE	10.4	0	0	0	10.4
ACETYLENE	8.81	0	0	0	8.81
AMMONIA (TOTAL)	10.3	0	0	0	10.3
ANTIMONY & COMPOUNDS	4.58	0	0.384	0	4.96

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ARSENIC & COMPOUNDS	1.29	0	0.0962	0	1.38
BENZENE	6.16	0	0	0	6.16
BERYLLIUM & COMPOUNDS	0.0038	0	0.0013	0	0.0051
BORON & COMPOUNDS	0.251	0	0.0865	0	0.337
CADMIUM & COMPOUNDS	0.761	0	0.0624	0	0.824
CARBON DIOXIDE	34700	0	0	0	34700
CARBON MONOXIDE	203	0	0	0	203
CHROMIUM (III) COMPOUNDS	1.9	0	0.358	0	2.26
CHROMIUM (VI) COMPOUNDS	0.307	0	0.0239	0	0.331
COBALT & COMPOUNDS	0.409	0	0.058	0	0.467
COPPER & COMPOUNDS	9.44	0	15.5	0	24.9
ETHANE	2.18	0	0	0	2.18
ETHYLENE	22.4	0	0	0	22.4
FLUORIDE COMPOUNDS	2.5	0	0.865	0	3.37
LEAD & COMPOUNDS	7.91	0	0.76	0	8.67
MANGANESE & COMPOUNDS	64.3	0	8.61	0	72.9
MERCURY & COMPOUNDS	0.786	0	0.0658	0	0.852
METHANE	9.04	0	0	0	9.04
MOLYBDENUM	0.559	0	0.0468	0	0.606
NICKEL & COMPOUNDS	2.85	0	15	0	17.8
NITRIC OXIDE	584	0	0	0	584
NITROGEN DIOXIDE	47.1	0	0	0	47.1
NITROUS OXIDE	0.325	0	0	0	0.325
OXIDES OF NITROGEN	943	0	0	0	943
PARTICULATE MATTER ≤ 10 µm	19700	0	5900	0	25500
PARTICULATE MATTER ≤ 2.5 µm	2390	0	1270	0	3660
POLYCYCLIC AROMATIC HYDROCARBONS	0.0359	0	0	0	0.0359
PROPYLENE	13.5	0	0	0	13.5
SELENIUM & COMPOUNDS	0.333	0	0.0443	0	0.377
SULFUR DIOXIDE	1.1	0	0	0	1.1
TIN & COMPOUNDS	0.0351	0	0	0	0.0351
TOTAL SUSPENDED PARTICULATE	70200	0	38200	0	108000
TOTAL VOLATILE ORGANIC COMPOUNDS	68.9	0	0	0	68.9
VANADIUM & COMPOUNDS	4.35	0	0.36	0	4.71
ZINC & COMPOUNDS	23.6	0	2.14	0	25.7

A.67 RUBBER PRODUCTS/TYRE PRODUCTION

Table A-67: Annual emissions from rubber products/tyre production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-BUTADIENE	713	0	0	0	713
AMMONIA (TOTAL)	4.26	0	0	0	4.26
ANTIMONY & COMPOUNDS	0.00207	0	0	0	0.00207
ARSENIC & COMPOUNDS	0.000437	0	0	0	0.000437

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZENE	125	0	0	0	125
BERYLLIUM & COMPOUNDS	0.00000253	0	0	0	0.00000253
C7 CYCLOPARAFFINS	514	0	0	0	514
C8 CYCLOPARAFFINS	71.3	0	0	0	71.3
CADMIUM & COMPOUNDS	0.000657	0	0	0	0.000657
CARBON DIOXIDE	26100	0	0	0	26100
CARBON MONOXIDE	8.51	0	0	0	8.51
CHROMIUM (III) COMPOUNDS	0.0317	0	0	0	0.0317
CHROMIUM (VI) COMPOUNDS	0.00017	0	0	0	0.00017
COBALT & COMPOUNDS	0.0143	0	0	0	0.0143
COPPER & COMPOUNDS	0.00468	0	0	0	0.00468
CYCLOHEXANE	199	0	0	0	199
CYCLOPENTANE	2.5	0	0	0	2.5
ETHYLBENZENE	0.415	0	0	0	0.415
FORMALDEHYDE	0.213	0	0	0	0.213
ISOMERS OF HEPTANE	58.1	0	0	0	58.1
ISOMERS OF HEXANE	288	0	0	0	288
ISOMERS OF OCTANE (C8 PARAFFIN)	9.63	0	0	0	9.63
ISOMERS OF PENTANE	0.239	0	0	0	0.239
ISOMERS OF XYLENE	2.24	0	0	0	2.24
LEAD & COMPOUNDS	0.00464	0	0	0	0.00464
MANGANESE & COMPOUNDS	0.0244	0	0	0	0.0244
MERCURY & COMPOUNDS	0.000329	0	0	0	0.000329
METHANE	1.49	0	0	0	1.49
METHYLCYCLOPENTANE	611	0	0	0	611
MOLYBDENUM	0.000152	0	0	0	0.000152
NAPHTHALENE	0.415	0	0	0	0.415
N-BUTANE	0.239	0	0	0	0.239
N-DECANE	15.2	0	0	0	15.2
N-DODECANE	14.1	0	0	0	14.1
N-HEPTANE	22.6	0	0	0	22.6
N-HEXANE	468	0	0	0	468
NICKEL & COMPOUNDS	0.0613	0	0	0	0.0613
NITRIC OXIDE	12.4	0	0	0	12.4
NITROGEN DIOXIDE	1	0	0	0	1
NITROUS OXIDE	0.0493	0	0	0	0.0493
N-NONANE	3.66	0	0	0	3.66
N-OCTANE	5.05	0	0	0	5.05
N-PENTADECANE	5.57	0	0	0	5.57
N-PENTANE	0.16	0	0	0	0.16
N-TETRADECANE	9.05	0	0	0	9.05
N-TRIDECANE	13.7	0	0	0	13.7
N-UNDECANE	15.7	0	0	0	15.7
OXIDES OF NITROGEN	20	0	0	0	20
PARTICULATE MATTER ≤ 10 µm	49.6	0	0	0	49.6
PARTICULATE MATTER ≤ 2.5 µm	45.2	0	0	0	45.2
POLYCHLORINATED DIOXINS	2.53x10 ⁻¹⁰	0	0	0	2.53x10 ⁻¹⁰

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AND FURANS					
POLYCYCLIC AROMATIC HYDROCARBONS	0.000146	0	0	0	0.000146
PROPANE	0.106	0	0	0	0.106
SELENIUM & COMPOUNDS	0.0000658	0	0	0	0.0000658
STYRENE (ETHENYLBENZENE)	475	0	0	0	475
SULFUR DIOXIDE	0.111	0	0	0	0.111
TOLUENE	6.77	0	0	0	6.77
TOTAL SUSPENDED PARTICULATE	74.1	0	0	0	74.1
TOTAL VOLATILE ORGANIC COMPOUNDS	3650	0	0	0	3650
VANADIUM & COMPOUNDS	0.0000607	0	0	0	0.0000607
ZINC & COMPOUNDS	0.0362	0	0	0	0.0362

A.68 SCRAP METAL PROCESSING

Table A-68: Annual emissions from scrap metal processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.667	0.41	0.0859	0	1.16
1,2,4-TRIMETHYLBENZENE	0.358	0.22	0.0461	0	0.624
1,3,5-TRIMETHYLBENZENE	0.502	0.309	0.0647	0	0.876
2-METHYLPROPANE; ISOBUTANE	0	0	0	0	0
ANTIMONY & COMPOUNDS	0.0708	0.0664	0.000123	0	0.137
ARSENIC & COMPOUNDS	0.0135	0.0127	0.0000236	0	0.0263
BENZENE	0	0	0	0	0
CADMIUM & COMPOUNDS	0.00313	0.00293	0.00000544	0	0.00606
CHROMIUM (III) COMPOUNDS	0.0124	0.0116	0.0000216	0	0.024
CHROMIUM (VI) COMPOUNDS	0.00531	0.00498	0.00000925	0	0.0103
COBALT & COMPOUNDS	0.024	0.0225	0.0000417	0	0.0465
COPPER & COMPOUNDS	0.154	0.145	0.000268	0	0.299
CUMENE (1-METHYLETHYLBENZENE)	0.24	0.147	0.0309	0	0.418
ETHANE	0	0	0	0	0
ETHYLBENZENE	0.0281	0.0172	0.00362	0	0.0489
HEXADECANE	0.00143	0.000876	0.000183	0	0.00248
ISOMERS OF HEPTANE	0	0	0	0	0
ISOMERS OF HEXANE	0	0	0	0	0
ISOMERS OF OCTANE (C8 PARAFFIN)	0	0	0	0	0
ISOMERS OF PENTANE	0	0	0	0	0
ISOMERS OF XYLENE	0.429	0.264	0.0553	0	0.748
LEAD & COMPOUNDS	0.129	0.121	0.000225	0	0.251
MAGNESIUM OXIDE FUME	1010	651	0	0	1660
MANGANESE & COMPOUNDS	0.833	0.781	0.00145	0	1.62
MERCURY & COMPOUNDS	0.00938	0.00879	0.0000163	0	0.0182
METHANE	0	0	0	0	0
M-ETHYLTOLUENE	0.571	0.351	0.0735	0	0.995

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MOLYBDENUM	0.00521	0.00488	0.0000907	0	0.0101
N-BUTANE	0	0	0	0	0
N-DODECANE	0.039	0.024	0.00502	0	0.068
N-HEPTADECANE	0.000474	0.000292	0.000061	0	0.000827
N-HEPTANE	0	0	0	0	0
N-HEXANE	0	0	0	0	0
NICKEL & COMPOUNDS	0.0125	0.0117	0.0000218	0	0.0242
NITRIC OXIDE	2980	1930	0	0	4910
NITROGEN DIOXIDE	241	156	0	0	396
N-PENTADECANE	0.00666	0.00409	0.000857	0	0.0116
N-PENTANE	0	0	0	0	0
N-PROPYLBENZENE	0.292	0.179	0.0376	0	0.508
N-TETRADECANE	0.019	0.0117	0.00245	0	0.0332
N-TRIDECANE	0.0262	0.0161	0.00337	0	0.0456
N-UNDECANE	0.0128	0.00789	0.00165	0	0.0224
O-ETHYLTOLUENE	0.49	0.301	0.0632	0	0.855
OXIDES OF NITROGEN	4810	3110	0	0	7930
PARTICULATE MATTER ≤ 10 µm	52600	187	0.348	0	52800
PARTICULATE MATTER ≤ 2.5 µm	39300	45.4	0.0842	0	39300
P-ETHYLTOLUENE	0.94	0.578	0.121	0	1.64
PROPANE	0	0	0	0	0
SELENIUM & COMPOUNDS	0.00208	0.00195	0.00000363	0	0.00404
TOLUENE	0.132	0.081	0.017	0	0.23
TOTAL SUSPENDED PARTICULATE	83800	977	1.81	0	84800
TOTAL VOLATILE ORGANIC COMPOUNDS	4.75	2.92	0.612	0	8.29
VANADIUM & COMPOUNDS	0.0185	0.0694	0.000129	0	0.088
ZINC & COMPOUNDS	1.03	0.968	0.0018	0	2

A.69 SEWAGE TREATMENT - LARGE PLANTS

Table A-69: Annual emissions from sewage treatment - large plants

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	3780	1980	178	3940	9870
1,2,3-TRIMETHYLBENZENE	7.01	0	0	0	7.01
1,2,4-TRIMETHYLBENZENE	7.01	0	0	0	7.01
1,3,5-TRIMETHYLBENZENE	14	0	0	0	14
1,3-BUTADIENE	0.839	0	0	0	0.839
1-BUTENE	1.61	0	0	0	1.61
1-NONENE	7.01	0	0	0	7.01
1-OCTENE	7.01	0	0	0	7.01
1-PENTENE	7.01	0	0	0	7.01
2,2-DIMETHYLBUTANE	7.01	0	0	0	7.01
2,4-DIMETHYLPENTANE	7.01	0	0	0	7.01
2-METHYL-1-PENTENE	14	0	0	0	14
2-METHYL-2-BUTENE	7.01	0	0	0	7.01

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLPROPANE; ISOBUTANE	301	0	0	0	301
2-METHYLPROPENE (ISOBUTENE)	14	0	0	0	14
3-METHYLHEPTANE	14	0	0	0	14
3-METHYLHEXANE	7.01	0	0	0	7.01
3-METHYLPENTANE	14	0	0	0	14
ACETALDEHYDE	21	0	0	0	21
ACETYLENE	226	0	0	0	226
AMMONIA (TOTAL)	8030	294	442	325	9090
ANTIMONY & COMPOUNDS	0.364	0.106	0	0.116	0.586
ARSENIC & COMPOUNDS	0.185	0.0202	0.00558	0.0258	0.236
BENZENE	90.4	0	1.34	0.761	92.5
BERYLLIUM & COMPOUNDS	0.00465	0	0.000334	0.000226	0.00521
C10 OLEFINS	14	0	0	0	14
C7 INTERNAL ALKENES	7.01	0	0	0	7.01
C9 OLEFINS	28	0	0	0	28
CADMIUM & COMPOUNDS	0.34	0.00622	0.0308	0.0276	0.405
CARBON DIOXIDE	29000000	0	1280000	799000	31100000
CARBON MONOXIDE	52500	0	819	507	53800
CHLORINE	4230	0	0	0	4230
CHLOROFORM (TRICHLOROMETHANE)	2840	1480	134	2950	7410
CHROMIUM (III) COMPOUNDS	0.45	0.0182	0.0317	0.0412	0.541
CHROMIUM (VI) COMPOUNDS	0.108	0.00779	0.00724	0.0136	0.137
CIS-2-BUTENE	14	0	0	0	14
COBALT & COMPOUNDS	0.153	0.0322	0.00234	0.0367	0.224
COPPER & COMPOUNDS	0.843	0.228	0.00449	0.251	1.33
CYCLOHEXANE	10.1	0	0.336	0.19	10.6
CYCLOPENTANE	14	0	0	0	14
DICHLOROMETHANE {METHYLENE CHLORIDE}	4250	2220	201	4430	11100
ETHANE	9980	0	16	11.3	10000
ETHYLBENZENE	7.01	0	0	0	7.01
ETHYLENE	445	0	0	0	445
FORMALDEHYDE	1180	247	35.6	501	1960
HYDROGEN SULFIDE	203	84100	0	13300	97600
ISOBUTYRALDEHYDE	14	0	0	0	14
ISOMERS OF BUTENE	182	0	0	0	182
ISOMERS OF DECANE (C10 PARAFFINS)	14	0	0	0	14
ISOMERS OF HEPTANE	28.1	0	0	0	28.1
ISOMERS OF HEXANE	16.9	0	0.336	0.114	17.4
ISOMERS OF NONANE (C9 PARAFFIN)	7.01	0	0	0	7.01
ISOMERS OF OCTANE (C8 PARAFFIN)	14.1	0	0	0	14.1
ISOMERS OF PENTANE	117	0	3.02	1.02	121
ISOMERS OF XYLENE	2860	1480	134	2950	7430
LEAD & COMPOUNDS	0.827	0.19	0.0139	0.217	1.25

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
MANGANESE & COMPOUNDS	4.4	1.24	0.0106	1.36	7.01
MERCURY & COMPOUNDS	0.124	0.0146	0.00726	0.0208	0.167
METHANE	4760000	2460000	222000	4900000	12300000
METHYLCYCLOHEXANE	14	0	0	0	14
METHYLCYCLOPENTANE	28	0	0	0	28
M-ETHYLTOLUENE	7.01	0	0	0	7.01
MOLYBDENUM	0.318	0.00846	0.0277	0.029	0.383
N-BUTANE	726	0	3.02	1.02	730
N-DECANE	7.01	0	0	0	7.01
N-HEPTANE	14	0	0	0	14
N-HEXANE	14.4	0	0	0.0758	14.4
NICKEL & COMPOUNDS	0.685	0.0224	0.0587	0.0641	0.83
NITRIC OXIDE	71100	0	481	292	71900
NITROGEN DIOXIDE	5740	0	38.8	23.5	5800
NITROUS OXIDE	55.8	4510	2.41	7270	11800
N-NONANE	7.01	0	0	0	7.01
N-OCTANE	14	0	0	0	14
N-PENTANE	108	0	2.01	0.683	111
N-UNDECANE	7.01	0	0	0	7.01
O-ETHYLTOLUENE	7.01	0	0	0	7.01
OXIDES OF NITROGEN	115000	0	777	471	116000
PARTICULATE MATTER ≤ 10 µm	3250	308	212	480	4250
PARTICULATE MATTER ≤ 2.5 µm	2460	68	212	218	2960
P-DICHLOROBENZENE	473	247	22.3	492	1230
PERCHLOROETHYLENE	3310	1730	156	3450	8640
POLYCHLORINATED DIOXINS AND FURANS	0.0000566	0	0.0000054	0.00000382	0.0000658
POLYCYCLIC AROMATIC HYDROCARBONS	3.7	0	0.00721	0.00451	3.71
PROPANE	2220	0	17.3	11.7	2250
PROPYLENE	1190	0	0	0	1190
SELENIUM & COMPOUNDS	0.0291	0.00322	0.000669	0.00396	0.0369
SULFUR DIOXIDE	141	0	4.87	3.08	149
SULFUR TRIOXIDE	0.0288	0	0	0	0.0288
TIN & COMPOUNDS	0.0054	0	0	0	0.0054
TOLUENE	1920	988	89.8	1970	4970
TOTAL SUSPENDED PARTICULATE	7540	1530	212	1810	11100
TOTAL VOLATILE ORGANIC COMPOUNDS	37200	10600	1020	21200	70100
TRANS-2-BUTENE	91.1	0	0	0	91.1
TRANS-2-PENTENE	7.01	0	0	0	7.01
TRICHLOROETHYLENE (TCE)	473	247	22.3	492	1230
VANADIUM & COMPOUNDS	0.693	0.0683	0.058	0.0581	0.877
ZINC & COMPOUNDS	13.6	1.41	0.808	2.09	17.9

A.70 SEWAGE TREATMENT - SMALL PLANTS

Table A-70: Annual emissions from sewage treatment – small plants

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	551	1.96	0	5530	6080
1,2,3-TRIMETHYLBENZENE	0.0465	0	0	0	0.0465
1,2,4-TRIMETHYLBENZENE	0.106	0	0	0	0.106
1,3,5-TRIMETHYLBENZENE	0.035	0	0	0	0.035
1,4-PENTADIENE	0.27	0	0	0	0.27
1-BUTENE	1.24	0	0	0	1.24
1-NONENE	0	0	0	0	0
1-OCTENE	0	0	0	0	0
1-PENTENE	1.48	0	0	0	1.48
2,2,3,TRIMETHYLHEXANE	0.027	0	0	0	0.027
2,2,3-TRIMETHYLBUTANE	0.0539	0	0	0	0.0539
2,2,4-TRIMETHYLPENTANE	1.32	0	0	0	1.32
2,2-DIMETHYLBUTANE	0.404	0	0	0	0.404
2,2-DIMETHYLHEXANE	0.0539	0	0	0	0.0539
2,2-DIMETHYLPENTANE	0.135	0	0	0	0.135
2,3,3-TRIMETHYLPENTANE	0.135	0	0	0	0.135
2,3,4-TRIMETHYLPENTANE	0.135	0	0	0	0.135
2,3-DIMETHYLBUTANE	2.18	0	0	0	2.18
2,3-DIMETHYLHEXANE	0.216	0	0	0	0.216
2,3-DIMETHYLPENTANE	0.485	0	0	0	0.485
2,4-DIMETHYLHEXANE	0.377	0	0	0	0.377
2,4-DIMETHYLPENTANE	0.431	0	0	0	0.431
2,5-DIMETHYLHEXANE	0.189	0	0	0	0.189
2-METHYL-1-BUTENE	3.05	0	0	0	3.05
2-METHYL-1-PENTENE	0	0	0	0	0
2-METHYL-2-BUTENE	11.9	0	0	0	11.9
2-METHYLHEPTANE	0.404	0	0	0	0.404
2-METHYLHEXANE	1.38	0	0	0	1.38
2-METHYLNONANE	0.027	0	0	0	0.027
2-METHYLOCTANE	0.027	0	0	0	0.027
2-METHYLPENTANE	12.9	0	0	0	12.9
2-METHYLPROPANE; ISOBUTANE	8.23	0	0	0	8.23
2-METHYLPROPENE (ISOBUTENE)	0	0	0	0	0
3,3-DIMETHYLPENTANE	0.162	0	0	0	0.162
3-ETHYLPENTANE	0.27	0	0	0	0.27
3-METHYL-1-BUTENE	0.0809	0	0	0	0.0809
3-METHYLHEPTANE	0.377	0	0	0	0.377
3-METHYLHEXANE	1.7	0	0	0	1.7
3-METHYLOCTANE	0.0539	0	0	0	0.0539
3-METHYLPENTANE	6.31	0	0	0	6.31
4-METHYLHEPTANE	0.216	0	0	0	0.216
4-METHYLOCTANE	0.027	0	0	0	0.027
ACETALDEHYDE	0	0	0	0	0
ACETYLENE	0	0	0	0	0

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	727	2.38	0	607	1340
ANTIMONY & COMPOUNDS	4.46	1.08	0	0.593	6.13
ARSENIC & COMPOUNDS	0.83	0.204	0	0.12	1.15
BENZENE	3.9	0	0	6.18	10.1
BERYLLIUM & COMPOUNDS	0.000339	0	0	0.000432	0.000772
C10 OLEFINS	0	0	0	0	0
C7 INTERNAL ALKENES	0	0	0	0	0
C9 OLEFINS	0	0	0	0	0
CADMIUM & COMPOUNDS	0.729	0.101	0	0.0744	0.904
CARBON DIOXIDE	1060000	0	0	1870000	2930000
CARBON MONOXIDE	688	0	0	1190	1880
CHLORINE	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	414	1.47	0	4150	4560
CHROMIUM (III) COMPOUNDS	0.68	0.176	0	0.143	0.999
CHROMIUM (VI) COMPOUNDS	0.286	0.0756	0	0.0528	0.415
CIS-1,3- DIMETHYLCYCLOPENTANE	0.593	0	0	0	0.593
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.377	0	0	0	0.377
CIS-1-2- DIMETHYLCYCLOPENTANE	0.377	0	0	0	0.377
CIS-2-BUTENE	0.809	0	0	0	0.809
CIS-2-PENTENE	4.37	0	0	0	4.37
COBALT & COMPOUNDS	0.297	0.24	0	0.183	0.72
COPPER & COMPOUNDS	8.72	2.25	0	1.28	12.2
CUMENE (1- METHYLETHYLBENZENE)	0.0167	0	0	0	0.0167
CYCLOHEXANE	0.585	0	0	1.54	2.12
CYCLOPENTANE	0	0	0	0	0
CYCLOPENTENE	0.0809	0	0	0	0.0809
DICHLOROMETHANE {METHYLENE CHLORIDE}	620	2.21	0	6220	6840
ETHANE	10.3	0	0	19.3	29.6
ETHYLBENZENE	0.272	0	0	0	0.272
ETHYLCYCLOPENTANE	0.0809	0	0	0	0.0809
ETHYLENE	0	0	0	0	0
FORMALDEHYDE	79.5	0.246	0	716	796
HEXADECANE	0.000099	0	0	0	0.000099
HYDROGEN SULFIDE	0	0	0	47300	47300
ISOBUTYRALDEHYDE	0	0	0	0	0
ISOMERS OF BUTENE	0	0	0	0	0
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0	0	0
ISOMERS OF HEPTANE	0.00208	0	0	0	0.00208
ISOMERS OF HEXANE	0.454	0	0	0.495	0.95
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	0	0	0
ISOMERS OF OCTANE (C8	0.00376	0	0	0	0.00376

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARAFFIN)					
ISOMERS OF PENTANE	138	0	0	4.46	142
ISOMERS OF XYLENE	415	1.47	0	4150	4560
LEAD & COMPOUNDS	7.18	1.87	0	1.08	10.1
MANGANESE & COMPOUNDS	50.4	12.5	0	6.95	69.9
MERCURY & COMPOUNDS	0.773	0.161	0	0.0908	1.03
METHANE	686000	2450	0	4330000	5020000
METHYLCYCLOHEXANE	0	0	0	0	0
METHYLCYCLOPENTANE	0.782	0	0	0	0.782
M-ETHYLTOLUENE	0.202	0	0	0	0.202
MOLYBDENUM	0.565	0.102	0	0.0825	0.749
N-BUTANE	40	0	0	4.46	44.5
N-DECANE	0.027	0	0	0	0.027
N-DODECANE	0.00272	0	0	0	0.00272
N-HEPTADECANE	0.000033	0	0	0	0.000033
N-HEPTANE	1.05	0	0	0	1.05
N-HEXANE	0.602	0	0	1.04	1.64
NICKEL & COMPOUNDS	2.06	0.318	0	0.201	2.58
NITRIC OXIDE	430	0	0	798	1230
NITROGEN DIOXIDE	34.7	0	0	64.5	99.2
NITROUS OXIDE	2.04	0	0	12000	12000
N-NONANE	0.027	0	0	0	0.027
N-OCTANE	0	0	0	0	0
N-PENTADECANE	0.000463	0	0	0	0.000463
N-PENTANE	2.7	0	0	2.97	5.68
N-PROPYLBENZENE	0.0742	0	0	0	0.0742
N-TETRADECANE	0.00133	0	0	0	0.00133
N-TRIDECANE	0.00182	0	0	0	0.00182
N-UNDECANE	0.000894	0	0	0	0.000894
O-ETHYLTOLUENE	0.0342	0	0	0	0.0342
OXIDES OF NITROGEN	694	0	0	1290	1980
PARTICULATE MATTER ≤ 10 µm	15800	3370	0	2000	21200
PARTICULATE MATTER ≤ 2.5 µm	1740	588	0	655	2990
P-DICHLOROBENZENE	68.9	0.246	0	691	760
PERCHLOROETHYLENE	482	1.72	0	4840	5320
P-ETHYLTOLUENE	0.146	0	0	0	0.146
POLYCHLORINATED DIOXINS AND FURANS	0.0000035	0	0	0.00000652	0.00001
POLYCYCLIC AROMATIC HYDROCARBONS	0.00597	0	0	0.0104	0.0163
PROPANE	12.1	0	0	21.3	33.4
PROPYLENE	0	0	0	0	0
SELENIUM & COMPOUNDS	0.166	0.0352	0	0.0189	0.22
SULFUR DIOXIDE	4.3	0	0	8.3	12.6
SULFUR TRIOXIDE	0.0024	0	0	0	0.0024
TOLUENE	282	0.982	0	2770	3050
TOTAL SUSPENDED PARTICULATE	55400	14800	0	8820	79000

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOTAL VOLATILE ORGANIC COMPOUNDS	3270	10.6	0	29800	33100
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.027	0	0	0	0.027
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0809	0	0	0	0.0809
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.189	0	0	0	0.189
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.108	0	0	0	0.108
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.135	0	0	0	0.135
TRANS-2-BUTENE	7.63	0	0	0	7.63
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0809	0	0	0	0.0809
TRANS-2-PENTENE	7.93	0	0	0	7.93
TRICHLOROETHYLENE (TCE)	68.9	0.246	0	691	760
VANADIUM & COMPOUNDS	4.23	0.45	0	0.165	4.84
ZINC & COMPOUNDS	21.9	11.2	0	8.95	42.1

A.71 SHIPPING IN BULK

Table A-71: Annual emissions from shipping in bulk

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0159	0.164	0.363	0	0.543
1,2,4-TRIMETHYLBENZENE	0.00853	0.0877	0.298	0	0.394
1,3,5-TRIMETHYLBENZENE	0.012	0.123	0.274	0	0.409
1,3-BUTADIENE	0.378	0	0	0	0.378
1,4-PENTADIENE	0	0	0.343	0	0.343
1-BUTENE	0.723	0	1.58	0	2.3
1-PENTENE	0	0	1.88	0	1.88
2,2,3,TRIMETHYLHEXANE	0	0	0.0343	0	0.0343
2,2,3-TRIMETHYLBUTANE	0	0	0.0685	0	0.0685
2,2,4-TRIMETHYLPENTANE	0	0	1.68	0	1.68
2,2-DIMETHYLBUTANE	0	0	0.514	0	0.514
2,2-DIMETHYLHEXANE	0	0	0.0685	0	0.0685
2,2-DIMETHYLPENTANE	0	0	0.171	0	0.171
2,3,3-TRIMETHYLPENTANE	0	0	0.171	0	0.171
2,3,4-TRIMETHYLPENTANE	0	0	0.171	0	0.171
2,3-DIMETHYLBUTANE	0	0	2.78	0	2.78
2,3-DIMETHYLHEXANE	0	0	0.274	0	0.274
2,3-DIMETHYLPENTANE	0	0	0.617	0	0.617
2,4-DIMETHYLHEXANE	0	0	44	0	44
2,4-DIMETHYLPENTANE	0	0	10.8	0	10.8
2,5-DIMETHYLHEXANE	0	0	0.24	0	0.24
2-METHYL-1-BUTENE	0	0	3.87	0	3.87
2-METHYL-2-BUTENE	0	0	15.2	0	15.2
2-METHYL-3-HEXANONE	0	0	22.7	0	22.7

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2-METHYLHEPTANE	0	0	0.514	0	0.514
2-METHYLHEXANE	0	0	1.75	0	1.75
2-METHYLNONANE	0	0	0.0343	0	0.0343
2-METHYLOCTANE	0	0	0.0343	0	0.0343
2-METHYLPENTANE	0	0	16.4	0	16.4
2-METHYLPROPANE; ISOBUTANE	0	0	10.5	0	10.5
3,3-DIMETHYLPENTANE	0	0	0.206	0	0.206
3-ETHYLPENTANE	0	0	0.343	0	0.343
3-METHYL-1-BUTENE	0	0	0.103	0	0.103
3-METHYLHEPTANE	0	0	0.48	0	0.48
3-METHYLHEXANE	0	0	2.16	0	2.16
3-METHYLOCTANE	0	0	0.0685	0	0.0685
3-METHYLPENTANE	0	0	8.02	0	8.02
4-METHYLHEPTANE	0	0	0.274	0	0.274
4-METHYLOCTANE	0	0	0.0343	0	0.0343
ACETONE	0	0	7.67	0	7.67
ACETYLENE	0.61	0	0	0	0.61
AMMONIA (TOTAL)	0.711	0	0	0	0.711
ANTIMONY & COMPOUNDS	0.00126	0.0881	1.51	0	1.6
ARSENIC & COMPOUNDS	0.0254	0.0614	0.287	0	0.374
BENZENE	0.426	0	2.67	0	3.1
BERYLLIUM & COMPOUNDS	0	0.00734	0	0	0.00734
BORON & COMPOUNDS	0	0.513	0	0	0.513
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	0	0	39.2	0	39.2
C8 INTERNAL ALKENES	0	0	0.906	0	0.906
CADMIUM & COMPOUNDS	0.00249	0.00923	0.0861	0	0.0978
CARBON DIOXIDE	2400	0	0	0	2400
CARBON MONOXIDE	14	0	0	0	14
CHROMIUM (III) COMPOUNDS	0.0245	0.167	0.259	0	0.45
CHROMIUM (VI) COMPOUNDS	0.00135	0.00419	0.111	0	0.116
CIS-1,3-DIMETHYLCYCLOPENTANE	0	0	0.754	0	0.754
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	0	0	0.48	0	0.48
CIS-1,2-DIMETHYLCYCLOPENTANE	0	0	0.48	0	0.48
CIS-2-BUTENE	0	0	1.03	0	1.03
CIS-2-PENTENE	0	0	5.55	0	5.55
COBALT & COMPOUNDS	0.000425	0.0504	0.463	0	0.514
COPPER & COMPOUNDS	0.00273	0.241	3.24	0	3.48
CUMENE (1-METHYLETHYLBENZENE)	0.00572	0.0588	0.131	0	0.195
CYCLOHEXANE	0	0	3.31	0	3.31
CYCLOPENTENE	0	0	0.103	0	0.103
DIMETHYLCYCLOHEXANES	0	0	24.2	0	24.2
DIMETHYLHEPTANES	0	0	4.05	0	4.05
ETHANE	0.151	0	0	0	0.151
ETHYL ACETATE	0	0	12.3	0	12.3

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLBENZENE	0.000669	0.00688	3.62	0	3.63
ETHYLCYCLOHEXANE	0	0	8.64	0	8.64
ETHYLCYCLOPENTANE	0	0	1.43	0	1.43
ETHYLENE	1.55	0	0	0	1.55
ETHYLTOLUENES {METHYLETHYLBENZENES}	0	0	1.21	0	1.21
FLUORIDE COMPOUNDS	0	32.8	0	0	32.8
HEXADECANE	0.000034	0.000349	0.000776	0	0.00116
ISOMERS OF NONANE (C9 PARAFFIN)	0	0	16.9	0	16.9
ISOMERS OF PENTANE	0	0	170	0	170
ISOMERS OF XYLENE	0.0102	0.105	51.5	0	51.6
LEAD & COMPOUNDS	0.0106	0.33	2.71	0	3.05
MANGANESE & COMPOUNDS	0.0148	103	17.6	0	121
MERCURY & COMPOUNDS	0.000166	0.0116	0.206	0	0.218
METHANE	0.626	0	0	0	0.626
METHYL AMYL KETONE	0	0	5.02	0	5.02
METHYL BROMIDE	0	0	21600	0	21600
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	3.26	0	3.26
METHYL ISOBUTYL KETONE	0	0	2.18	0	2.18
METHYLCYCLOHEXANE	0	0	21.8	0	21.8
METHYLCYCLOPENTANE	0	0	0.994	0	0.994
M-ETHYLTOLUENE	0.0136	0.14	0.517	0	0.67
MOLYBDENUM	0.0000923	0.00663	0.119	0	0.126
N-BUTANE	0	0	45.7	0	45.7
N-BUTYL ACETATE	0	0	57.4	0	57.4
N-DECANE	0	0	0.0343	0	0.0343
N-DODECANE	0.00093	0.00956	0.0212	0	0.0317
N-HEPTADECANE	0.000011	0.000116	0.000258	0	0.000385
N-HEPTANE	0	0	19.1	0	19.1
N-HEXANE	0	0	0.754	0	0.754
NICKEL & COMPOUNDS	0.00265	0.155	0.313	0	0.471
NITRIC OXIDE	40.5	0	0	0	40.5
NITROGEN DIOXIDE	3.26	0	0	0	3.26
NITROUS OXIDE	0.0225	0	0	0	0.0225
N-NONANE	0	0	0.0343	0	0.0343
N-PENTADECANE	0.000158	0.00163	0.00363	0	0.00542
N-PROPYLBENZENE	0.00696	0.0715	0.227	0	0.306
N-TETRADECANE	0.000453	0.00467	0.0104	0	0.0155
N-TRIDECANE	0.000624	0.00641	0.0143	0	0.0213
N-UNDECANE	0.000306	0.00315	0.007	0	0.0105
O-ETHYLTOLUENE	0.0117	0.12	0.267	0	0.399
OXIDES OF NITROGEN	65.3	0	0	0	65.3
PARTICULATE MATTER ≤ 10 µm	2430	32700	9840	0	44900
PARTICULATE MATTER ≤ 2.5 µm	246	12700	1950	0	14900
P-ETHYLTOLUENE	0.0224	0.23	0.615	0	0.868
POLYCYCLIC AROMATIC	0.00248	0	0	0	0.00248

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HYDROCARBONS					
PROPYLENE	0.933	0	0	0	0.933
SELENIUM & COMPOUNDS	0.00247	0.0244	0.0456	0	0.0724
SULFUR DIOXIDE	0.0761	0	0	0	0.0761
TIN & COMPOUNDS	0.00243	0	0	0	0.00243
TOLUENE	0.00314	0.0323	235	0	236
TOTAL SUSPENDED PARTICULATE	5170	58100	33200	0	96500
TOTAL VOLATILE ORGANIC COMPOUNDS	4.88	1.17	22500	0	22500
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0	0	0.0343	0	0.0343
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0	0	0.103	0	0.103
TRANS-1,3-DIMETHYLCYCLOPENTANE	0	0	0.24	0	0.24
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0	0	0.137	0	0.137
TRANS-1-2-DIMETHYLCYCLOPENTANE	0	0	0.171	0	0.171
TRANS-2-BUTENE	0	0	9.7	0	9.7
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0	0	0.103	0	0.103
TRANS-2-PENTENE	0	0	10.1	0	10.1
TRIMETHYLBENZENES	0	0	0.665	0	0.665
TRIMETHYLCYCLOHEXANES	0	0	10	0	10
TRIMETHYLCYCLOPENTANE	0	0	1.03	0	1.03
VANADIUM & COMPOUNDS	0.00131	0.0574	1.44	0	1.5
ZINC & COMPOUNDS	0.0444	0.743	20.3	0	21.1

A.72 SLAUGHTERING OR PROCESSING OF ANIMALS

Table A-72: Annual emissions from slaughtering or processing of animals

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	918	228	0	0.733	1150
1,2,3-TRIMETHYLBENZENE	0.316	0.648	0	0	0.964
1,2,4-TRIMETHYLBENZENE	0.203	0.347	0	0	0.55
1,3,5-TRIMETHYLBENZENE	0.238	0.488	0	0	0.726
1,3-BUTADIENE	0.839	0	0	0	0.839
1,4-PENTADIENE	0.11	0	0	0	0.11
1-BUTENE	2.11	1.53	0	0	3.65
1-DECENE	0	5.19	0	0	5.19
1-HEXENE	0	7.05	0	0	7.05
1-PENTENE	0.603	0	0	0	0.603
2,2,3,TRIMETHYLHEXANE	0.011	0	0	0	0.011
2,2,3-TRIMETHYLBUTANE	0.0219	0	0	0	0.0219
2,2,4-TRIMETHYLPENTANE	0.537	0	0	0	0.537
2,2-DIMETHYLBUTANE	0.164	0	0	0	0.164

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,2-DIMETHYLHEXANE	0.0219	0	0	0	0.0219
2,2-DIMETHYLPENTANE	0.0548	0	0	0	0.0548
2,3,3-TRIMETHYLPENTANE	0.0548	0	0	0	0.0548
2,3,4-TRIMETHYLPENTANE	0.0548	0	0	0	0.0548
2,3-DIMETHYLBUTANE	0.888	0	0	0	0.888
2,3-DIMETHYLHEXANE	0.0877	0	0	0	0.0877
2,3-DIMETHYLPENTANE	0.197	0	0	0	0.197
2,4-DIMETHYLHEXANE	0.153	0	0	0	0.153
2,4-DIMETHYLPENTANE	0.175	12.4	0	0	12.6
2,5-DIMETHYLHEXANE	0.0767	0	0	0	0.0767
2-METHYL-1-BUTENE	1.24	0	0	0	1.24
2-METHYL-2-BUTENE	4.86	0	0	0	4.86
2-METHYL-BUTANE	0	2.37	0	0	2.37
2-METHYLHEPTANE	0.164	0	0	0	0.164
2-METHYLHEXANE	0.559	0	0	0	0.559
2-METHYLNONANE	0.011	0	0	0	0.011
2-METHYLOCTANE	0.011	0	0	0	0.011
2-METHYLPENTANE	5.24	0	0	0	5.24
2-METHYLPROPANE; ISOBUTANE	3.34	0	0	0	3.34
3,3-DIMETHYLPENTANE	0.0658	0	0	0	0.0658
3-ETHYLPENTANE	0.11	0	0	0	0.11
3-METHYL-1-BUTENE	0.0329	0	0	0	0.0329
3-METHYLHEPTANE	0.153	0	0	0	0.153
3-METHYLHEXANE	0.691	0	0	0	0.691
3-METHYLOCTANE	0.0219	0	0	0	0.0219
3-METHYLPENTANE	2.56	0	0	0	2.56
4-METHYLHEPTANE	0.0877	0	0	0	0.0877
4-METHYLOCTANE	0.011	0	0	0	0.011
ACETONE	0	16.9	0	0	16.9
ACETYLENE	1.35	0	0	0	1.35
AMMONIA (TOTAL)	6690	628000	0	5.32	635000
ANTIMONY & COMPOUNDS	6.6	0.0283	0	0.0242	6.65
ARSENIC & COMPOUNDS	1.33	6.17	0	0.00448	7.5
BENZENE	34.1	10.1	0	0	44.2
BERYLLIUM & COMPOUNDS	0.000712	0.0179	0	0	0.0186
C7 INTERNAL ALKENES	0	7.17	0	0	7.17
CADMIUM & COMPOUNDS	0.43	0.558	0	0.00388	0.993
CARBON DIOXIDE	7400000	19200000	0	0	26600000
CARBON MONOXIDE	4960	3590	0	0	8550
CHLOROFORM (TRICHLOROMETHANE)	688	171	0	0.549	860
CHROMIUM (III) COMPOUNDS	1.27	0.999	0	0.00355	2.27
CHROMIUM (VI) COMPOUNDS	0.495	0.391	0	0.00152	0.888
CIS-1,3- DIMETHYLCYCLOPENTANE	0.241	0	0	0	0.241
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.153	0	0	0	0.153
CIS-1-2-	0.153	0	0	0	0.153

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYLCYCLOPENTANE					
CIS-2-BUTENE	0.329	0	0	0	0.329
CIS-2-PENTENE	1.78	2.04	0	0	3.82
COBALT & COMPOUNDS	2.08	0.101	0	0.00149	2.18
COPPER & COMPOUNDS	14.3	0.0464	0	0.0471	14.4
CUMENE (1-METHYLETHYLBENZENE)	0.114	0.233	0	0	0.347
CYCLOHEXANE	8.13	2.53	0	0	10.7
CYCLOPENTENE	0.0329	0	0	0	0.0329
DICHLOROMETHANE {METHYLENE CHLORIDE}	1030	256	0	0.824	1290
ETHANE	0.336	4.06	0	0	4.4
ETHYLBENZENE	0.123	21.9	0	0	22
ETHYLCYCLOPENTANE	0.0329	0	0	0	0.0329
ETHYLENE	3.44	0	0	0	3.44
FLUORIDE COMPOUNDS	0	486	0	0	486
FORMALDEHYDE	179	74.1	0	0.0916	254
HEXADECANE	0.000673	0.00139	0	0	0.00206
HYDROCHLORIC ACID	0	4030	0	0	4030
ISOMERS OF HEXANE	7.19	2.53	0	0	9.72
ISOMERS OF PENTANE	119	22.8	0	0	142
ISOMERS OF XYLENE	689	264	0	0.549	954
LEAD & COMPOUNDS	12	2950	0	0.0388	2970
MANGANESE & COMPOUNDS	77.4	4.24	0	0.273	81.9
MERCURY & COMPOUNDS	0.912	0.276	0	0.00418	1.19
METHANE	1140000	284000	0	912	1430000
METHYLCYCLOPENTANE	0.318	0	0	0	0.318
M-ETHYLTOLUENE	0.336	0.554	0	0	0.891
MOLYBDENUM	0.516	0.000969	0	0.00298	0.52
N-BUTANE	79.3	33.1	0	0	112
N-DECANE	0.011	0	0	0	0.011
N-DODECANE	0.0185	0.0379	0	0	0.0564
N-HEPTADECANE	0.000222	0.000462	0	0	0.000684
N-HEPTANE	0.427	2.91	0	0	3.34
N-HEXANE	1.13	21.4	0	0	22.5
NICKEL & COMPOUNDS	1.46	0.863	0	0.011	2.33
NITRIC OXIDE	3910	26000	0	0	29900
NITROGEN DIOXIDE	315	2090	0	0	2410
NITROUS OXIDE	17.2	126	0	0	144
N-NONANE	0.011	0	0	0	0.011
N-PENTADECANE	0.00316	0.00647	0	0	0.00962
N-PENTANE	43.1	15.2	0	0	58.3
N-PROPYLBENZENE	0.16	0.283	0	0	0.443
N-TETRADECANE	0.00902	0.0185	0	0	0.0275
N-TRIDECANE	0.0124	0.0254	0	0	0.0378
N-UNDECANE	0.00609	0.0125	0	0	0.0186
O-ETHYLTOLUENE	0.233	0.476	0	0	0.709
OXIDES OF NITROGEN	6300	41900	0	0	48200

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARTICULATE MATTER ≤ 10 µm	19500	48600	0	85	68200
PARTICULATE MATTER ≤ 2.5 µm	4780	12400	0	8.5	17100
P-DICHLOROBENZENE	115	28.5	0	0.0916	143
PERCHLOROETHYLENE	803	199	0	0.641	1000
P-ETHYLTOLUENE	0.479	0.913	0	0	1.39
POLYCHLORINATED DIOXINS AND FURANS	6.91x10 ⁻⁰⁸	0.0000019	0	0	0.00000197
POLYCYCLIC AROMATIC HYDROCARBONS	0.0468	0.101	0	0	0.148
PROPANE	28.8	13.6	0	0	42.3
PROPYLENE	2.07	0	0	0	2.07
SELENIUM & COMPOUNDS	0.205	1.1	0	0.000895	1.3
SULFUR DIOXIDE	31.1	65500	0	0	65500
SULFURIC ACID	0	647	0	0	647
TIN & COMPOUNDS	0.0054	0	0	0	0.0054
TOLUENE	477	130	0	0.366	608
TOTAL SUSPENDED PARTICULATE	96100	110000	0	298	206000
TOTAL VOLATILE ORGANIC COMPOUNDS	5380	1590	0	3.94	6980
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.011	0	0	0	0.011
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0329	0	0	0	0.0329
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.0767	0	0	0	0.0767
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.0438	0	0	0	0.0438
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.0548	0	0	0	0.0548
TRANS-2-BUTENE	3.1	0	0	0	3.1
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0329	0	0	0	0.0329
TRANS-2-PENTENE	3.22	0	0	0	3.22
TRICHLOROETHYLENE (TCE)	115	28.5	0	0.0916	143
VANADIUM & COMPOUNDS	6.47	0.000387	0	0.023	6.49
ZINC & COMPOUNDS	92.2	0.774	0	0.112	93.1

A.73 SOAP AND DETERGENT PRODUCTION

Table A-73: Annual emissions from soap and detergent production

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	9.45	0	0	0	9.45
1,2,3-TRIMETHYLBENZENE	0.0382	0	0	0	0.0382
1,2,4-TRIMETHYLBENZENE	0.0205	0	0	0	0.0205
1,2-DICHLORO-1,1,2,2-TETRAFLUOROETHANE {CFC-114}	46.8	0	0	0	46.8

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2-DICHLOROETHANE	1690	0	0	0	1690
1,2-DICHLOROPROPANE	53.5	0	0	0	53.5
1,3,5-TRIMETHYLBENZENE	0.0288	0	0	0	0.0288
1,3-BUTADIENE	0.21	0	0	0	0.21
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	6.69	0	0	0	6.69
1,4-DIETHYL-CYCLOHEXANE	64.2	0	0	0	64.2
1-BUTENE	248	0	0	0	248
1-CHLOROBUTANE	3.33	0	0	0	3.33
1-ETHOXY-2-PROPANOL	2.2	0	0	0	2.2
1-HEXENE	53.5	0	0	0	53.5
1-PENTENE	13.4	0	0	0	13.4
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	8.37	0	0	0	8.37
2-BUTYLTETRAHYDROFURAN	0.226	0	0	0	0.226
2-ETHYL-1-HEXANOL	1.52	0	0	0	1.52
2-METHYL-BUTANE	33.4	0	0	0	33.4
2-METHYLPROPANE; ISOBUTANE	46.8	0	0	0	46.8
3-(CHLOROMETHYL)-HEPTANE	0.933	0	0	0	0.933
ACETALDEHYDE	1240	0	0	0	1240
ACETIC ACID	983	0	0	0	983
ACETIC ANHYDRIDE	60.2	0	0	0	60.2
ACETONE	1550	0	0	0	1550
ACETYLENE	1430	0	0	0	1430
ACROLEIN (2-PROPENAL)	1200	0	0	0	1200
ACRYLONITRILE	635	0	0	0	635
AMMONIA (TOTAL)	220	0	0	0	220
ANTIMONY & COMPOUNDS	0.0253	0	0	0	0.0253
ARSENIC & COMPOUNDS	0.0295	0	0	0	0.0295
BENZALDEHYDE	46.8	0	0	0	46.8
BENZENE	5700	0	0	0	5700
BENZOIC ACID	100	0	0	0	100
BERYLLIUM & COMPOUNDS	0.000634	0	0	0	0.000634
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	22.3	0	0	0	22.3
BUTYRALDEHYDE	6.69	0	0	0	6.69
C10H12	63.2	0	0	0	63.2
C7 CYCLOPARAFFINS	1170	0	0	0	1170
C8 CYCLOPARAFFINS	20.1	0	0	0	20.1
C9 CYCLOPARAFFINS	27.5	0	0	0	27.5
CADMIUM & COMPOUNDS	0.0625	0	0	0	0.0625
CARBON DIOXIDE	6550000	0	0	0	6550000
CARBON DISULFIDE	267	0	0	0	267
CARBON MONOXIDE	4490	0	0	0	4490
CARBON TETRACHLORIDE	201	0	0	0	201
CARBONYL SULFIDE	86.9	0	0	0	86.9
CHLOROBENZENE	2020	0	0	0	2020
CHLORODIFLUOROMETHANE (F-	481	0	0	0	481

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
22)					
CHLOROETHANE (ETHYL CHLORIDE)	857	0	0	0	857
CHLOROFORM (TRICHLOROMETHANE)	28.9	0	0	0	28.9
CHLOROPENTAFLUOROETHANE (F115)	46.8	0	0	0	46.8
CHLOROPRENE (2-CHLORO-1,3-BUTADIENE)	1020	0	0	0	1020
CHLOROTRIFLUOROMETHANE (F-13)	160	0	0	0	160
CHROMIUM (III) COMPOUNDS	0.0877	0	0	0	0.0877
CHROMIUM (VI) COMPOUNDS	0.00627	0	0	0	0.00627
COBALT & COMPOUNDS	0.0129	0	0	0	0.0129
COPPER & COMPOUNDS	0.102	0	0	0	0.102
CUMENE (1-METHYLETHYLBENZENE)	0.0137	0	0	0	0.0137
CYCLOHEXANE	582	0	0	0	582
CYCLOHEXANOL	107	0	0	0	107
CYCLOHEXANONE	107	0	0	0	107
DIACETONE ALCOHOL (4-HYDROXY-4-METHYL-2-PENTANONE)	1.17	0	0	0	1.17
DIBUTYL ETHER	0.361	0	0	0	0.361
DICHLOROBENZENES	60.2	0	0	0	60.2
DICHLORODIFLUOROMETHANE (F-12)	1060	0	0	0	1060
DICHLOROMETHANE {METHYLENE CHLORIDE}	11.5	0	0	0	11.5
DIETHYLBENZENES	33.4	0	0	0	33.4
DIETHYLENE GLYCOL (2,2'-OXYBISETHANOL)	33.4	0	0	0	33.4
DIMETHOXYMETHANE (METHYLAL)	295	0	0	0	295
DIMETHYL ETHER	2820	0	0	0	2820
ETHANE	923	0	0	0	923
ETHYL ACETATE	2.79	0	0	0	2.79
ETHYL ACRYLATE	361	0	0	0	361
ETHYL ALCOHOL	177	0	0	0	177
ETHYL ETHER	381	0	0	0	381
ETHYL ISOPROPYL ETHER	7.83	0	0	0	7.83
ETHYLBENZENE	435	0	0	0	435
ETHYLENE	5540	0	0	0	5540
ETHYLENE GLYCOL	0.873	0	0	0	0.873
ETHYLENE OXIDE	267	0	0	0	267
FORMALDEHYDE	73.8	0	0	0	73.8
FORMIC ACID	66.9	0	0	0	66.9
HEXADECANE	0.00008	0	0	0	0.00008
HEXAFLUOROETHANE {F-116}	1200	0	0	0	1200

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
HEXAMETHYLENEDIAMINE	1020	0	0	0	1020
HEXYLENE GLYCOL (2-METHYLPENTANE-2,4-DIOL)	2.15	0	0	0	2.15
ISOMERS OF BUTENE	86.9	0	0	0	86.9
ISOMERS OF HEXANE	86.9	0	0	0	86.9
ISOMERS OF NONANE (C9 PARAFFIN)	20	0	0	0	20
ISOMERS OF PENTANE	93.5	0	0	0	93.5
ISOMERS OF TETRADECANE (C14 PARAFFINS)	25.2	0	0	0	25.2
ISOMERS OF UNDECANE (C11 PARAFFINS)	48.4	0	0	0	48.4
ISOMERS OF XYLENE	321	0	0	0	321
ISOPROPYL ALCOHOL	419	0	0	0	419
LEAD & COMPOUNDS	0.0775	0	0	0	0.0775
MALEIC ANHYDRIDE	201	0	0	0	201
MANGANESE & COMPOUNDS	0.318	0	0	0	0.318
MERCURY & COMPOUNDS	0.0174	0	0	0	0.0174
METHANE	7280	0	0	0	7280
METHYL ACETATE	923	0	0	0	923
METHYL ALCOHOL	2050	0	0	0	2050
METHYL AMYL KETONE	1.57	0	0	0	1.57
METHYL CHLORIDE	7.51	0	0	0	7.51
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	1290	0	0	0	1290
METHYL FORMATE	662	0	0	0	662
METHYL ISOBUTYL KETONE	172	0	0	0	172
METHYL METHACRYLATE	288	0	0	0	288
METHYL PALMITATE {METHYL HEXADECANOATE}	0.542	0	0	0	0.542
METHYLENE BROMIDE	100	0	0	0	100
M-ETHYLTOLUENE	0.0327	0	0	0	0.0327
MOLYBDENUM	0.00186	0	0	0	0.00186
N-BUTANE	956	0	0	0	956
N-BUTYL ACETATE	49.9	0	0	0	49.9
N-BUTYL ACRYLATE	147	0	0	0	147
N-BUTYL ALCOHOL	786	0	0	0	786
N-DECANE	0.316	0	0	0	0.316
N-DODECANE	0.00223	0	0	0	0.00223
N-HEPTADECANE	0.000026	0	0	0	0.000026
N-HEXANE	40.1	0	0	0	40.1
NICKEL & COMPOUNDS	0.119	0	0	0	0.119
NITRIC OXIDE	2690	0	0	0	2690
NITROGEN DIOXIDE	217	0	0	0	217
NITROUS OXIDE	12.4	0	0	0	12.4
N-PENTADECANE	0.00038	0	0	0	0.00038
N-PENTANE	201	0	0	0	201
N-PROPYLBENZENE	0.0167	0	0	0	0.0167
N-TETRADECANE	0.00109	0	0	0	0.00109

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-TRIDECANE	0.0015	0	0	0	0.0015
N-UNDECANE	0.181	0	0	0	0.181
O-DICHLOROBENZENE	107	0	0	0	107
O-ETHYLTOLUENE	0.0281	0	0	0	0.0281
OXIDES OF NITROGEN	4340	0	0	0	4340
PARTICULATE MATTER ≤ 10 µm	480	0	0	0	480
PARTICULATE MATTER ≤ 2.5 µm	426	0	0	0	426
P-DICHLOROBENZENE	2150	0	0	0	2150
PERCHLOROETHYLENE	2.47	0	0	0	2.47
P-ETHYLTOLUENE	0.0538	0	0	0	0.0538
PHENOL (CARBOLIC ACID)	1040	0	0	0	1040
PHTHALIC ANHYDRIDE	608	0	0	0	608
POLYCHLORINATED DIOXINS AND FURANS	6.34x10 ⁻⁰⁸	0	0	0	6.34x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.0381	0	0	0	0.0381
PROPANE	2330	0	0	0	2330
PROPYL ACETATE	0.678	0	0	0	0.678
PROPYLENE	1790	0	0	0	1790
PROPYLENE GLYCOL METHYL ETHER	6.48	0	0	0	6.48
PROPYLENE OXIDE	6740	0	0	0	6740
SEC-BUTYL ALCOHOL	1020	0	0	0	1020
SELENIUM & COMPOUNDS	0.00336	0	0	0	0.00336
STYRENE (ETHENYLBENZENE)	2610	0	0	0	2610
SUBSTITUTED C9 ESTER (C12)	43	0	0	0	43
SULFUR DIOXIDE	791	0	0	0	791
SULFUR TRIOXIDE	170	0	0	0	170
SULFURIC ACID	0.000516	0	0	0	0.000516
TEREPHTHALIC ACID (P- BENZENEDICARBOXYLIC ACID)	13.4	0	0	0	13.4
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	100	0	0	0	100
TIN & COMPOUNDS	0.00135	0	0	0	0.00135
TOLUENE	1240	0	0	0	1240
TOTAL SUSPENDED PARTICULATE	781	0	0	0	781
TOTAL VOLATILE ORGANIC COMPOUNDS	69200	0	0	0	69200
TRICHLOROETHYLENE (TCE)	0.353	0	0	0	0.353
TRICHLOROFLUOROMETHANE	769	0	0	0	769
TRICHLOROTRIFLUOROETHANE- F113	60.2	0	0	0	60.2
TRIFLUOROMETHANE (F-23)	909	0	0	0	909
VANADIUM & COMPOUNDS	0.00131	0	0	0	0.00131
VINYL ACETATE	1650	0	0	0	1650
VINYL CHLORIDE MONOMER	1080	0	0	0	1080
ZINC & COMPOUNDS	1.92	0	0	0	1.92

A.74 SOLID WASTE LANDFILLING

Table A-74: Annual emissions from solid waste landfilling

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.0274	0	0	0	0.0274
1,2,4-TRIMETHYLBENZENE	0.0147	0	0	0	0.0147
1,3,5-TRIMETHYLBENZENE	0.0206	0	0	0	0.0206
2-METHYLPROPENE (ISOBUTENE)	0	0	0	217	217
ACETIC ACID	0	0	0	114	114
ACETONE	0	0	0	9500	9500
AMMONIA (TOTAL)	103000	0	0	35400	138000
ANTIMONY & COMPOUNDS	0.283	0	0	1.21	1.49
ARSENIC & COMPOUNDS	0.0459	0	0	0.327	0.373
BENZENE	1170	0	0	344	1510
BERYLLIUM & COMPOUNDS	0.011	0	0	0.0268	0.0378
BORON & COMPOUNDS	0.7	0	0	1.73	2.43
BROMODICHLOROMETHANE	583	0	0	3990	4570
CADMIUM & COMPOUNDS	0.0518	0	0	0.21	0.262
CARBON DIOXIDE	11600000	0	0	3400000	15000000
CARBON DISULFIDE	0	0	0	22.8	22.8
CARBON MONOXIDE	6470	0	0	1910	8380
CHROMIUM (III) COMPOUNDS	2.54	0	0	6.3	8.84
CHROMIUM (VI) COMPOUNDS	0.0156	0	0	0.0708	0.0865
COBALT & COMPOUNDS	0.295	0	0	0.76	1.05
COPPER & COMPOUNDS	1.58	0	0	4.88	6.46
CUMENE (1- METHYLETHYLBENZENE)	0.00984	0	0	0	0.00984
DICHLORODIFLUOROMETHANE (F-12)	2330	0	0	687	3020
DICHLOROMETHANE {METHYLENE CHLORIDE}	1170	0	0	344	1510
DIMETHYL SULFIDE	583	0	0	172	755
ETHANE	36700	0	0	10800	47500
ETHYL ACETATE	0	0	0	3610	3610
ETHYL ALCOHOL	1170	0	0	1480	2640
ETHYLBENZENE	583	0	0	172	755
FLUORIDE COMPOUNDS	7	0	0	17.3	24.3
HEXADECANE	0.000057	0	0	0	0.000057
HYDROGEN SULFIDE	1980	0	0	584	2570
ISOMERS OF XYLENE	1750	0	0	515	2260
ISOPROPYL ALCOHOL	4080	0	0	1200	5280
LEAD & COMPOUNDS	1.6	0	0	4.78	6.38
MANGANESE & COMPOUNDS	37.8	0	0	99	137
MERCURY & COMPOUNDS	0.141	0	0	0.228	0.369
METHANE	14100000	0	0	4480000	18600000
METHYL ALCOHOL	0	0	0	2480	2480
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	583	0	0	1310	1890

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
M-ETHYLTOLUENE	0.0234	0	0	0	0.0234
MOLYBDENUM	0.0306	0	0	0.139	0.17
N-BUTYL ALCOHOL	0	0	0	165	165
N-DODECANE	0.0016	0	0	0	0.0016
N-HEPTADECANE	0.000018	0	0	0	0.000018
N-HEXANE	583	0	0	1100	1690
NICKEL & COMPOUNDS	1.91	0	0	4.92	6.84
N-PENTADECANE	0.000272	0	0	0	0.000272
N-PROPYL ALCOHOL	0	0	0	17.1	17.1
N-PROPYLBENZENE	0.012	0	0	0	0.012
N-TETRADECANE	0.00078	0	0	0	0.00078
N-TRIDECANE	0.00107	0	0	0	0.00107
N-UNDECANE	0.000526	0	0	0	0.000526
O-ETHYLTOLUENE	0.0201	0	0	0	0.0201
PARTICULATE MATTER ≤ 10 µm	18400	0	0	42100	60400
PARTICULATE MATTER ≤ 2.5 µm	3590	0	0	8050	11600
PERCHLOROETHYLENE	583	0	0	172	755
P-ETHYLTOLUENE	0.0386	0	0	0	0.0386
PROPANE	583	0	0	172	755
SELENIUM & COMPOUNDS	0.259	0	0	0.655	0.914
TOLUENE	20400	0	0	6010	26400
TOTAL SUSPENDED PARTICULATE	38100	0	0	100000	138000
TOTAL VOLATILE ORGANIC COMPOUNDS	73400	0	0	44800	118000
VANADIUM & COMPOUNDS	0.236	0	0	1.07	1.31
VINYL CHLORIDE MONOMER	583	0	0	172	755
ZINC & COMPOUNDS	4.35	0	0	13.1	17.4

A.75 STERILISATION ACTIVITIES

Table A-75: Annual emissions from sterilisation activities

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	8.87	0	0	0	8.87
ANTIMONY & COMPOUNDS	0.000177	0	0	0	0.000177
ARSENIC & COMPOUNDS	0.00255	0	0	0	0.00255
BENZENE	6.29	0	0	0	6.29
BERYLLIUM & COMPOUNDS	0.000149	0	0	0	0.000149
CADMIUM & COMPOUNDS	0.0142	0	0	0	0.0142
CARBON DIOXIDE	1540000	0	0	0	1540000
CARBON MONOXIDE	1050	0	0	0	1050
CHROMIUM (III) COMPOUNDS	0.0165	0	0	0	0.0165
CHROMIUM (VI) COMPOUNDS	0.000879	0	0	0	0.000879
COBALT & COMPOUNDS	0.00108	0	0	0	0.00108
COPPER & COMPOUNDS	0.0114	0	0	0	0.0114
CYCLOHEXANE	1.57	0	0	0	1.57
FORMALDEHYDE	12.6	0	0	0	12.6

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF HEXANE	1.57	0	0	0	1.57
ISOMERS OF PENTANE	14.2	0	0	0	14.2
LEAD & COMPOUNDS	0.00662	0	0	0	0.00662
MANGANESE & COMPOUNDS	0.00688	0	0	0	0.00688
MERCURY & COMPOUNDS	0.00333	0	0	0	0.00333
METHANE	88.1	0	0	0	88.1
MOLYBDENUM	0.000013	0	0	0	0.000013
N-BUTANE	14.2	0	0	0	14.2
NICKEL & COMPOUNDS	0.0268	0	0	0	0.0268
NITRIC OXIDE	762	0	0	0	762
NITROGEN DIOXIDE	61.4	0	0	0	61.4
NITROUS OXIDE	2.92	0	0	0	2.92
N-PENTANE	9.44	0	0	0	9.44
OXIDES OF NITROGEN	1230	0	0	0	1230
PARTICULATE MATTER ≤ 10 µm	96.2	0	0	0	96.2
PARTICULATE MATTER ≤ 2.5 µm	95.8	0	0	0	95.8
POLYCHLORINATED DIOXINS AND FURANS	1.49x10 ⁻⁰⁸	0	0	0	1.49x10 ⁻⁰⁸
POLYCYCLIC AROMATIC HYDROCARBONS	0.00865	0	0	0	0.00865
PROPANE	6.29	0	0	0	6.29
SELENIUM & COMPOUNDS	0.000304	0	0	0	0.000304
SULFUR DIOXIDE	6.58	0	0	0	6.58
TOLUENE	3.15	0	0	0	3.15
TOTAL SUSPENDED PARTICULATE	98.3	0	0	0	98.3
TOTAL VOLATILE ORGANIC COMPOUNDS	69.2	0	0	0	69.2
VANADIUM & COMPOUNDS	0.00000521	0	0	0	0.00000521
ZINC & COMPOUNDS	0.364	0	0	0	0.364

A.76 WASTE DISPOSAL (APPLICATION TO LAND)

Table A-76: Annual emissions from waste disposal (application to land)

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0.173	0	74.6	0	74.7
1,2,3-TRIMETHYLBENZENE	2.79	0	0	0	2.79
1,2,4-TRIMETHYLBENZENE	1.5	0	0	0	1.5
1,3,5-TRIMETHYLBENZENE	2.1	0	0	0	2.1
1,3-DIETHYL-5-METHYL CYCLOHEXANE	1.48	0	0	0	1.48
1,4-DIETHYL-CYCLOHEXANE	4.71	0	0	0	4.71
2-METHYLPROPANE; ISOBUTANE	0.000462	0	0	0	0.000462
2-METHYLPROPENE (ISOBUTENE)	2290	0	502	354	3150
ACETIC ACID	1210	0	264	186	1660
ACETONE	100000	0	22000	15500	138000

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
AMMONIA (TOTAL)	521000	74100	48400	124000	768000
ANTIMONY & COMPOUNDS	54.6	7.91	2.03	1.37	65.9
ARSENIC & COMPOUNDS	20.1	2.27	0.921	1.21	24.5
BENZALDEHYDE	1.24	0	0	0	1.24
BENZENE	5290	838	415	1310	7850
BERYLLIUM & COMPOUNDS	0.893	0.104	0.0299	0.134	1.16
BORON & COMPOUNDS	58.1	6.76	1.99	8.67	75.5
BROMODICHLOROMETHANE	43000	419	9050	6890	59400
C10 OLEFINS	11.7	0	0	0	11.7
CADMIUM & COMPOUNDS	9.26	1.26	0.344	0.301	11.2
CARBON DIOXIDE	52400000	8300000	4110000	12900000	77800000
CARBON DISULFIDE	241	0	52.8	37.2	331
CARBON MONOXIDE	29100	4590	2300	7190	43200
CHLOROFORM (TRICHLOROMETHANE)	0.13	0	55.9	0	56.1
CHROMIUM (III) COMPOUNDS	212	25.1	7.24	30.9	275
CHROMIUM (VI) COMPOUNDS	3.26	0.484	0.121	0.0591	3.93
COBALT & COMPOUNDS	26.4	3.35	0.913	3.53	34.2
COPPER & COMPOUNDS	222	25.3	6.74	15.6	270
CUMENE (1- METHYLETHYLBENZENE)	1	0	0	0	1
DIBROMOETHANE	1.48	0	0	0	1.48
DICHLORODIFLUOROMETHANE (F-12)	10600	1680	829	2610	15700
DICHLOROMETHANE {METHYLENE CHLORIDE}	5300	838	498	1310	7940
DIETHYLCYCLOHEXANE	13	0	0	0	13
DIMETHYL SULFIDE	2650	419	207	653	3930
DIMETHYLCYCLOHEXANES	3.24	0	0	0	3.24
ETHANE	167000	26400	13100	41100	247000
ETHYL ACETATE	38200	0	8370	5900	52500
ETHYL ALCOHOL	17300	838	3040	3160	24300
ETHYLBENZENE	2650	419	207	653	3930
ETHYLHEPTENE	3.68	0	0	0	3.68
FLUORIDE COMPOUNDS	580	67.6	19.9	86.7	754
FORMALDEHYDE	0.0216	0	9.32	0	9.34
HEXADECANE	0.00597	0	0	0	0.00597
HYDROGEN SULFIDE	8950	1510	705	2290	13400
ISOMERS OF C10H18	7.26	0	0	0	7.26
ISOMERS OF DECANE (C10 PARAFFINS)	10.5	0	0	0	10.5
ISOMERS OF HEPTANE	0.000248	0	0	0	0.000248
ISOMERS OF HEXANE	0.000253	0	0	0	0.000253
ISOMERS OF NONANE (C9 PARAFFIN)	8.54	0	0	0	8.54
ISOMERS OF OCTANE (C8 PARAFFIN)	0.000019	0	0	0	0.000019
ISOMERS OF PENTANE	0.000557	0	0	0	0.000557
ISOMERS OF UNDECANE (C11	2.66	0	0	0	2.66

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PARAFFINS)					
ISOMERS OF XYLENE	7950	1260	678	1960	11800
ISOPROPYL ALCOHOL	18500	2930	1450	4570	27500
LEAD & COMPOUNDS	184	24	6.56	16.5	231
MANGANESE & COMPOUNDS	3480	424	121	444	4470
MERCURY & COMPOUNDS	10.1	1.41	0.373	0.323	12.2
METHANE	64200000	10200000	5130000	15800000	95300000
METHYL ALCOHOL	26200	0	5740	4050	36000
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	14700	419	2830	2510	20400
METHYLCYCLOHEXANE	15.7	0	0	0	15.7
M-ETHYLTOLUENE	2.39	0	0	0	2.39
MOLYBDENUM	6.37	0.902	0.238	0.116	7.62
N-BUTANE	0.00103	0	0	0	0.00103
N-BUTYL ACETATE	15.1	0	0	0	15.1
N-BUTYL ALCOHOL	1750	0	383	270	2400
N-DODECANE	0.163	0	0	0	0.163
N-HEPTADECANE	0.00199	0	0	0	0.00199
N-HEPTANE	5.01	0	0	0	5.01
N-HEXANE	12500	419	2370	2170	17500
NICKEL & COMPOUNDS	202	20.5	5.85	22.8	252
N-PENTADECANE	0.0279	0	0	0	0.0279
N-PENTANE	0.000502	0	0	0	0.000502
N-PROPYL ALCOHOL	181	0	39.6	27.9	248
N-PROPYLBENZENE	1.22	0	0	0	1.22
N-TETRADECANE	0.0797	0	0	0	0.0797
N-TRIDECANE	0.11	0	0	0	0.11
N-UNDECANE	4.15	0	0	0	4.15
O-ETHYLTOLUENE	2.05	0	0	0	2.05
PARTICULATE MATTER ≤ 10 µm	1220000	158000	32300	177000	1590000
PARTICULATE MATTER ≤ 2.5 µm	226000	29400	5950	35500	297000
P-DICHLOROBENZENE	0.0216	0	9.32	0	9.34
PERCHLOROETHYLENE	2650	419	273	653	3990
P-ETHYLTOLUENE	3.94	0	0	0	3.94
PHTHALIC ANHYDRIDE	1.24	0	0	0	1.24
PROPANE	2650	419	207	653	3930
P-TOLUALDEHYDE {4- METHYLBENZALDEHYDE}	1.71	0	0	0	1.71
SELENIUM & COMPOUNDS	22.3	2.67	0.767	3.11	28.9
TOLUENE	92700	14700	7290	22800	137000
TOTAL SUSPENDED PARTICULATE	3610000	433000	123000	446000	4610000
TOTAL VOLATILE ORGANIC COMPOUNDS	578000	52800	80100	120000	831000
TRICHLOROETHYLENE (TCE)	0.0216	0	9.32	0	9.34
VANADIUM & COMPOUNDS	48.9	6.6	1.83	0.893	58.2
VINYL CHLORIDE MONOMER	2650	419	207	653	3930
ZINC & COMPOUNDS	507	72.1	17.8	43.7	641

A.77 WASTE STORAGE**Table A-77: Annual emissions from waste storage**

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0.678	0.217	0	0.131	1.03
1,2,4-TRIMETHYLBENZENE	0.579	0.116	0	0.0703	0.766
1,3,5-TRIMETHYLBENZENE	0.511	0.163	0	0.0987	0.773
1,3-BUTADIENE	0.42	0	0	0	0.42
1,4-PENTADIENE	0.717	0	0	0	0.717
1-BUTENE	4.1	0	0	0	4.1
1-PENTENE	3.95	0	0	0	3.95
2,2,3,TRIMETHYLHEXANE	0.0717	0	0	0	0.0717
2,2,3-TRIMETHYLBUTANE	0.143	0	0	0	0.143
2,2,4-TRIMETHYLPENTANE	3.52	0	0	0	3.52
2,2-DIMETHYLBUTANE	1.08	0	0	0	1.08
2,2-DIMETHYLHEXANE	0.143	0	0	0	0.143
2,2-DIMETHYLPENTANE	0.359	0	0	0	0.359
2,3,3-TRIMETHYLPENTANE	0.359	0	0	0	0.359
2,3,4-TRIMETHYLPENTANE	0.359	0	0	0	0.359
2,3-DIMETHYLBUTANE	5.81	0	0	0	5.81
2,3-DIMETHYLHEXANE	0.574	0	0	0	0.574
2,3-DIMETHYLPENTANE	1.29	0	0	0	1.29
2,4-DIMETHYLHEXANE	1	0	0	0	1
2,4-DIMETHYLPENTANE	1.15	0	0	0	1.15
2,5-DIMETHYLHEXANE	0.502	0	0	0	0.502
2-METHYL-1-BUTENE	8.11	0	0	0	8.11
2-METHYL-2-BUTENE	31.8	0	0	0	31.8
2-METHYLHEPTANE	1.08	0	0	0	1.08
2-METHYLHEXANE	3.66	0	0	0	3.66
2-METHYLNONANE	0.0717	0	0	0	0.0717
2-METHYLOCTANE	0.0717	0	0	0	0.0717
2-METHYLPENTANE	34.3	0	0	0	34.3
2-METHYLPROPANE; ISOBUTANE	26.7	0.00231	0	0	26.7
3,3-DIMETHYLPENTANE	0.43	0	0	0	0.43
3-ETHYLPENTANE	0.717	0	0	0	0.717
3-METHYL-1-BUTENE	0.215	0	0	0	0.215
3-METHYLHEPTANE	1	0	0	0	1
3-METHYLHEXANE	4.52	0	0	0	4.52
3-METHYLOCTANE	0.143	0	0	0	0.143
3-METHYLPENTANE	16.8	0	0	0	16.8
4-METHYLHEPTANE	0.574	0	0	0	0.574
4-METHYLOCTANE	0.0717	0	0	0	0.0717
ACETYLENE	0.677	0	0	0	0.677
AMMONIA (TOTAL)	1.64	0	0	0	1.64
ANTIMONY & COMPOUNDS	2.22	0.0233	0.963	0	3.21
ARSENIC & COMPOUNDS	0.497	0.00445	0.178	0	0.679
BENZENE	8.17	0.000596	0	0	8.17
BERYLLIUM & COMPOUNDS	0.00499	0	0	0	0.00499
BORON & COMPOUNDS	0.323	0	0	0	0.323

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CADMIUM & COMPOUNDS	0.108	0.00103	0.155	0	0.263
CARBON DIOXIDE	214000	0	0	0	214000
CARBON MONOXIDE	161	0	0	0	161
CHROMIUM (III) COMPOUNDS	1.56	0.00408	0.141	0	1.7
CHROMIUM (VI) COMPOUNDS	0.167	0.00175	0.0606	0	0.229
CIS-1,3-DIMETHYLCYCLOPENTANE	1.58	0	0	0	1.58
CIS-1,CIS-2,4-TRIMETHYLCYCLOPENTANE	1	0	0	0	1
CIS-1-2-DIMETHYLCYCLOPENTANE	1	0	0	0	1
CIS-2-BUTENE	2.15	0	0	0	2.15
CIS-2-PENTENE	11.6	0	0	0	11.6
COBALT & COMPOUNDS	0.875	0.00788	0.0594	0	0.942
COPPER & COMPOUNDS	6.56	0.0507	1.88	0	8.49
CUMENE (1-METHYLETHYLBENZENE)	0.244	0.078	0	0.0471	0.369
CYCLOHEXANE	0.575	0	0	0	0.575
CYCLOPENTENE	0.215	0	0	0	0.215
ETHANE	1.56	0.00067	0	0	1.56
ETHYLBENZENE	0.746	0.00913	0	0.00552	0.761
ETHYLCYCLOPENTANE	0.215	0	0	0	0.215
ETHYLENE	1.72	0	0	0	1.72
FLUORIDE COMPOUNDS	3.23	0	0	0	3.23
FORMALDEHYDE	1.73	0	0	0	1.73
HEXADECANE	0.00145	0.000464	0	0.00028	0.00219
ISOMERS OF HEPTANE	2.59	0.00124	0	0	2.59
ISOMERS OF HEXANE	2.85	0.00127	0	0	2.85
ISOMERS OF OCTANE (C8 PARAFFIN)	0.207	0.000098	0	0	0.207
ISOMERS OF PENTANE	363	0.00279	0	0	363
ISOMERS OF XYLENE	4.38	0.14	0	0.0843	4.61
LEAD & COMPOUNDS	4.59	0.0425	1.55	0	6.18
MANGANESE & COMPOUNDS	42.1	0.274	10.9	0	53.3
MERCURY & COMPOUNDS	0.293	0.00308	0.166	0	0.463
METHANE	17.3	0.00219	0	0	17.3
METHYLCYCLOPENTANE	2.08	0	0	0	2.08
M-ETHYLTOLUENE	1.01	0.186	0	0.112	1.31
MOLYBDENUM	0.162	0.00171	0.119	0	0.283
N-BUTANE	108	0.00517	0	0	108
N-DECANE	0.0717	0	0	0	0.0717
N-DODECANE	0.0397	0.0127	0	0.00767	0.06
N-HEPTADECANE	0.000481	0.000154	0	0.000093	0.000728
N-HEPTANE	3.83	0.000496	0	0	3.83
N-HEXANE	4.01	0.00117	0	0	4.01
NICKEL & COMPOUNDS	2.48	0.00411	0.44	0	2.93
NITRIC OXIDE	152	0	0	0	152
NITROGEN DIOXIDE	12.3	0	0	0	12.3
NITROUS OXIDE	0.426	0	0	0	0.426

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-NONANE	0.0717	0	0	0	0.0717
N-PENTADECANE	0.00677	0.00217	0	0.00131	0.0102
N-PENTANE	6.52	0.00251	0	0	6.52
N-PROPYLBENZENE	0.44	0.0949	0	0.0573	0.592
N-TETRADECANE	0.0194	0.00619	0	0.00374	0.0293
N-TRIDECANE	0.0266	0.00851	0	0.00514	0.0403
N-UNDECANE	0.0131	0.00418	0	0.00252	0.0198
O-ETHYLTOLUENE	0.499	0.16	0	0.0964	0.755
OXIDES OF NITROGEN	245	0	0	0	245
PARTICULATE MATTER ≤ 10 µm	16100	65.7	3390	0	19600
PARTICULATE MATTER ≤ 2.5 µm	3250	15.9	339	0	3600
PERCHLOROETHYLENE	23.9	0	0	0	23.9
P-ETHYLTOLUENE	1.17	0.306	0	0.185	1.66
POLYCHLORINATED DIOXINS AND FURANS	2.05x10 ⁻⁰⁹	0	0	0	2.05x10 ⁻⁰⁹
POLYCYCLIC AROMATIC HYDROCARBONS	0.00395	0	0	0	0.00395
PROPANE	9.19	0.004	0	0	9.19
PROPYLENE	1.04	0	0	0	1.04
SELENIUM & COMPOUNDS	0.182	0.000685	0.0357	0	0.218
SULFUR DIOXIDE	0.987	0	0	0	0.987
TIN & COMPOUNDS	0.0027	0	0	0	0.0027
TOLUENE	14.9	0.0432	0	0.0259	15
TOTAL SUSPENDED PARTICULATE	51500	342	11900	0	63700
TOTAL VOLATILE ORGANIC COMPOUNDS	784	1.57	0	0.934	787
TRANS 1-METHYL-4- ETHYLCYCLOHEXANE	0.0717	0	0	0	0.0717
TRANS-1,2-CIS-4- TRIMETHYLCYCLOPENTANE	0.215	0	0	0	0.215
TRANS-1,3- DIMETHYLCYCLOPENTANE	0.502	0	0	0	0.502
TRANS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	0.287	0	0	0	0.287
TRANS-1-2- DIMETHYLCYCLOPENTANE	0.359	0	0	0	0.359
TRANS-2-BUTENE	20.3	0	0	0	20.3
TRANS-2- ETHYLMETHYLCYCLOPENTANE	0.215	0	0	0	0.215
TRANS-2-PENTENE	21.1	0	0	0	21.1
VANADIUM & COMPOUNDS	0.075	0.000685	0.915	0	0.991
ZINC & COMPOUNDS	33.7	0.339	4.45	0	38.5

A.78 WATER-BASED EXTRACTIVE ACTIVITY

Table A-78: Annual emissions from water-based extractive activity

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,1,1-TRICHLOROETHANE	0	0	0	24.1	24.1
1,2,3-TRIMETHYLBENZENE	0.0172	0.134	0.021	0.145	0.318
1,2,4-TRIMETHYLBENZENE	0.0987	0.072	0.0113	0.0778	0.26
1,3,5-TRIMETHYLBENZENE	0.0129	0.101	0.0158	0.109	0.239
1,4-PENTADIENE	0.298	0	0	0	0.298
1-BUTENE	1.37	0	0	0	1.37
1-ETHYL-1,2-DIMETHYLCYCLOHEXANE	0	0	0	0.0108	0.0108
1-ETHYL-2-METHYLCYCLOPENTANE	0	0	0	0.0108	0.0108
1-PENTENE	1.64	0	0	0	1.64
2,2,3,TRIMETHYLHEXANE	0.0298	0	0	0	0.0298
2,2,3-TRIMETHYLBUTANE	0.0596	0	0	0	0.0596
2,2,4-TRIMETHYLPENTANE	1.46	0	0	0	1.46
2,2-DIMETHYLBUTANE	0.447	0	0	0	0.447
2,2-DIMETHYLHEXANE	0.0596	0	0	0	0.0596
2,2-DIMETHYLPENTANE	0.149	0	0	0	0.149
2,3,3-TRIMETHYLPENTANE	0.149	0	0	0	0.149
2,3,4-TRIMETHYLPENTANE	0.149	0	0	0	0.149
2,3-DIMETHYLBUTANE	2.41	0	0	0	2.41
2,3-DIMETHYLHEXANE	0.239	0	0	0	0.239
2,3-DIMETHYLPENTANE	0.537	0	0	0	0.537
2,4-DIMETHYLHEXANE	0.417	0	0	0	0.417
2,4-DIMETHYLPENTANE	0.477	0	0	0	0.477
2,5-DIMETHYLHEXANE	0.209	0	0	0	0.209
2-METHYL-1-BUTENE	3.37	0	0	0	3.37
2-METHYL-2-BUTENE	13.2	0	0	0	13.2
2-METHYLHEPTANE	0.447	0	0	0	0.447
2-METHYLHEXANE	1.52	0	0	0	1.52
2-METHYLNONANE	0.0298	0	0	0	0.0298
2-METHYLOCTANE	0.0298	0	0	0	0.0298
2-METHYLPENTANE	14.3	0	0	0	14.3
2-METHYLPROPANE; ISOBUTANE	9.09	0	0	0	9.09
3,3-DIMETHYLPENTANE	0.179	0	0	0	0.179
3-ETHYLPENTANE	0.298	0	0	0	0.298
3-METHYL-1-BUTENE	0.0894	0	0	0	0.0894
3-METHYLHEPTANE	0.417	0	0	0	0.417
3-METHYLHEXANE	1.88	0	0	0	1.88
3-METHYLOCTANE	0.0596	0	0	0	0.0596
3-METHYLPENTANE	6.98	0	0	0	6.98
4-METHYLHEPTANE	0.239	0	0	0	0.239
4-METHYLOCTANE	0.0298	0	0	0	0.0298
ACETONE	0	0	0	1.51	1.51
ANTIMONY & COMPOUNDS	0.0261	0.00175	0	0.637	0.665
ARSENIC & COMPOUNDS	0.00483	0.0000311	0	0.132	0.137

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BENZENE	2.33	0	0	1.08	3.41
BERYLLIUM & COMPOUNDS	0	0.000581	0	0.0142	0.0148
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	0	0	0	0.0324	0.0324
BORON & COMPOUNDS	0	0.0359	0	0.427	0.463
BUTYLBENZENE ISOMERS	0	0	0	0.443	0.443
BUTYLCYCLOHEXANE	0	0	0	0.173	0.173
C10 OLEFINS	0	0	0	0.378	0.378
C11 OLEFINS	0	0	0	0.0972	0.0972
C12 OLEFINS	0	0	0	0.0216	0.0216
C8 OLEFINS	0	0	0	0.335	0.335
CADMIUM & COMPOUNDS	0.00419	0.000602	0	0.103	0.108
CHROMIUM (III) COMPOUNDS	0.00383	0.126	0	0.592	0.722
CHROMIUM (VI) COMPOUNDS	0.00164	0	0	0.0401	0.0417
CIS-1,3- DIMETHYLCYCLOPENTANE	0.656	0	0	0	0.656
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	0.417	0	0	0	0.417
CIS-1-2- DIMETHYLCYCLOPENTANE	0.417	0	0	0	0.417
CIS-2-BUTENE	0.894	0	0	0	0.894
CIS-2-PENTENE	4.83	0	0	0	4.83
COBALT & COMPOUNDS	0.00161	0.014	0	0.0436	0.0592
COPPER & COMPOUNDS	0.0509	0.0551	0	1.67	1.77
CUMENE (1- METHYLETHYLBENZENE)	0.00618	0.0483	0.00755	0.0846	0.147
CYCLOHEXANE	0.149	0	0	0.108	0.257
CYCLOPENTENE	0.0894	0	0	0	0.0894
DECALINS (MIXED CIS,TRANS)	0	0	0	0.0648	0.0648
DICHLOROMETHANE {METHYLENE CHLORIDE}	0	0	0	4.43	4.43
DIETHYLCYCLOHEXANE	0	0	0	0.0864	0.0864
DIMETHYLBENZYLALCOHOL	0	0	0	0.0216	0.0216
DIMETHYLCYCLOBUTANONE	0	0	0	0.0648	0.0648
DIMETHYLCYCLOHEXANES	0	0	0	0.119	0.119
DIMETHYLCYCLOPENTANE	0	0	0	0.767	0.767
DIMETHYLHEPTANES	0	0	0	0.0216	0.0216
DIMETHYLHEXANES	0	0	0	0.356	0.356
DIMETHYLNONANES	0	0	0	0.227	0.227
DIMETHYLOCTANES	0	0	0	0.324	0.324
ETHYL ETHER	0	0	0	0.864	0.864
ETHYL PROPYLCYCLOHEXANES	0	0	0	0.0648	0.0648
ETHYLBENZENE	0.299	0.00565	0.000883	0.00611	0.311
ETHYLCYCLOHEXANE	0	0	0	0.0864	0.0864
ETHYLCYCLOPENTANE	0.0894	0	0	0	0.0894
ETHYLDIMETHYLPHENOL	0	0	0	0.0648	0.0648
ETHYLHEPTENE	0	0	0	0.0324	0.0324
ETHYLHEXANE	0	0	0	0.054	0.054
ETHYLMETHYLCYCLOHEXANES	0	0	0	0.745	0.745

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLMETHYLOCTANE	0	0	0	0.0756	0.0756
ETHYLOCTANE	0	0	0	0.0216	0.0216
ETHYLOCTENES	0	0	0	0.0432	0.0432
FLUORIDE COMPOUNDS	0	0.356	0	2.56	2.92
HEXADECANE	0.000036	0.000287	0.000044	0.00031	0.000677
ISOMERS OF C9H16	0	0	0	0.13	0.13
ISOMERS OF DECANE (C10 PARAFFINS)	0	0	0	1.44	1.44
ISOMERS OF DODECANE (C12 PARAFFINS)	0	0	0	0.302	0.302
ISOMERS OF PENTANE	148	0	0	0	148
ISOMERS OF PROPYLBENZENE	0	0	0	0.302	0.302
ISOMERS OF TETRADECANE (C14 PARAFFINS)	0	0	0	0.0324	0.0324
ISOMERS OF TRIDECANE (C13 PARAFFINS)	0	0	0	0.0108	0.0108
ISOMERS OF UNDECANE (C11 PARAFFINS)	0	0	0	1	1
ISOMERS OF XYLENE	1.65	0.0864	0.0135	4.2	5.95
LEAD & COMPOUNDS	0.0419	0.0603	0	1.16	1.27
MANGANESE & COMPOUNDS	0.295	1.76	0	13.7	15.8
MERCURY & COMPOUNDS	0.00451	0.000114	0	0.114	0.119
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	0	0	0	1.19	1.19
METHYL HEXANE	0	0	0	1.37	1.37
METHYL PROPYLCYCLOHEXANES	0	0	0	0.281	0.281
METHYLCYCLOHEXANE	0	0	0	1.98	1.98
METHYLCYCLOPENTANE	0.865	0	0	0	0.865
METHYLDECALINS	0	0	0	0.0324	0.0324
METHYLDECANES	0	0	0	0.486	0.486
METHYLDECENES	0	0	0	0.0864	0.0864
METHYLDODECANES	0	0	0	0.0216	0.0216
METHYLHEXENES	0	0	0	0.13	0.13
METHYLNONANE	0	0	0	0.81	0.81
METHYLNONENES	0	0	0	0.0324	0.0324
METHYLOCTANES	0	0	0	0.788	0.788
METHYLPROPYLNONANE	0	0	0	0.0324	0.0324
M-ETHYLTOLUENE	0.194	0.115	0.018	0.124	0.451
METHYLUDECANE	0	0	0	0.0324	0.0324
MOLYBDENUM	0.00322	0	0	0.0786	0.0818
NAPHTHALENE	0	0	0	0.0324	0.0324
N-BUTANE	39.7	0	0	0	39.7
N-DECANE	0.0298	0	0	0	0.0298
N-DODECANE	0.001	0.00785	0.00123	0.00849	0.0186
N-HEPTADECANE	0.000012	0.000095	0.000014	0.000103	0.000224
N-HEPTANE	1.16	0	0	9.12	10.3
N-HEXANE	0.656	0	0	0.0432	0.699
NICKEL & COMPOUNDS	0.0119	0.0903	0	0.419	0.521

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
N-NONANE	0.0298	0	0	0.94	0.969
NONADIENE	0	0	0	0.0216	0.0216
N-PENTADECANE	0.000171	0.00134	0.000209	0.00145	0.00317
N-PENTYLCYCLOHEXANE	0	0	0	0.054	0.054
N-PROPYLBENZENE	0.0671	0.0587	0.00918	0.117	0.252
N-TETRADECANE	0.00049	0.00383	0.000599	0.00414	0.00906
N-TRIDECANE	0.000673	0.00527	0.000823	0.00569	0.0125
N-UNDECANE	0.00033	0.00259	0.000404	0.00279	0.00611
O-ETHYLTOLUENE	0.0126	0.0987	0.0154	0.107	0.233
PARTICULATE MATTER ≤ 10 µm	91.8	891	0	9360	10300
PARTICULATE MATTER ≤ 2.5 µm	9.18	177	0	1660	1840
PENTAMETHYLBENZENE	0	0	0	0.0324	0.0324
PERCHLOROETHYLENE	0	0	0	7.99	7.99
P-ETHYLTOLUENE	0.114	0.189	0.0296	0.204	0.537
PROPENYLCYCLOHEXANE	0	0	0	0.0216	0.0216
SEC-BUTYL ALCOHOL	0	0	0	0.756	0.756
SELENIUM & COMPOUNDS	0.000966	0.0125	0	0.0237	0.0372
TETRAMETHYLCYCLOPENTANE	0	0	0	0.0756	0.0756
TETRAMETHYLTHIOUREA	0	0	0	0.0108	0.0108
TOLUENE	5.67	0.0265	0.00415	8.98	14.7
TOTAL SUSPENDED PARTICULATE	322	1780	0	22100	24200
TOTAL VOLATILE ORGANIC COMPOUNDS	288	0.957	0.15	109	398
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	0.0298	0	0	0	0.0298
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	0.0894	0	0	0	0.0894
TRANS-1,3-DIMETHYLCYCLOPENTANE	0.209	0	0	0	0.209
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	0.119	0	0	0	0.119
TRANS-1-2-DIMETHYLCYCLOPENTANE	0.149	0	0	0	0.149
TRANS-2-BUTENE	8.44	0	0	0	8.44
TRANS-2-ETHYLMETHYLCYCLOPENTANE	0.0894	0	0	0	0.0894
TRANS-2-PENTENE	8.77	0	0	0	8.77
TRICHLOROETHYLENE (TCE)	0	0	0	22.8	22.8
TRICHLOROTRIFLUOROETHANE-F113	0	0	0	4.43	4.43
TRIMETHYLBENZENES	0	0	0	0.335	0.335
TRIMETHYLCYCLOHEXANES	0	0	0	0.259	0.259
TRIMETHYLCYCLOPENTANE	0	0	0	0.389	0.389
TRIMETHYLHEPTANES	0	0	0	0.238	0.238
TRIMETHYLOCTANES	0	0	0	0.054	0.054
VANADIUM & COMPOUNDS	0.0248	0	0	0.605	0.63
ZINC & COMPOUNDS	0.12	0.167	0	6.07	6.36

A.79 WOOD OR TIMBER MILLING OR PROCESSING

Table A-79: Annual emissions from wood or timber milling or processing

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,2,3-TRIMETHYLBENZENE	0	0	0	0.0172	0.0172
1,2,4-TRIMETHYLBENZENE	0	0	0	0.00922	0.00922
1,3,5-TRIMETHYLBENZENE	0	0	0	0.0129	0.0129
ACENAPHTHENE	0	0	0	2.08	2.08
ACENAPHTHYLENE	0	0	0	12.2	12.2
ACETALDEHYDE	0	0	0	0.408	0.408
AMMONIA (TOTAL)	0	0	0	64.5	64.5
ANTHANTHRENE	0	0	0	0.136	0.136
ANTIMONY & COMPOUNDS	0	0	0	0.0162	0.0162
ARSENIC & COMPOUNDS	0	0	0	0.0651	0.0651
BENZO(A)PYRENE	0	0	0	1.53	1.53
BENZO(B)FLUORANTHENE	0	0	0	1.94	1.94
BENZO(C)PHENANTHRENE	0	0	0	0.119	0.119
BENZO(E)PYRENE	0	0	0	0.153	0.153
BENZO[GHI]FLUORANTHENE	0	0	0	2.21	2.21
BENZOPYRENES	0	0	0	0.493	0.493
BERYLLIUM & COMPOUNDS	0	0	0	0.0033	0.0033
BORON & COMPOUNDS	0	0	0	0.81	0.81
BUTYRALDEHYDE	0	0	0	3.54	3.54
C2 ALKYLANTHRACENES	0	0	0	0.289	0.289
CADMIUM & COMPOUNDS	0	0	0	0.0202	0.0202
CARBON DIOXIDE	0	0	0	2040000	2040000
CARBON MONOXIDE	0	0	0	30800	30800
CHLORINE	0	0	0	5.85	5.85
CHROMIUM (III) COMPOUNDS	0	0	0	0.868	0.868
CHROMIUM (VI) COMPOUNDS	0	0	0	0.0349	0.0349
CHRYSENE	0	0	0	4.07	4.07
COBALT & COMPOUNDS	0	0	0	0.182	0.182
COPPER & COMPOUNDS	0	0	0	0.622	0.622
CORONENE	0	0	0	0.051	0.051
CUMENE (1-METHYLETHYLBENZENE)	0	0	0	0.00618	0.00618
CYCLOPENTA[CD]PYRENE	0	0	0	0.374	0.374
DIBENZANTHRACENES	0	0	0	0.987	0.987
DIBENZO(A,H)ANTHRACENE	0	0	0	0.068	0.068
DIBENZOPYRENES	0	0	0	0.034	0.034
ETHYLBENZENE	0	0	0	0.000723	0.000723
FLUORANTHENE	0	0	0	6.17	6.17
FLUORENE	0	0	0	4.41	4.41
FLUORIDE COMPOUNDS	0	0	0	2.1	2.1
FORMALDEHYDE	0	0	0	1.12	1.12
HEXADECANE	0	0	0	0.000036	0.000036
INDENO(1,2,3-CD)PYRENE	0	0	0	1.12	1.12
ISOBUTYRALDEHYDE	0	0	0	2.89	2.89
ISOMERS OF XYLENE	0	0	0	0.0111	0.0111

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
LEAD & COMPOUNDS	0	0	0	0.704	0.704
MANGANESE & COMPOUNDS	0	0	0	20	20
MERCURY & COMPOUNDS	0	0	0	0.0054	0.0054
METHYLANTHRACENES	0	0	0	1.58	1.58
METHYLBENZANTHRACENES	0	0	0	0.357	0.357
METHYLFLUORANTHENES	0	0	0	0.68	0.68
M-ETHYLTOLUENE	0	0	0	0.0147	0.0147
MOLYBDENUM	0	0	0	0.000594	0.000594
NAPHTHALENE	0	0	0	74.3	74.3
N-DODECANE	0	0	0	0.001	0.001
N-HEPTADECANE	0	0	0	0.000012	0.000012
NICKEL & COMPOUNDS	0	0	0	0.594	0.594
NITRIC OXIDE	0	0	0	990	990
NITROGEN DIOXIDE	0	0	0	79.9	79.9
NITROUS OXIDE	0	0	0	64.5	64.5
N-PENTADECANE	0	0	0	0.000171	0.000171
N-PENTANOL	0	0	0	0.425	0.425
N-PROPYLBENZENE	0	0	0	0.00751	0.00751
N-TETRADECANE	0	0	0	0.00049	0.00049
N-TRIDECANE	0	0	0	0.000673	0.000673
N-UNDECANE	0	0	0	0.00033	0.00033
O-ETHYLTOLUENE	0	0	0	0.0126	0.0126
OXIDES OF NITROGEN	0	0	0	1600	1600
PARTICULATE MATTER ≤ 10 µm	0	0	0	7810	7810
PARTICULATE MATTER ≤ 2.5 µm	0	0	0	2920	2920
PERYLENE	0	0	0	0.102	0.102
P-ETHYLTOLUENE	0	0	0	0.0242	0.0242
PHENANTHRENE	0	0	0	28.6	28.6
PHENOL (CARBOLIC ACID)	0	0	0	11.6	11.6
POLYCHLORINATED DIOXINS AND FURANS	0	0	0	0.0000015	0.0000015
POLYCYCLIC AROMATIC HYDROCARBONS	0	0	0	2.85	2.85
PROPIONALDEHYDE	0	0	0	0.306	0.306
PYRENE	0	0	0	5.7	5.7
SELENIUM & COMPOUNDS	0	0	0	0.11	0.11
SULFUR DIOXIDE	0	0	0	7.5	7.5
TOLUENE	0	0	0	0.00339	0.00339
TOTAL SUSPENDED PARTICULATE	0	0	0	13800	13800
TOTAL VOLATILE ORGANIC COMPOUNDS	0	0	0	165	165
VANADIUM & COMPOUNDS	0	0	0	0.00563	0.00563
ZINC & COMPOUNDS	0	0	0	2.9	2.9

A.80 TOTAL INDUSTRIAL EMISSIONS

Table A-80: Total annual emissions from industrial sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
(1-METHYLPROPYL)BENZENE (SEC-BUTYL BENZENE)	0.595	0	0	0	0.595
(2-METHYLBUTYL)CYCLOHEXANE	0.771	0	0	0	0.771
1,1,1-TRICHLOROETHANE	15100	4870	556	32200	52700
1,1,2,3-TETRAMETHYLCYCLOHEXANE	0.21	0	0	0	0.21
1,1,2-TRICHLOROETHANE	0	0	83.1	0	83.1
1,1,2-TRIMETHYLCYCLOHEXANE	0.385	0	0	0	0.385
1,1,2-TRIMETHYLCYCLOPENTANE	1.19	0	0	0	1.19
1,1,3,4-TETRAMETHYLCYCLOHEXANE	0.98	0	0	0	0.98
1,1,3,5-TETRAMETHYLCYCLOHEXANE	0	0	0	0	0
1,1,3-TRIMETHYLCYCLOHEXANE	4.12	0	0	0	4.12
1,1,3-TRIMETHYLCYCLOPENTANE	4.01	0	0	0	4.01
1,1,4-TRIMETHYLCYCLOHEXANE	0.805	0	0	0	0.805
1,1-DICHLOROETHENE {VINYLIDENE CHLORIDE}	1.65	0.0643	0	0.000264	1.72
1,1-DIMETHYL-2-PROPYLCYCLOHEXANE	0.385	0	0	0	0.385
1,1-DIMETHYLCYCLOHEXANE	1.62	0	0	0	1.62
1,1-DIMETHYLCYCLOPENTANE	0.561	0	0	0	0.561
1,1-METHYLETHYLCYCLOPENTANE	0.385	0	0	0	0.385
1,2,3,5-TETRAMETHYLBENZENE	1.8	0	0	0	1.8
1,2,3-TRIMETHYL-4-ETHYLBENZENE	0	0	0	0	0
1,2,3-TRIMETHYLBENZENE	2980	5800	169	234	9180
1,2,3-TRIMETHYLCYCLOHEXANE	2.39	0	0	0	2.39
1,2,4,5-TETRAMETHYLBENZENE	1.19	0	0	0	1.19
1,2,4-TRIMETHYLBENZENE	1910	3190	90.5	135	5320
1,2,4-TRIMETHYLCYCLOPENTENE	8.31	0	0	0	8.31
1,2-BUTADIENE {METHYLLALLENE}	0	0	0.000005	0	0.000005
1,2-DICHLORO-1,1,2,2-TETRAFLUROETHANE {CFC-114}	58	91.7	0	0	150
1,2-DICHLOROETHANE	2090	3300	0.000007	0.000198	5390
1,2-DICHLOROPROPANE	66.3	105	0	0	171
1,2-DIETHYL-1-METHYLCYCLOHEXANE	0.771	0	0	0	0.771
1,2-DIETHYLBENZENE (ORTHO)	1.98	0.567	0	0.382	2.93
1,2-DIMETHYL-3-ETHYLCYCLOHEXANE	0.946	0	0	0	0.946
1,2-DIMETHYL-4-ETHYLBENZENE	2.01	0	0	0	2.01
1,2-DIMETHYLCYCLOPENTANE	7.15	0	0	0	7.15
1,2-PROPADIENE	0.726	0	0	0	0.726
1,3,5-TRIETHYL CYCLOHEXANE	0.385	0	0	0	0.385
1,3,5-TRIMETHYLBENZENE	2470	4390	127	188	7180
1,3-BUTADIENE	1550	830	1500	2970	6850
1,3-DICHLOROBENZENE {M-DICHLOROBENZENE}	8.69	13.1	0	0.000066	21.8

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1,3-DIETHYL-5-METHYL CYCLOHEXANE	914	89.2	76.8	87.6	1170
1,3-DIETHYL-CYCLOHEXANE	0.595	0	0	0	0.595
1,3-DIMETHYL-2-ETHYLBENZENE	1.62	0	0	0	1.62
1,3-DIMETHYL-4-ETHYLBENZENE	0.771	0	0	0	0.771
1,3-DIMETHYL-4-ISOPROPYLBENZENE	0.21	0	0	0	0.21
1,3-DIMETHYL-5-ETHYLBENZENE	1.62	0	0	0	1.62
1,3-DIPROPYL-5-ETHYL CYCLOHEXANE	0	0	0	0	0
1,4-BUTANEDIOL	1540	0	4100	14.7	5660
1,4-DIETHYLBENZENE (PARA)	1.52	0	0	0	1.52
1,4-DIETHYL-CYCLOHEXANE	35100	752	624	353	36800
1,4-DIMETHYL-2-ETHYLBENZENE	1.16	0	0	0	1.16
1,4-DIOXANE	0.826	0.0322	0	0.000132	0.858
1,4-PENTADIENE	698	216	0.374	13.1	928
1-BUTENE	34500	3100	337	13200	51200
1-BUTYNE (ETHYLACETYLENE)	0	0	0	0	0
1-CHLOROBUTANE	140	42.2	56.7	51.1	290
1-DECENE	56.2	5.33	0	25100	25100
1-ETHOXY-2-PROPANOL	92.4	27.9	37.5	33.8	191
1-ETHYL-1,2- DIMETHYLCYCLOHEXANE	2.28	1.06	0.0281	10.1	13.5
1-ETHYL-2,2,6- TRIMETHYLCYCLOHEXANE	0.385	0	0	0	0.385
1-ETHYL-2,4- DIMETHYLCYCLOHEXANE	0.21	0	0	0	0.21
1-ETHYL-2-METHYLCYCLOPENTANE	1.67	1.06	0.0281	10.1	12.9
1-ETHYL-2-PROPYL CYCLOHEXANE	6.87	0	0	0	6.87
1-ETHYL-4-ISOPROPYLBENZENE	0.805	0	0	0	0.805
1-HEXENE	145	119	0	34100	34300
1-METHYL INDAN	2.42	0	0	0	2.42
1-METHYL-2-HEXYL-CYCLOHEXANE	0	0	0	0	0
1-METHYL-2- ISOPROPYLCYCLOHEXANE	1.83	0	0	0	1.83
1-METHYL-2-PYRROLIDINONE	206000	0	0	0	206000
1-METHYL-3-BUTYLBENZENE	0.0339	0	0	0	0.0339
1-METHYL-3-ISOPROPYL CYCLOHEXANE	0.0339	0	0	0	0.0339
1-METHYL-3-ISOPROPYLBENZENE	2.42	2.27	0	1.53	6.22
1-METHYL-3- ISOPROPYLCYCLOHEXANE	2.04	0	0	0	2.04
1-METHYL-3N-PROPYLBENZENE	1.06	0.567	0	0.382	2.01
1-METHYL-4-ISOBUTYLBENZENE	0.21	0	0	0	0.21
1-METHYL-4-ISOPROPYLBENZENE	0.21	0	0	0	0.21
1-METHYL-4- ISOPROPYLCYCLOHEXANE	0	0	0	0	0
1-METHYL-4N-PROPYLBENZENE	3.06	0	0	0	3.06
1-METHYL-4-PENTYL CYCLOHEXANE	0.385	0	0	0	0.385
1-METHYLCYCLOPENTENE	0.198	15.3	0	10.3	25.8

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
1-NONENE	175	13.8	0	6.46	196
1-OCTENE	175	13.8	0	6.46	196
1-PENTENE	26000	1250	2.06	90.6	27400
1-PENTYNE	1.25	0	0	0	1.25
1-PROPYNE	1.58	0	0	0	1.58
1-UNDECENE	0.924	0	0	0	0.924
2-(2-BUTOXYETHOXY)ETHANOL {BUTYL CARBITOL}	596	109	20	25.2	751
2,2,3,3-TETRAMETHYLPENTANE	0.176	0	0	0	0.176
2,2,3,TRIMETHYLHEXANE	69.8	21.6	0.0374	1.31	92.8
2,2,3-TRIMETHYLBUTANE	140	43.2	0.0749	2.62	186
2,2,3-TRIMETHYLPENTANE	0	2.84	0	1.91	4.75
2,2,4-TRIMETHYL-1,3-PENTANEDIOL ISOBUTYRATE {TEXAN	157	0	0	0	157
2,2,4-TRIMETHYLPENTANE	3980	1070	1.83	71.4	5120
2,2,5-TRIETHYLHEPTANE	0	0	0	0	0
2,2,5-TRIMETHYLHEXANE	2.18	4.54	0	3.05	9.77
2,2-DICHLORONITROANILINE	389	0	0	0	389
2,2-DIMETHYLBUTANE	1350	350	0.562	34.1	1730
2,2-DIMETHYLHEPTANE	0.0339	0	0	0	0.0339
2,2-DIMETHYLHEXANE	140	43.2	0.0749	2.62	186
2,2-DIMETHYLPENTANE	349	108	0.187	6.54	464
2,2-DIMETHYLPROPANAL (PIVALDEHYDE)	0	0.246	0	0	0.246
2,3,3-TRIMETHYLPENTANE	352	108	0.187	6.54	467
2,3,4-TRIMETHYLPENTANE	351	110	0.187	7.69	469
2,3,5-TRIMETHYLHEPTANE	0.176	0	0	0	0.176
2,3,5-TRIMETHYLHEXANE	0.528	0.567	0	0.382	1.48
2,3-DIMETHYLBUTANE	5960	1770	3.03	118	7850
2,3-DIMETHYLHEPTANE	0.0339	0	0	0	0.0339
2,3-DIMETHYLHEXANE	560	173	0.3	10.5	744
2,3-DIMETHYLOCTANE	6.46	0	0	0	6.46
2,3-DIMETHYLPENTANE	1430	389	0.674	23.6	1840
2,4,4-TRIMETHYL-1-PENTENE	11.4	0	0	0	11.4
2,4,5-TRICHLOROPHENOL	0	0	0	0	0
2,4-DIMETHYLHEPTANE	2.36	0	0	0	2.36
2,4-DIMETHYLHEXANE	28500	2660	1740	522	33400
2,4-DIMETHYLNONANE	0.21	0	0	0	0.21
2,4-DIMETHYLOCTANE	0	0	0	0	0
2,4-DIMETHYLPENTANE	8060	936	412	60100	69500
2,4-TOLUENE DIISOCYANATE {TDI}	241	21.8	0.000008	0	263
2,5-DIMETHYLHEPTANE	3.46	0	0	0	3.46
2,5-DIMETHYLHEXANE	489	151	0.262	9.16	649
2,5-DIMETHYLNONANE	2.22	0	0	0	2.22
2,5-DIMETHYLOCTANE	0.176	0	0	0	0.176
2,6-DIMETHYL-4-HEPTANONE (DIISOBUTYL KETONE)	0	0	0	0	0
2,6-DIMETHYLDECANE	1.62	0	0	0	1.62

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
2,6-DIMETHYLHEPTANE	4.68	0	0	0	4.68
2,6-DIMETHYLNONANE	8.98	0	0	0	8.98
2,6-DIMETHYLOCTANE	47.8	0	0	0	47.8
2,6-DIMETHYLUNDECANE	0.419	0	0	0	0.419
2,6-TOLUENE DIISOCYANATE	0.455	0	0	0	0.455
2,7-DIMETHYLDECANE	0.0339	0	0	0	0.0339
2,7-DIMETHYLOCTANE	0.385	0	0	0	0.385
2-AMINO-2-METHYL-1-PROPANOL	6000	0	0	0	6000
2-BUTYLtetrahydrofuran	9.49	2.86	3.85	3.47	19.7
2-BUTYNE	0	0	0	0	0
2-ETHOXYETHANOL {CELLOSOLVE} {EGEE}	63	42.4	643	3.25	752
2-ETHOXYETHYL ACETATE {CELLOSOLVE ACETATE}	90.8	60.9	2.5	4.67	159
2-ETHYL-1,3- DIMETHYLCYCLOHEXANE	0.595	0	0	0	0.595
2-ETHYL-1-HEXANOL	63.9	19.3	25.9	23.4	132
2-FURFURAL	0	0	0.000004	0	0.000004
2-HEXENES	0	3.97	0	2.67	6.64
2-METHOXYETHANOL {METHYL CELLOSOLVE} {EGME}	0	0	0.000005	0	0.000005
2-METHYL-1-BUTENE	7890	2440	4.23	148	10500
2-METHYL-1-PENTENE	351	27.5	0	12.9	391
2-METHYL-2-BUTENE	31100	9620	16.6	617	41400
2-METHYL-2-PENTENE	2.24	10.2	0	6.87	19.3
2-METHYL-2-PROPENAL (METHACROLEIN)	0	0.446	0	0	0.446
2-METHYL-3-BUTENENITRILE	1070	0	0	67.7	1140
2-METHYL-3-ETHYLPENTANE	0.419	0	0	0	0.419
2-METHYL-3-HEXANONE	20400	6850	992	38600	66800
2-METHYL-BUTANE	8800	517	0.000001	11700	21100
2-METHYLDECALIN	0.771	0	0	0	0.771
2-METHYLDECANE	9.23	1.7	0	1.14	12.1
2-METHYLHEPTANE	1300	325	0.562	20.4	1640
2-METHYLHEXANE	3960	1100	1.91	66.7	5130
2-METHYLNAPHTHALENE	0.176	0	0	0	0.176
2-METHYLNONANE	73.3	21.6	0.0374	1.31	96.2
2-METHYLOCTANE	72.1	21.6	0.0374	1.31	95.1
2-METHYLPENTANE	35800	11200	17.9	669	47700
2-METHYLPROPANE; ISOBUTANE	90700	8200	12.4	1050	100000
2-METHYLPROPENE (ISOBUTENE)	10800	27.5	502	2680	14000
2-METHYLUNDECANE {ISODODECANE}	1.83	0	0	0	1.83
3-(CHLOROMETHYL)-HEPTANE	39.2	11.8	15.9	14.3	81.3
3,3,5-TRIMETHYLHEPTANE	0.21	0	0	0	0.21
3,3-DIMETHYLPENTANE	419	130	0.225	7.85	557
3,4-DIMETHYLHEXANE	0.805	0	0	0	0.805
3,4-DIMETHYLOCTANE	0.595	2.27	0	1.53	4.39
3,5-DIMETHYLHEPTANE	0	1.13	0	0.763	1.9

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
3,5-DIMETHYLNONANE	0.0339	0	0	0	0.0339
3,5-DIMETHYLOCTANE	0.595	0	0	0	0.595
3,6-DIMETHYL DECANE	0.561	0	0	0	0.561
3,6-DIMETHYL UNDECANE	2000	182	0	0	2190
3,6-DIMETHYLOCTANE	0.771	0	0	0	0.771
3,7-DIMETHYL-1-OCTANOL	481	43.6	0	0	524
3,7-DIMETHYLNONANE	2.6	0	0	0	2.6
3-ETHYL-2,2-DIMETHYL PENTANE	0	0	0	0	0
3-ETHYL-2-METHYLHEPTANE	0.98	0	0	0	0.98
3-ETHYL-3-METHYLOCTANE	0.771	0	0	0	0.771
3-ETHYL-4-METHYLHEPTANE	0	0	0	0	0
3-ETHYLDECANE	0.21	0	0	0	0.21
3-ETHYLHEPTANE	0.805	0	0	0	0.805
3-ETHYLHEXANE	1.83	0	0	0	1.83
3-ETHYLOCTANE	0.595	0	0	0	0.595
3-ETHYLPENTANE	698	216	0.374	13.1	928
3-METHYL DODECANE	0	0	0	0	0
3-METHYL-1-BUTENE	210	75.6	0.112	11.2	297
3-METHYL-5-ETHYLHEPTANE	0	0	0	0	0
3-METHYLDECANE	4.68	0	0	0	4.68
3-METHYLHEPTANE	1460	331	0.524	32	1820
3-METHYLHEXANE	5170	1380	2.36	96.1	6660
3-METHYLNONANE	2.01	0	0	0	2.01
3-METHYLOCTANE	144	43.2	0.0749	2.62	190
3-METHYLPENTANE	18100	5730	8.76	341	24200
3-METHYLUDECANE	0.98	0	0	0	0.98
3-PHENYLPENTANE	0.98	0	0	0	0.98
4,4-METHYLENE DIANILINE	0.766	0	0	0	0.766
4,5-DIMETHYLDECANE	0.21	0	0	0	0.21
4,5-DIMETHYLOCTANE	0.98	0	0	0	0.98
4-ETHYLDECANE	0.805	0	0	0	0.805
4-METHYL-2-PENTANOL (METHYL ISOBUTYL CARBINOL)	3560	0	0	0	3560
4-METHYLANILINE	422	0	0	0	422
4-METHYLDECANE	4.01	0	0	0	4.01
4-METHYLHEPTANE	564	174	0.3	11.6	750
4-METHYLINDAN	0.419	0	0	0	0.419
4-METHYLNONANE	5.92	0	0	0	5.92
4-METHYLOCTANE	75.4	21.6	0.0374	1.31	98.4
4-METHYLUDECANE	0.595	0	0	0	0.595
4-PHENYL-1-BUTENE	1.72	0	0	0	1.72
5-ISOPROPYLNONANE	0.595	0	0	0	0.595
5-METHYL DODECANE	0	0	0	0	0
5-METHYLDECANE	3.84	0	0	0	3.84
5-METHYLINDAN	3.24	0	0	0	3.24
5-METHYLUDECANE	0.805	0	0	0	0.805
6-ETHYL-2-METHYLOCTANE	0.98	0	0	0	0.98
6-METHYLUDECANE	0.98	0	0	0	0.98

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
9,10-ANTHRAQUINONE	0	0	0	0	0
ACENAPHTHENE	0	34.6	0	25.4	60
ACENAPHTHYLENE	0	574	0	398	972
ACETALDEHYDE	2210	2480	132	19.8	4840
ACETIC ACID	12600	1930	264	1710	16500
ACETIC ANHYDRIDE	74.5	118	0.000004	0	192
ACETONE	483000	6700	69700	131000	690000
ACETONITRILE	0	0	98.2	0	98.2
ACETYLENE	7790	4540	5450	5000	22800
ACROLEIN (2-PROPENAL)	2330	2440	0.00001	0	4770
ACRYLAMIDE	0.27	0	0	0	0.27
ACRYLIC ACID	49.2	0	0.000005	0	49.2
ACRYLONITRILE	787	1240	484	0	2520
ADIPIC ACID	0	0	0.000005	0	0.000005
ALIPHATICS	0	0	0.000001	0	0.000001
ALKENE KETONE	0	0	0	0	0
AMMONIA (TOTAL)	2090000	1160000	484000	832000	4560000
ANILINE {AMINO BENZENE}	5430	0	0.00001	0	5430
ANTHANTHRENE	0	0	0	0.136	0.136
ANTHRACENE	0	426	0	287	713
ANTIMONY & COMPOUNDS	693	396	121	7250	8460
A-PINENE	0	0	0.000004	0	0.000004
ARSENIC & COMPOUNDS	321	237	107	2220	2890
BENZALDEHYDE	821	166	64.2	73.1	1120
BENZENE	157000	43700	253000	7300	460000
BENZO(A)ANTHRACENE	0	9.08	0	6.1	15.2
BENZO(A)PYRENE	0	6.81	0	6.11	12.9
BENZO(B)FLUORANTHENE	0	0	0	1.94	1.94
BENZO(C)PHENANTHRENE	0	0	0	0.119	0.119
BENZO(E)PYRENE	0	0	0	0.153	0.153
BENZO[GHI]FLUORANTHENE	0	0	0	2.21	2.21
BENZOIC ACID	284	211	0	0	496
BENZOPYRENES	0	0	0	0.493	0.493
BENZYL CHLORIDE	0	0	0.000005	0	0.000005
BERYLLIUM & COMPOUNDS	26.7	2.33	30.6	121	181
BICYCLO[4.3.0]NONANE (OCTAHYDROINDENE)	5.68	3.17	0.0842	30.3	39.3
BIPHENYL {PHENYL BENZENE}	52.5	0	63	0	116
BIPHENYLOL {2-PHENYLPHENOL}	561	50.9	0	0	612
BORON & COMPOUNDS	751	140	213	385000	386000
B-PHELLANDRENE {1(7)-2-P- MENTHADIENE}	0	0	0	0	0
B-PINENE	0	0	0.000003	0	0.000003
BROMINE AND COMPOUNDS	0.0112	0	0	0	0.0112
BROMODICHLOROMETHANE	177000	419	9050	47400	234000
BROMODINITROBENZENE	0	0	0	0	0
BUTANE, BRANCHED & LINEAR	142000	0	0	0	142000
BUTOXYBUTENE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
BUTYL CELLOSOLVE {2-BUTOXYETHANOL} {EGBE}	26600	2630	1570	491	31300
BUTYL ISOPROPYL PHTHALATE	102000	9280	0	0	112000
BUTYLBENZENE ISOMERS	579	51.5	6.69	417	1050
BUTYLCYCLOHEXANE	108	16.9	0.449	162	287
BUTYRALDEHYDE	8.28	13.1	0.000005	3.54	24.9
C10 ALKYL CYCLOHEXANES	275	4.46	3.03	1.28	283
C10 AROMATIC	0	0	0	0	0
C10 DIALKYL BENZENES	156	2.54	1.73	0.728	161
C10 OLEFINS	9070	899	607	1060	11600
C10H12	31700	462	373	73.8	32600
C11 OLEFINS	16.6	9.51	0.253	91	117
C12 OLEFINS	3.73	2.11	0.0562	20.2	26.1
C2 ALKYL INDAN	1100	0	0	0	1100
C2 ALKYLANTHRACENES	0	0	0	0.289	0.289
C2 CYCLOHEXANE	0	0	0	0	0
C3 CYCLOHEXANE	0	0	0	0	0
C3/C4/C5 ALKYL BENZENES	0	0	0	0	0
C4 SUBSTITUTED CYCLOHEXANE	0	0	0	0	0
C4 SUBSTITUTED CYCLOHEXANONE	236	0	0	0	236
C5 ESTER	0	0	0	0	0
C5 KETONES	6.24	0	0	0	6.24
C5 OLEFIN	0	0	0	0	0
C5 PARAFFIN	0	0	0	0	0
C5 SUBSTITUTED CYCLOHEXANE	409	0	0	0	409
C6 OLEFINS (HEXENE ISOMERS)	2100	5.11	0	3.43	2110
C6 SUBSTITUTED CYCLOHEXANE	305	0	0	0	305
C6H18O3SI3	0	0	0.000001	0	0.000001
C7 CYCLOPARAFFINS	38900	2570	0.000009	56.7	41600
C7 INTERNAL ALKENES	253	21.1	0	34600	34900
C7-C16 PARAFFINS	0	0	0.000001	0	0.000001
C8 ALKYL CYCLOHEXANES	183	2.97	2.02	0.853	189
C8 CYCLOPARAFFINS	10700	117	0	16.5	10900
C8 INTERNAL ALKENES	297	46.5	35.6	9.96	389
C8 OLEFINS	57.3	32.7	0.87	313	404
C8H24O4SI4	0	0	0	0	0
C9 ALKYL CYCLOHEXANES	528	8.58	5.84	2.46	545
C9 CYCLOPARAFFINS	15100	213	157	34.8	15600
C9 OLEFINS	702	55.1	0	25.8	782
CADMIUM & COMPOUNDS	253	111	234	1370	1970
CAMPHENE	0	0	0	0	0
CARBARYL	0	0	0	0	0
CARBITOL {DEGEE} {2-(2-ETHOXYETHOXY)ETHANOL}	27.8	18.5	0.000006	1.42	47.7
CARBON DIOXIDE	4080000000	1300000000	2850000000	6740000000	7560000000
CARBON DISULFIDE	1430	524	67.9	407	2430
CARBON MONOXIDE	14200000	41900000	529000000	27800000	613000000
CARBON TETRACHLORIDE	251	393	0.000008	0.000397	644

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CARBONYL SULFIDE	108	170	0	0	278
CARYOPHYLLENE	881	80	0	0	961
CHLORINE	4870	1.46	6.29	6.54	4890
CHLOROBENZENE	2500	3960	0.000009	0.000066	6460
CHLORODIFLUOROMETHANE (F-22)	596	944	0.000002	0	1540
CHLOROETHANE (ETHYL CHLORIDE)	1100	1690	15.9	14.3	2820
CHLOROFLUOROMETHANE {HCFC-31}	0	0	0	0	0
CHLOROFORM (TRICHLOROMETHANE)	6970	1910	370	7240	16500
CHLOROPENTAFLUOROETHANE (F115)	58	91.7	0	0	150
CHLOROPRENE (2-CHLORO-1,3- BUTADIENE)	1260	1990	0.000004	0	3250
CHLOROTRIFLUOROMETHANE (F-13)	199	315	0	0	513
CHROMIUM (III) COMPOUNDS	1680	506	283	6190	8660
CHROMIUM (VI) COMPOUNDS	74.9	109	58.6	553	795
CHRYSENE	0	7.94	0	9.41	17.4
CIS,CIS-1,2,4- TRIMETHYLCYCLOHEXANE	0.771	0	0	0	0.771
CIS,TRANS-1,2,3- TRIMETHYLCYCLOHEXANE	0.595	0	0	0	0.595
CIS,TRANS-1,2,4- TRIMETHYLCYCLOHEXANE	1.65	0	0	0	1.65
CIS-1,2-DIMETHYLCYCLOHEXANE	0.561	0	0	0	0.561
CIS-1,3-DIMETHYLCYCLOHEXANE	15.5	0	0	0	15.5
CIS-1,3-DIMETHYLCYCLOPENTANE	1540	475	0.824	28.8	2040
CIS-1,4-DIMETHYLCYCLOHEXANE	1.33	0	0	0	1.33
CIS-1,CIS-2,3- TRIMETHYLCYCLOPENTANE	2.01	0	0	0	2.01
CIS-1,CIS-2,4- TRIMETHYLCYCLOPENTANE	978	302	0.524	18.3	1300
CIS-1,CIS-3,5- TRIMETHYLCYCLOHEXANE	4.3	0	0	0	4.3
CIS-1,TRANS-2,3- TRIMETHYLCYCLOPENTANE	2.04	0	0	0	2.04
CIS-1-2-DIMETHYLCYCLOPENTANE	978	302	0.524	18.3	1300
CIS-1-ETHYL-2- METHYLCYCLOHEXANE	0.21	0	0	0	0.21
CIS-1-ETHYL-2- METHYLCYCLOPENTANE	0.176	0	0	0	0.176
CIS-1-ETHYL-3- METHYLCYCLOHEXANE	2.6	0	0	0	2.6
CIS-1-METHYL-3- ETHYLCYCLOPENTANE	0.561	0	0	0	0.561
CIS-2-BUTENE	2450	734	1.12	91.8	3280
CIS-2-HEXENE	0.726	0	0	0	0.726
CIS-2-PENTENE	11300	3520	6.07	10100	24900
CIS-3-HEXENE	0	0	0	0	0
CIS-BICYCLO[3.3.0]OCTANE	0.21	0	0	0	0.21

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
CIS-BICYCLO[4.3.0]NONANE	0.805	0	0	0	0.805
CIS-DECALIN	0.21	0	0	0	0.21
COAL TAR	0	0	0.000004	0	0.000004
COBALT & COMPOUNDS	113	70.2	36.4	2220	2440
COPPER & COMPOUNDS	2590	1290	1040	17900	22900
CORONENE	0	0	0	0.051	0.051
CRESOLS	0	0	0.000004	0	0.000004
CUMENE (1-METHYLETHYLBENZENE)	1060	2080	396	112	3650
CYANIDE (INORGANIC) COMPOUNDS	1270	0	19500	39100	59900
CYCLOHEXANE	47600	5980	782	5620	60000
CYCLOHEXANOL	133	210	0.000005	0	342
CYCLOHEXANONE	795	210	0.000006	0	1000
CYCLOHEXENE	3810	160	0	0	3970
CYCLOPENTA[CD]PYRENE	0	0	0	0.374	0.374
CYCLOPENTANE	1280	41.3	0	22.1	1350
CYCLOPENTENE	211	70.4	0.112	7.74	290
CYCLOPENTYLCYCLOPENTANE	3.04	0	0	0	3.04
DECALINS (MIXED CIS,TRANS)	11.1	6.34	0.168	60.7	78.2
DENATURANT	0	0	0.000001	0	0.000001
DI(2-ETHYLHEXYL)PHTHALATE	1.24	0.0483	0	0.000198	1.29
DI(PROPYLENE GLYCOL) METHYL ETHER	759	53	0	4.06	816
DIACETONE ALCOHOL (4-HYDROXY-4- METHYL-2-PENTANONE)	471	285	20	38.7	815
DIBENZANTHRACENES	0	0	0	0.987	0.987
DIBENZO(A,H)ANTHRACENE	0	0	0	0.068	0.068
DIBENZOPYRENES	0	0	0	0.034	0.034
DIBROMOETHANE	915	89.2	76.8	87.6	1170
DIBUTYL ETHER	15.2	4.58	6.16	5.55	31.5
DIBUTYL PHTHALATE	80000	7260	0	0	87300
DICHLOROBENZENES	74.5	118	0	0	192
DICHLORODIFLUOROMETHANE (F-12)	14200	3760	829	3880	22700
DICHLOROMETHANE {METHYLENE CHLORIDE}	132000	4280	1450	17400	155000
DIETHANOLAMINE	960	0	0	0	960
DIETHYL CYCLOHEXANE	0	0	0	0	0
DIETHYLBENZENES	41.4	65.5	0	0	107
DIETHYLCYCLOHEXANE	8010	789	672	847	10300
DIETHYLENE GLYCOL (2,2'- OXYBISETHANOL)	14900	65.6	432	0	15400
DIETHYLENE GLYCOL BUTYL ETHER ACETATE	0	0	0	0	0
DIISOPROPYL BENZENE (MIXED ISOMERS)	0	0	0.000004	0	0.000004
DIMETHOXYMETHANE (METHYLAL)	2020	1010	692	624	4350
DIMETHYL ADIPATE (DIMETHYLHEXANEDIOATE)	1580	0	0	0	1580
DIMETHYL DISULFIDE	350	1.6	0	21	373
DIMETHYL ETHER	5140	5530	0.000014	0	10700

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
DIMETHYL FORMAMIDE	0	0	0.000004	0	0.000004
DIMETHYL PHTHALATE	0	0	0	0	0
DIMETHYL SUCCINATE (DIMETHYL BUTANEOATE)	3.54	0	0	0	3.54
DIMETHYL SULFIDE	4050	419	207	1020	5700
DIMETHYLAMINE	281	0	0	0	281
DIMETHYLBENZYLALCOHOL	3.62	2.11	0.0562	20.2	26
DIMETHYLCYCLOBUTANONE	11.1	6.34	0.168	60.7	78.2
DIMETHYLCYCLOHEXANES	17400	1520	1140	582	20700
DIMETHYLCYCLOPENTANE	131	75	1.99	718	926
DIMETHYLHEPTANES	2570	221	162	66.9	3020
DIMETHYLHEPTANOL (2,6-DIMETHYL-2-HEPTANOL)	321	29.1	0	0	350
DIMETHYLHEXANES	61.2	34.9	0.927	334	431
DIMETHYLHEXENES	0	0.567	0	0.382	0.949
DIMETHYLNONANES	39	22.2	0.59	212	274
DIMETHYLOCTANES	55.5	31.7	0.842	303	391
DIPROPYLENE GLYCOL	0	0	0.000008	0	0.000008
D-LIMONENE	0	0	0	0	0
EICOSANE	3850	349	0	0	4200
EPICHLOROHYDRIN	0	0	0.000005	0	0.000005
ETHANE	586000	48500	37300	91700	763000
ETHANOLAMINE	0	0	0.000005	0	0.000005
ETHYL ACETATE	294000	7070	9160	65000	376000
ETHYL ACRYLATE	447	708	0.000006	0	1150
ETHYL ALCOHOL	326000	6900	3590	18200	354000
ETHYL BUTYRATE	70.2	0	0	3.5	73.7
ETHYL ETHER	606	831	2.25	809	2250
ETHYL ISOPROPYL ETHER	329	99.2	133	120	682
ETHYL MERCAPTAN	0	0	0.000004	0	0.000004
ETHYL PROPYLCYCLOHEXANES	11.1	6.34	0.168	60.7	78.3
ETHYL STYRENE {ETHYLVINYL BENZENE}	0	0	0	0	0
ETHYLBENZENE	12600	3730	1520	112000	130000
ETHYLCYCLOHEXANE	5430	474	346	180	6430
ETHYLCYCLOPENTANE	649	133	52.4	18.5	853
ETHYLDIMETHYLPHENOL	11	6.34	0.168	60.7	78.2
ETHYLENE	53000	15100	83200	12600	164000
ETHYLENE GLYCOL	154	53.4	14.9	16.7	239
ETHYLENE OXIDE	279	91.7	0.000004	0	370
ETHYLENEAMINES	0	0	0.000005	0	0.000005
ETHYLHEPTENE	2270	225	191	248	2940
ETHYLHEXANE	9.24	5.28	0.14	50.5	65.2
ETHYLMETHYLCYCLOHEXANES	128	72.9	1.94	698	900
ETHYLMETHYLOCTANE	12.9	7.39	0.197	70.8	91.3
ETHYLOCTANE	3530	322	0.0562	20.2	3870
ETHYLOCTENES	7.46	4.22	0.112	40.4	52.2
ETHYL-PHENYL-PHENYL-ETHANE	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 Industrial Sources

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ETHYLTOLUENES {METHYLETHYLBENZENES}	1100	13400	52.9	2070	16600
FLUORANTHENE	0	218	0	153	372
FLUORENE	0	199	0	138	337
FLUORIDE COMPOUNDS	258000	284000	19400	2450000	3010000
FORMALDEHYDE	234000	7620	14900	4110	260000
FORMIC ACID	82.8	131	0.000005	0	214
FREON	2650	0	0	166	2820
FURFURYL ALCOHOL	179	19.4	0	0	199
GLYOXAL	0	0	0	0	0
HENEICOSANE	2400	218	0	0	2620
HEPTENES	0	0	0.000006	0	0.000006
HEPTYL CYCLOHEXANE	0	0	0	0	0
HEXADECANE	26600	2420	0.361	0.485	29000
HEXAFLUOROETHANE {F-116}	1490	5230	0.000005	945	7660
HEXAMETHYLENEDIAMINE	1260	1990	0.000008	0	3250
HEXANAL (HEXANALADEHYDE)	0	0.511	0	0	0.511
HEXYLCYCLOHEXANE	0.385	0	0	0	0.385
HEXYLCYCLOPENTANE	0.595	0	0	0	0.595
HEXYLENE GLYCOL (2- METHYLPENTANE-2,4-DIOL)	34100	27.3	36.7	33.1	34200
HEXYNE	0.132	0	0	0	0.132
HYDROCHLORIC ACID	142000	11900	455000	7500000	8110000
HYDROGEN CYANIDE	203	22.1	0	0	225
HYDROGEN SULFIDE	18700	85600	127000	65600	297000
INDAN	3.27	0.567	0	0.382	4.22
INDENO(1,2,3-CD)PYRENE	0	0	0	1.12	1.12
ISOAMYL ALCOHOL (3-METHYL-1- BUTANOL)	2.51	0	0	0	2.51
ISOBUTYL ACRYLATE {2-PROPENOIC ACID}	0	0	0.000004	0	0.000004
ISOBUTYL ALCOHOL	399	262	0.000005	20.1	681
ISOBUTYL ISOBUTYRATE	0	0	0.000005	0	0.000005
ISOBUTYLCYCLOHEXANE (2- METHYLPROPYL CYCLOHEXANE)	1.83	0	0	0	1.83
ISOBUTYRALDEHYDE	351	27.5	0.000005	15.8	394
ISOMERS OF BUTENE	4670	528	0	168	5360
ISOMERS OF C10H18	4470	436	376	428	5710
ISOMERS OF C9H16	22.2	12.7	0.337	121	157
ISOMERS OF DECANE (C10 PARAFFINS)	33300	841	555	1990	36700
ISOMERS OF DODECANE (C12 PARAFFINS)	997	29.6	0.786	283	1310
ISOMERS OF HEPTADECANE (C17 PARAFFINS)	29600	2680	0	0	32300
ISOMERS OF HEPTANE	10300	246	0.543	58.9	10600
ISOMERS OF HEXANE	66800	1280	68.2	317	68400
ISOMERS OF NONANE (C9 PARAFFIN)	39600	1630	1230	738	43200
ISOMERS OF OCTADECANE (C18 PARAFFINS)	13500	1230	0	0	14800

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
ISOMERS OF OCTANE (C8 PARAFFIN)	6480	232	0.0492	53.9	6760
ISOMERS OF PENTADECANE (C15 PARAFFINS)	1200	109	0.000005	0	1310
ISOMERS OF PENTANE	607000	113000	24300	8580	753000
ISOMERS OF PENTENE	49.2	0	0	0	49.2
ISOMERS OF PROPYLBENZENE	51.8	1920	0.786	283	2260
ISOMERS OF TETRADECANE (C14 PARAFFINS)	12400	188	131	59.8	12800
ISOMERS OF TRIDECANE (C13 PARAFFINS)	1.84	1.06	0.0281	10.1	13
ISOMERS OF UNDECANE (C11 PARAFFINS)	25700	620	428	1170	28000
ISOMERS OF XYLENE	153000	33100	8970	519000	713000
ISOPRENE	0.66	0.567	0.000005	0.382	1.61
ISOPROPYL ACETATE	241000	21900	0.000006	0	263000
ISOPROPYL ALCOHOL	119000	4290	2090	8180	133000
ISOPROPYLAMINE	20	0	0	0	20
ISOPROPYLCYCLOHEXANE (2-METHYLETHYL CYCLOHEXANE)	1.83	0	0	0	1.83
ISOVALERALDEHYDE (3-METHYLBUTANAL)	0	0.712	0	0	0.712
LACTOL SPIRITS	0	0	0.000004	0	0.000004
LEAD & COMPOUNDS	6470	4050	3990	27300	41800
MAGNESIUM OXIDE FUME	1370	2770	167	0	4300
MALEIC ANHYDRIDE	248	393	0	0	642
MANGANESE & COMPOUNDS	17000	7080	4950	131000	160000
MERCURY & COMPOUNDS	224	76.9	199	1730	2230
METHANE	94300000	13400000	6050000	35600000	149000000
METHENE(B)4-PHENYLISOCYANATE	2.3	0	0	0	2.3
METHYL ACETATE	1140	1810	0.000009	0	2950
METHYL ACRYLATE	0	0	0.000004	0	0.000004
METHYL ALCOHOL	137000	3880	18600	30600	190000
METHYL AMYL KETONE	4560	1530	246	8530	14900
METHYL BROMIDE	60.7	0	21600	0	21700
METHYL CARBITOL {2-(2-METHOXYETHOXY)ETHANOL}	348	47.6	0.000005	1.42	397
METHYL CHLORIDE	43.1	23.6	14.1	12.7	93.5
METHYL ETHYL KETONE (MEK) (2-BUTANONE)	121000	5140	8610	22700	158000
METHYL FORMATE	820	1300	0.000002	0	2120
METHYL HEXANE	235	134	3.57	1280	1660
METHYL ISOBUTYL KETONE	30300	1620	15800	3740	51400
METHYL METHACRYLATE	356	564	230	0	1150
METHYL PALMITATE {METHYL HEXADECANOATE}	22.8	6.87	9.23	8.32	47.2
METHYL PROPYLCYCLOHEXANES	48	27.5	0.73	263	339
METHYL STEARATE {METHYL OCTADECANOATE}	0	0	0.000001	0	0.000001
METHYL STYRENE (MIXED) {VINYL	0	0	0.000005	0	0.000005

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TOLUENE}					
METHYL T-BUTYL ETHER (MTBE)	0	0	0.000004	0	0.000004
METHYLANTHRACENES	0	0	0	1.58	1.58
METHYLBENZANTHRACENES	0	0	0	0.357	0.357
METHYLCYCLOHEXANE	21600	2310	1680	3040	28600
METHYLCYCLOOCTANE	2.18	0	0	0	2.18
METHYLCYCLOPENTANE	6350	1200	1180	96.1	8830
METHYLDECALINS	5.46	3.17	0.0842	30.3	39
METHYLDECANES	83.3	47.5	1.26	455	587
METHYLDECENES	14.7	8.45	0.225	80.9	104
METHYLDODECANES	3.67	2.11	0.0562	20.2	26.1
METHYLENE BROMIDE	124	197	0	0	321
METHYLETHYLPENTANOATE	240	21.8	0	0	262
METHYLFLUORANTHENES	0	0	0	0.68	0.68
METHYLHEPTANOL	561	50.9	0	0	612
METHYLHEXENES	22.3	12.7	0.337	121	157
METHYLINDANS	0.0551	0	0	0	0.0551
METHYLNAPHTHALENES	1000	0	0	0	1000
METHYLNONANE	219	79.2	2.11	758	1060
METHYLNONENES	5.51	3.17	0.0842	30.3	39.1
METHYLOCTANES	135	77.1	2.05	738	952
METHYLPENTANE	0	0	0	0	0
METHYLPROPYLNONANE	5.62	3.17	0.0842	30.3	39.2
M-ETHYLTOLUENE	2990	1390	144	210	4740
METHYLUDECANE	13600	1240	0.0842	30.3	14900
MINERAL SPIRITS	3430	2440	0.000008	187	6060
MOLYBDENUM	77	46	7.24	1030	1160
MYRCENE	0	0	0	0	0
N,N-DIMETHYLETHANOLAMINE	3000	0	0	0	3000
NAPHTHA	0	0	0.000006	0	0.000006
NAPHTHALENE	1790	876	0.0842	324	2990
N-BUTANE	302000	38000	3600	14000	358000
N-BUTYL ACETATE	56200	7950	3320	24200	91600
N-BUTYL ACRYLATE	182	288	0.000005	0	471
N-BUTYL ALCOHOL	25800	1900	1320	2470	31500
N-BUTYL BENZOATE	0	0	0.000002	0	0.000002
N-BUTYLBENZENE	0	0	0	0	0
N-BUTYLCYCLOPENTANE	82.1	0	0	0	82.1
N-DECANE	47200	524	12.8	35.1	47800
N-DODECANE	36000	704	9.86	13.4	36700
N-HEPTADECANE	1.99	6.76	0.12	0.161	9.04
N-HEPTANE	36600	3710	998	26900	68200
N-HEXANE	133000	1900	4690	101000	241000
NICKEL & COMPOUNDS	2410	638	316	9190	12600
NITRIC ACID	0	17000	0.971	0	17000
NITRIC OXIDE	5530000	1080000	4760000	107000000	119000000
NITROBENZENE	0	0	0.000004	0	0.000004
NITROGEN DIOXIDE	447000	168000	388000	8120000	9120000

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
NITROUS OXIDE	74200	48000	1520000	513000	2150000
N-NONANE	17000	294	8.67	905	18200
N-OCTANE	23900	239	3.33	61	24200
NONADECANE	7130	647	0	0	7780
NONADIENE	3.73	2.11	0.0562	20.2	26.1
NONENONE	0	0	0	0	0
N-PENTADECANE	13400	201	1.68	2.31	13600
N-PENTANE	110000	3910	2370	1350	117000
N-PENTANOL	0	0	0	0.425	0.425
N-PENTYLCYCLOHEXANE	212	5.28	0.14	50.5	268
N-PHENYLANILINE {DIPHENYLAMINE}	321	29.1	0	0	350
N-PROPYL ALCOHOL	124000	3810	39.6	503	128000
N-PROPYLBENZENE	1370	684	73.9	153	2280
N-TETRADECANE	21900	399	4.81	6.55	22300
N-TRIDECANE	33100	578	6.61	9.02	33700
N-UNDECANE	41500	783	219	256	42800
OCTAMETHYLCYCLOTETRASILOXANE	27.8	0	0	2.34	30.1
O-DICHLOROBENZENE	134	210	0.000005	0.000198	343
O-ETHYLTOLUENE	2230	1080	124	173	3610
ORGANO-TIN COMPOUNDS	0	0	8.41	0	8.41
O-TOLUALDEHYDE	0	0	0	0	0
OXIDES OF NITROGEN	8920000	1830000	7780000	173000000	191000000
PALMITIC ACID {N-HEXADECANOIC ACID}	0	0	0.000002	0	0.000002
PARAFFINS (C16-C34)	0	0	0	0	0
PARTICULATE MATTER ≤ 10 µm	6210000	3740000	2100000	61200000	73200000
PARTICULATE MATTER ≤ 2.5 µm	1930000	1110000	1350000	13300000	17700000
P-DICHLOROBENZENE	3820	4530	61.7	1210	9620
PENTAMETHYLBENZENE	5.01	3.17	0.0842	30.3	38.6
PENTANEDIOIC ACID, DIMETHYL ESTER (DIMETHYL GLUTAR	177	0	0	0	177
PENTYLCYCLOPENTANE	1.94	0	0	0	1.94
PERCHLOROETHYLENE	12600	3360	1120	16900	34000
PERYLENE	0	0	0	0.102	0.102
P-ETHYLTOLUENE	4150	2110	238	323	6830
PHENANTHRENE	0	415	0	308	722
PHENOL (CARBOLIC ACID)	98600	3990	1030	139	104000
PHENYL ISOCYANATE	1810	0	0.000001	0	1810
PHOSPHORIC ACID	0	0	0	0	0
PHTHALIC ANHYDRIDE	1520	1270	64.2	73.1	2920
PIPERYLENE {1,3-PENTADIENE} (MIXED ISOMERS)	0	0	0.000005	0	0.000005
POLYCHLORINATED DIOXINS AND FURANS	0.000679	0.00146	0.000474	0.0089	0.0115
POLYCYCLIC AROMATIC HYDROCARBONS	2050	6770	34100	4030	46900
POLYPROPYLENE GLYCOL	160	0	0	0	160

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
PROPANE	436000	13000	12500	21400	483000
PROPENYLCYCLOHEXANE	3.73	2.11	0.0562	20.2	26.1
PROPIONALDEHYDE	0	0	0.000005	0.306	0.306
PROPIONIC ACID	0	0	0.000005	0	0.000005
PROPYL ACETATE	334000	24400	105	108	359000
PROPYLCYCLOHEXANE	2.71	0	0	0	2.71
PROPYLCYCLOPENTANE	0.385	0	0	0	0.385
PROPYLENE	133000	8000	6080	8480	155000
PROPYLENE DICHLORIDE	0	0	0	0	0
PROPYLENE GLYCOL	43.2	0	0.000004	0	43.2
PROPYLENE GLYCOL METHYL ETHER	85.3	53	0	4.06	142
PROPYLENE GLYCOL MONOMETHYL ETHER ACETATE	156	105	0	8.01	268
PROPYLENE OXIDE	7600	26.2	0.000006	0	7630
P-TOLUALDEHYDE {4-METHYLBENZALDEHYDE}	1050	103	88.6	101	1350
PYRENE	0	159	0	113	271
SEC-BUTYL ALCOHOL	1420	2070	1.97	708	4190
SEC-BUTYLCYCLOHEXANE	34.4	0	0	0	34.4
SELENIUM & COMPOUNDS	9140	44.7	202	20400	29800
SODIUM HYDROXIDE	0.33	0	0	0	0.33
STYRENE (ETHENYLBENZENE)	7510	5150	2270	0.000066	14900
SUBSTITUTED C9 ESTER (C12)	1810	545	733	661	3750
SULFUR DIOXIDE	5570000	10300000	8490000	256000000	280000000
SULFUR TRIOXIDE	142000	18500	358000	796	520000
SULFURIC ACID	150000	669	55000	4010000	4220000
TENNECO 500-100	2530	0	0	0	2530
TEREPHTHALIC ACID (P-BENZENEDICARBOXYLIC ACID)	16.6	26.2	0	0	42.8
TERT-BUTYL ALCOHOL	0	0	0.000005	0	0.000005
TETRAFLUOROMETHANE {CARBON TETRAFLUORIDE} {R 14}	124	21300	0	6960	28400
TETRAMETHYLBENZENES	0.551	0	0	0	0.551
TETRAMETHYLCYCLOBUTENE	0.0551	0	0	0	0.0551
TETRAMETHYLCYCLOPENTANE	12.9	7.39	0.197	70.8	91.3
TETRAMETHYLTHIOUREA	1.78	1.06	0.0281	10.1	13
TIN & COMPOUNDS	75.9	5.12	0	64.9	146
TOLUENE	421000	60300	43100	143000	667000
TOLUENE DIISOCYANATE (MIXED ISOMERS)	211	0	0	0	211
TOTAL AROMATIC AMINES	1950	205	0	0	2150
TOTAL C2-C5 ALDEHYDES	62000	6690	0.000001	0	68700
TOTAL SUSPENDED PARTICULATE	17500000	9820000	5480000	161000000	193000000
TOTAL VOLATILE ORGANIC COMPOUNDS	8210000	771000	716000	1830000	11500000
TRANS 1-METHYL-3-PROPYL CYCLOHEXANE	5.07	0	0	0	5.07
TRANS 1-METHYL-4-ETHYLCYCLOHEXANE	71.6	21.6	0.0374	1.31	94.6

2008 Calendar Year Industrial Emissions: Results

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

Substance	Emissions (kg/year)				
	Sydney	Newcastle	Wollongong	Non Urban	GMR
TRANS,CIS-1,2,4-TRIMETHYLCYCLOHEXANE	4.12	0	0	0	4.12
TRANS,TRANS-1,2,4-TRIMETHYLCYCLOHEXANE	7.54	0	0	0	7.54
TRANS,TRANS-1,3,5-TRIMETHYLCYCLOHEXANE	3.84	0	0	0	3.84
TRANS-1,2-CIS-4-TRIMETHYLCYCLOPENTANE	209	64.8	0.112	3.93	278
TRANS-1,2-DIMETHYLCYCLOHEXANE	0.385	0	0	0	0.385
TRANS-1,3-DIMETHYLCYCLOHEXANE	5.1	0	0	0	5.1
TRANS-1,3-DIMETHYLCYCLOPENTANE	492	151	0.262	9.16	653
TRANS-1,4-DIMETHYLCYCLOHEXANE	5.25	0	0	0	5.25
TRANS-1,CIS-2,3-TRIMETHYLCYCLOPENTANE	279	86.4	0.15	5.23	371
TRANS-1-2-DIMETHYLCYCLOPENTANE	349	108	0.187	6.54	464
TRANS-1-ETHYL-2-METHYLCYCLOHEXANE	0.771	0	0	0	0.771
TRANS-1-ETHYL-3-METHYLCYCLOHEXANE	1.41	0	0	0	1.41
TRANS-1-METHYL-3-ETHYLCYCLOPENTANE	0.561	0	0	0	0.561
TRANS-1-PHENYLBUTENE	1.52	0	0	0	1.52
TRANS-2-BUTENE	22000	6380	10.6	515	29000
TRANS-2-ETHYLMETHYLCYCLOPENTANE	210	64.8	0.112	3.93	279
TRANS-2-NONENE	1.12	0	0	0	1.12
TRANS-2-PENTENE	20700	6400	11	417	27500
TRICHLOROBENZENES (MIXED)	0	0	0	0	0
TRICHLOROETHYLENE (TCE)	19900	2540	2020	22500	47000
TRICHLOROFLUOROMETHANE	952	1510	0.000007	0	2460
TRICHLOROTRIFLUOROETHANE-F113	760	551	11.5	4140	5470
TRIFLUOROMETHANE (F-23)	1130	1780	0.000003	0	2910
TRIMETHYLBENZENES	1830	244	33.2	1490	3600
TRIMETHYLCYCLOHEXANES	6310	566	402	358	7640
TRIMETHYLCYCLOPENTANE	404	90.7	41.4	375	911
TRIMETHYLDECANE	2400	218	0	0	2620
TRIMETHYLDECENES	551	0	0	0	551
TRIMETHYLFLUOROSILANE	0	0	12700	0	12700
TRIMETHYLHEPTANES	40.7	23.2	0.618	222	287
TRIMETHYLOCTANES	6500	594	0.14	50.5	7140
VANADIUM & COMPOUNDS	638	358	39.6	6790	7830
VINYL ACETATE	2310	3230	3.08	2.77	5540
VINYL CHLORIDE MONOMER	4560	2530	207	970	8270
ZINC & COMPOUNDS	19400	9410	13300	42200	84400

Appendix B: Sample Industrial Questionnaires

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

MINING FOR COAL QUESTIONNAIRE

Please indicate as much of the following information as possible. If information is unavailable or is difficult to obtain, please provide a best estimate. Please indicate where a question is not applicable (e.g. "NA") or where no data are available (e.g. "ND"). Department of Environment, Climate Change & Water (DECCW) acknowledges that the information may be commercially sensitive. All information presented in this survey will be kept strictly confidential.

REPORTING YEAR: The data provided is for the 2007-2008 financial year , 2008 calendar year or 2008-2009 financial year (Please tick one).

- Q1.** Facility name: <<Facility>>
- Q2.** Facility street address <<Premises Street>>
 <<Premises Suburb>>
 <<Premises State>>
 <<Premises Postcode>>
- Q3.** Facility main activity: <<Activity>>
- Q4.** Facility primary ANZSIC code <<ANZSIC>>
 (Please indicate if incorrect)
- Q5.** Does the facility perform any other activity other than described in Question 3?
 (provide ANZSIC Code if known) _____
- Q6.** Person completing questionnaire: _____
- Q7.** Contact Details Phone number: _____
 Fax number: _____
 Email: _____

Operating Schedule (cross out when not operating)

Q8. Months of the Year: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC

Q9. Days of the Week: MON TUES WED THUR FRI SAT SUN

Q10. Weekday Hours of the Day:
 1 2 3 4 5 6 7 8 9 10 11 12 (noon) 1 2 3 4 5 6 7 8 9 10 11 12 (midnight)

Weekend Hours of the Day:
 1 2 3 4 5 6 7 8 9 10 11 12 (noon) 1 2 3 4 5 6 7 8 9 10 11 12 (midnight)

Q11. Seasonal Variation
 If activity varies for any reason please indicate the **approximate** variation as a percentage of a full year.
 e.g.: JAN - MAR 30%, APR - JUNE 20%, JULY - SEP 10%, OCT - DEC 40%

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

Q12. Are there any additional variations in production not addressed by Q8-Q11 above?



DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Major Materials and Products

Q13. Please estimate the annual quantity of the main raw materials consumed (e.g. tonnes/year, litres/year). Also indicate the physical state of the raw material (i.e. solid/liquid or gas)^a. Attach a separate sheet if there is insufficient space in the table below.

Raw Material	Please circle:	Annual Quantity Used ^a
1.	solid / liquid / gas	
2.	solid / liquid / gas	
3.	solid / liquid / gas	
4.	solid / liquid / gas	
5.	solid / liquid / gas	
6.	solid / liquid / gas	
7.	solid / liquid / gas	

^a Department of Environment, Climate Change & Water (DECCW) acknowledges that this information may be commercially sensitive. All information presented in this survey will be kept strictly confidential.

Q14. What product(s) are mined:

1. _____
2. _____
3. _____
4. _____
5. _____

Q15. Please specify the following information for each product(s) mined that is sent off-site. Attach a separate sheet if there is insufficient space in the table below.

Product Material	Annual Quantity Produced (tonnes) ^a	Off-site transfer method (e.g. truck, rail)

^a Department of Environment, Climate Change & Water (DECCW) notes that this information may be commercially sensitive. All information presented in this survey will be kept strictly confidential.

Q16. Please estimate the total area of land that is exposed (e.g. has no vegetative cover) in ha: _____

DECCW Industrial Emissions Inventory Survey 2009
Facility ID: <<Facility ID>>

- Q17.** Please estimate the average total area of land being worked at any particular time of the year (ha): _____
- Q18.** Please estimate the average total area of land that is cleared annually through burn off (ha): _____
- Q19.** Please indicate the 'burn off' regime (e.g. one day every three weeks) and please indicate whether there are specific periods when burning does not occur (e.g. December): _____
- Q20.** Please sketch a flow diagram representing the main stages involved in the process (e.g. land clearing → top soil removal → storage of top soil → blasting → removal of mineral → crushing → stockpile). If a "ready-made" sketch or more detailed flow diagram is available, please attach it to this questionnaire.

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Air Emission Sources

Q22. Please identify all air emission sources at the facility, indicating whether any emission control technologies (e.g. baghouse or low NO_x burners for point sources) and/or management practices (e.g. watering and chemical wetting agents on stockpiles for fugitive sources) are utilised and the date they were first commissioned and/or either significantly modified, upgraded or replaced. Note that point, fugitive, controlled and uncontrolled sources should be included. Note also that, where there is more than one, all emission control technologies and/or management practices should be included for each source. Attach a separate sheet if there is insufficient space in the table below.

Emission Source Name	Stack/Vent Number ^a	Control Technology	Reduction Efficiency (%)	Date First Commissioned ^{b,d}	Date Significantly Modified, Upgraded or Replaced ^{c,d}

a Insert "NA" (not applicable) for fugitive sources
 b Include the earliest date (i.e. day, month and year) that either:
 • An application for pollution control approval (PCA) was lodged under the *Pollution Control Act 1970*
 • A development application (DA) was lodged under the *Environmental Planning and Assessment Act 1979*; or
 • A licence application was lodged under the *Protection of the Environment Operations Act 1997*.
 c Otherwise, include that date the emission source was "First Commissioned", if this information is not available.
 d Include the earliest date (i.e. day, month and year) that either:
 • An application for pollution control approval (PCA) was lodged under the *Pollution Control Act 1970*
 • A development application (DA) or modification to an existing development consent was lodged under the *Environmental Planning and Assessment Act 1979*; or
 • A licence application or variation to an existing licence was lodged under the *Protection of the Environment Operations Act 1997*.
 Otherwise, include that date the emission source was "Significantly Modified, Upgraded or Replaced", if this information is not available.
 Include codes PCA, EP&A and POEO beside date to denote Pollution Control Act 1970, Environmental Planning and Assessment Act 1979 and Protection of the Environment Operations Act 1997 respectively, where relevant

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Fuel Combustion

Q23. If combustion devices (e.g. see below) are utilised by the facility, please specify their characteristics in the table below). Please read the footnotes. Attach a separate sheet if there is insufficient space in the table below.

Type of Combustion Device	Stack/Vent Number	Rated Capacity (kW)	Fuel Type ^a	Estimated Annual Fuel Consumption (either tonnes, litres, cubic metres or MJ)	Emission Control(s) ^b	Control Efficiency (%)

a If the fuel type is an oil, please indicate the type of oil (e.g. residual, distillate, No.6 Residual Oil).
 b Emission controls include flue gas controls such as baghouses and scrubbers as well as the use of combustion related controls such as low NO_x burners. If more than one control device is used, please number the controls and place a corresponding control efficiency for each numbered control in the adjacent column (e.g. with "(1) baghouse, (2) scrubber" entered into the "Emission Control(s)" column, the adjacent column would read "(1) 99%, (2) 80%", for the corresponding control efficiencies).

Combustion Types		
External Combustion		Internal Combustion
Boiler - dry bottom - wall fired	Spreader stoker	Gas turbine
Boiler - dry bottom - tangentially fired	Overfeed stoker	4-stroke lean burn
Boiler - dry bottom - cell burner fired	Handfed unit	4-stroke rich burn
Boiler - wet bottom - wall fired	Fluidised bed combustor - circulating	2 stroke lean burn
Boiler - wet bottom - tangentially fired	Fluidised bed combustor - bubbling	
Boiler - wet bottom - cell burner fired	Space heater	
Boiler (other)	Fuel cell/Dutch oven	
Cyclone furnace		

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Q24. Please provide source specific emission estimates for any point sources at the facility in the table below. Please indicate any available information on stack properties (e.g. location, height, diameter, exit velocity) even if no emissions data are available. Attach a separate sheet if there is insufficient space in the table below.

	Stack/ Vent Number	Stack/ Vent Number	Stack/ Vent Number	Stack/ Vent Number	Stack/ Vent Number	Stack/ Vent Number
STACK DETAILS:						
Stack Identification						
Emission Source ID (please use ID number used in Q22 and Q23) ^a						
Stack Location Easting (MGA) (km)						
Stack Location Northing (MGA) (km)						
Stack height (m)						
Stack internal diameter @ exit (m)						
Gas discharge velocity (m/s) @ discharge temperature						
Gas discharge volume (m ³ /s) @ discharge temperature						

EMISSION COMPONENTS (kg/year):

Total Solid Particulates						
PM ₁₀						
CO						
NO						
NO ₂						
SO ₂						
SO ₃						
VOCs ^b						
Lead						
Formaldehyde						
Benzene						
Toluene						
Benzo(α)pyrene or PAHs						
Isomers of xylene						
Other (please specify)						

a Please use the same naming convention as used for Q22 and Q23 (where applicable).
 b If the species-specific composition of total VOCs is known, please attach this information separately.

Q25. If the emissions of any of the sources specified in Q22-Q24 vary from the operating regime of the facility, described in Q8-Q12, please describe this variation below.

DECCW Industrial Emissions Inventory Survey 2009

Facility ID: <<Facility ID>>

Q29. Do you have an on-site wastewater treatment system? If so, please provide the following data:

VOC emissions to air estimate from wastewater treatment: _____
kg/year

Please specify method of calculation:

Please estimate the annual volume of wastewater treated (i.e. megalitres/year)

_____ ML/yr

Please estimate the minimum, maximum and average Biological Oxygen Demand (BOD) of wastewater as received by the treatment plant (i.e. influent BOD).

_____ kg/m³ (min)

_____ kg/m³ (max)

_____ kg/m³ (annual average)

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

On-Site Vehicles

Q30. Please specify the following information pertaining to vehicles used for ON-SITE operations as best as possible (please read the footnotes beneath the table). Attach a separate sheet if there is insufficient space in the table below.

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, fork lifts.
 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 VKT's for a particular vehicle type will be the 'number of vehicles' by the 'VKT's' for each vehicle). This data only needs to be approximate.

Q31. Please specify the total fuel consumed by on-site vehicles:

Petrol: _____ kL/year
 Diesel: _____ kL/year
 LPG: _____ m³/year

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

NPI dust emissions from on-site vehicles, material handling, stockpiles and exposed areas

Q32. If you report to the National Pollutant Inventory (NPI), you will have been required to estimate PM₁₀ emissions from these operations. Please list these emissions here. Attach a separate sheet if there is insufficient space in the table below.

Equipment Type	PM ₁₀ emission rates ^a	Units

Stockpiles and Exposed Areas	PM ₁₀ emission rates ^a	Units

a Emission rates should be the emission rate while the equipment is operating, not the hourly equivalent of annual emissions. The hours of operation should be provided in Q30.

a Emission rates should be the emission rate while the equipment is operating, not the hourly equivalent of annual emissions. The hours of operation should be provided in Q30.

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Q33. Please specify any other activities leading to airborne emissions that have not been considered already in this questionnaire. If any estimates of emissions have been performed by the facility (e.g. fugitive emissions such as solvent loss, particulates from blasting) please present them in the following table. Attach a separate sheet if there is insufficient space in the table below.

Activity	Pollutant Emitted	Emission Estimate ^a

^a Please specify the units of measurement, as well as the method used to estimate the emission (e.g. source testing, mass balance).

Q34. Please estimate the annual electricity consumption at the facility (MWh):

Q35. Please provide any site-specific emission estimates (by source) not already covered by this questionnaire and air emission test data (please attach to the completed questionnaire):

Q36. Any additional comments relating to this questionnaire.

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

PETROLEUM PRODUCTS AND FUEL PRODUCTION QUESTIONNAIRE

Please indicate as much of the following information as possible. If information is unavailable or is difficult to obtain, please provide a best estimate. Please indicate where a question is not applicable (e.g. "NA") or where no data are available (e.g. "ND"). Department of Environment, Climate Change & Water (DECCW) acknowledges that the information may be commercially sensitive. All information presented in this survey will be kept strictly confidential.

REPORTING YEAR: The data provided is for the 2007-2008 financial year , 2008 calendar year or 2008-2009 financial year (Please tick one).

- Q1.** Facility name: <<Facility>>
- Q2.** Facility street address <<Premises Street>>
 <<Premises Suburb>>
 <<Premises State>>
 <<Premises Postcode>>
- Q3.** Facility main activity: <<Activity>>
- Q4.** Facility primary ANZSIC code <<ANZSIC>>
 (Please indicate if incorrect)
- Q5.** Does the facility perform any other activity other than described in Question 3?
 (provide ANZSIC Code if known) _____
- Q6.** Person completing questionnaire: _____
- Q7.** Contact Details Phone number: _____
 Fax number: _____
 Email: _____

Operating Schedule (cross out when *not* operating)

- Q8.** Months of the Year: JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
- Q9.** Days of the Week: MON TUES WED THUR FRI SAT SUN

- Q10.** Weekday Hours of the Day:
 1 2 3 4 5 6 7 8 9 10 11 12 (noon) 1 2 3 4 5 6 7 8 9 10 11 12 (midnight)
- Weekend Hours of the Day:
 1 2 3 4 5 6 7 8 9 10 11 12 (noon) 1 2 3 4 5 6 7 8 9 10 11 12 (midnight)

- Q11.** Seasonal Variation
 If production varies for any reason please indicate the **approximate** production as a percentage of a full year.
 e.g.: JAN – MAR 30%, APR – JUNE 20%, JULY – SEP 10%, OCT – DEC 40%

JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC

- Q12.** Are there any additional variations in production not addressed by Q8-Q11 above?



DECCW Industrial Emissions Inventory Survey 2009
Facility ID: <<Facility ID>>

Q15. If the emissions of any of the sources specified in Q13-Q14 vary from the operating regime of the facility, described in Q8-Q12, please describe this variation below.

DECCW Industrial Emissions Inventory Survey 2009
Facility ID: <<Facility ID>>

Q17. Please estimate the annual quantity of the main products manufactured (e.g. tonnes/year, litres/year). Also indicate the physical state of the product (i.e. solid, liquid or gas). Attach a separate sheet if there is insufficient space in the table below.

Manufactured Product	Please circle:	Annual Quantity Produced
1.	solid / liquid / gas	
2.	solid / liquid / gas	
3.	solid / liquid / gas	
4.	solid / liquid / gas	
5.	solid / liquid / gas	
6.	solid / liquid / gas	
7.	solid / liquid / gas	
8.	solid / liquid / gas	
9.	solid / liquid / gas	
10.	solid / liquid / gas	
11.	solid / liquid / gas	
12.	solid / liquid / gas	

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Fuel Loading/Unloading

Q18a. Please provide source specific emission estimates for product loading activities (e.g. tanker, rail, ship etc) at the facility in the table below. Attach a separate sheet if there is insufficient space in the table below.

Fuel Type	Amount loaded (m ³ /year)	Loading Method	Pollutant (e.g. VOCs)	Estimated emission (kg/year)

Q18b. Please provide source specific emission estimates for product unloading activities at the facility (e.g. tanker, rail, ship etc) in the table below. Attach a separate sheet if there is insufficient space in the table below.

Fuel Type	Amount unloaded (m ³ /year)	Unloading Method	Pollutant (e.g. VOCs)	Estimated emission (kg/year)

Crude Oil Loading/Unloading

Q19a. Please provide the total amount of crude oil loaded during a year at port:

_____ ML/year

Q19b. Please provide the total amount of crude oil unloaded during a year at port:

_____ ML/year

DECCW Industrial Emissions Inventory Survey 2009
 Facility ID: <<Facility ID>>

Q22. Do you have an on-site wastewater treatment system? If so, please provide the following data:

VOC emissions to air estimate from wastewater treatment: _____ kg/year

Please specify method of calculation:

Please estimate the annual volume of wastewater treated (i.e. megalitres/year)
 _____ ML/yr

Please estimate the minimum, maximum and average Biological Oxygen Demand (BOD) of wastewater as received by the treatment plant (i.e. influent BOD).

_____ kg/m³ (min)
 _____ kg/m³ (max)
 _____ kg/m³ (annual average)

Fugitive Emissions – Valves, Seals and Flanges

Q23. Please provide the annual losses from valves, seals and flanges if they have been estimated at your facility (specify compounds and mass emissions):

Q24. Please specify method of calculation:

Q25. Please specify any other activities leading to airborne emissions that have not been considered already in this questionnaire. If any estimates of emissions have been performed by the facility, please present them in the following table. Attach a separate sheet if there is insufficient space in the table below.

Activity	Pollutant Emitted	Emission Estimate ^a

^a Please specify the units of measurement, as well as the method used to estimate the emission (e.g. source testing, mass balance).

DECCW Industrial Emissions Inventory Survey 2009

Facility ID: <<Facility ID>>

Q28. Please estimate the annual electricity consumption at the facility (MWh):

Q29. Please provide any site specific emission estimates (by source) (for e.g. emission estimates used to report to the NPI by source and for all 90 NPI substances i.e. include non-triggered substances) (please attach to the completed questionnaire).

Q30. Any additional comments relating to this questionnaire.

DECCW Industrial Emissions Inventory Survey 2009
Facility ID: <<Facility ID>>

SEWAGE TREATMENT QUESTIONNAIRE

Please indicate as much of the following information as possible. If information is unavailable or is difficult to obtain, please provide a best estimate. Please indicate where a question is not applicable (e.g. "NA") or where no data are available (e.g. "ND"). Department of Environment, Climate Change & Water (DECCW) acknowledges that the information may be commercially sensitive. All information presented in this survey will be kept strictly confidential.

REPORTING YEAR: The data provided is for the 2007-2008 financial year , 2008 calendar year or 2008-2009 financial year (Please tick one).

- Q1.** Facility name: <<Facility>>
- Q2.** Facility street address <<Premises Street>>
<<Premises Suburb>>
<<Premises State>>
<<Premises Postcode>>
- Q3.** Facility main activity: <<Activity>>
- Q4.** Facility primary ANZSIC code <<ANZSIC>>
(Please indicate if incorrect)
- Q5.** Does the facility perform any other activity other than described in Question 3?
(provide ANZSIC Code if known) _____
- Q6.** Person completing questionnaire: _____
- Q7.** Contact Details Phone number: _____
Fax number: _____
Email: _____
- Q8.** Please estimate the annual volume of wastewater treated (i.e. megalitres per year)
_____ ML/year
- Q9.** Please estimate the minimum, maximum and average Biological Oxygen Demand (BOD) of wastewater as received by the treatment plant (i.e. influent BOD).
_____ kg/m³ (min)
_____ kg/m³ (max)
_____ kg/m³ (annual average)
- Q10.** Please estimate the proportions of wastewater that come from the following two source categories:
Industry _____ %
Domestic _____ %
- Q11.** If wastewater is received from industrial sources, please estimate the fraction of influent BOD contributed by these sources: _____ %



Appendix C: Emissions from Tanks

C.1 INTRODUCTION

VOC emissions from storage of fuels and organic liquids were estimated using USEPA TANKS 4.09d software (USEPA, 2006e). The methodology used to estimate emissions and emission estimate results from the storage of fuel and organic liquids are summarised in this appendix.

C.2 METHODOLOGY

The start-up screen for USEPA's TANKS4.09b software is shown in Figure C-1.



Figure C-1: USEPA TANKS 4.09B

Tank types entered into the USEPA TANKS 4.09b program include:

- Horizontal fixed roof tanks (HFRT);
- Vertical fixed roof tanks (VFRT);
- Internal floating roof tanks (IFRT); and
- External floating roof tanks (EFRT).

Configuring a tank in USEPA's TANKS 4.09b program was generally performed by following these steps:

- Selecting the tank type (i.e. HFRT, VFRT, IFRT or EFRT).
- Entering a tank identification (ID) number (a concordance table was maintained so that tank IDs could be matched to individual tanks on specified licensed premises) (see Figure C-2).

- Entering the physical characteristics of each tank (e.g. tank dimensions, shell and roof characteristics and breather vent settings) (see Figure C-3).

- Tank dimensions were estimated as follows:

- For “small” tanks (defined in the emissions inventory as tanks with a storage capacity of less than 6,000 kL) tank height was assumed to be the same as tank diameter i.e.:

$$h = \left(\frac{4 \times Q}{\pi} \right)^{1/3} = d \quad \text{Equation 3}$$

where:

h	=	Height of tank (tank length)	(m)
Q	=	Capacity of tank	(m ³)
d	=	Diameter of tank	(m)

- For “large” tanks (defined in the emissions inventory as tanks with a storage capacity of greater than 6,000 kL), tank diameter was assumed to be three times the tank height i.e.:

$$h = \left(\frac{4 \times Q}{9\pi} \right)^{1/3}, d = 3 \times h \quad \text{Equation 4}$$

where:

h	=	Height of tank (tank length)	(m)
Q	=	Capacity of tank	(m ³)
d	=	Diameter of tank	(m)

- For HFRT, the average liquid height in the tank was assumed to be 80% of the tank height.
- where site specific tank characteristics were not known, default settings as recommended by USEPA were used (e.g. shell colour/shade set to “white”, shell condition set to “good”, roof colour set to “white”, roof condition set to “good”).
- it was assumed that tanks did not have pressure relief valves (hence breather vent settings were set to zero).
- Entering the site selection. All tanks were set to “Region 10” (see Figure C-4). Meteorological conditions for “Region 10” were sourced from the National Pollutant Inventory database file “austankdata.mdb” (DEH, 2004c). Average meteorological data contained in “austankdata.mdb” were cross-checked for representative locations and TAPM modelled meteorological conditions corresponding to industrial facility locations in the GMR. The conditions contained within “austankdata.mdb” were shown to be representative for the region (see Figure C-6 (temperature) (BoM, 2010), Figure C-7 (wind speed) and Figure C-8 (solar insolation) (Morrison et al, 1981)).
- Entering the material stored (see Figure C-9). Configurations were entered for tanks holding organic liquids (e.g. acetone, ethanol, ethylbenzene), petroleum distillates (i.e. bitumen, diesel, petrol, kerosene, naphtha and heavy fuel oil) or crude oils. Default chemical properties loaded in TANKS 4.09b were used to estimate emissions. Petrol was assumed to have a Reid vapour pressure of 69 kPa (average between summer and winter petrol in NSW). Bitumen was configured in TANKS 4.09b using chemical properties and TANK settings recommended in Section 4.4.5 of RTI International (2004) (also shown in Figure C-10).
- Tank throughputs were distributed evenly across all months (see Figure C-11).

Vertical Fixed Roof Tank

Identification | Physical Characteristics | Site Selection | Tank Contents | Monthly Calculations

Identification No: Facility_ID 1, Tank 1

* Description:

* State:

* City:

* Company:

* Optional

Copy | Run Report | Save | Close | Help

Figure C-2: TANKS 4.09b configuration screen 1

Vertical Fixed Roof Tank

Identification | **Physical Characteristics** | Site Selection | Tank Contents | Monthly Calculations

Dimensions:

Shell Height (ft):	10.7
Shell Diameter (ft):	10.7
Maximum Liquid Height (ft):	10.7
Average Liquid Height (ft):	8.5
Working Volume (gal):	7,197.379635
Turnovers per Year:	0.734156
Net Throughput (gal/yr):	5,284.00
Is Tank Heated?	No

Roof Characteristics:

Color/Shade:	White/White (D)
Condition:	Good (D)
Type:	Dome
Height (ft):	0
Radius (ft) (Dome Roof):	10.7

Shell Characteristics:

Shell Color/Shade:	White/White (D)
Shell Condition:	Good (D)

Breather Vent Settings:

Vacuum Setting (psig):	0
Pressure Setting (psig):	0

Copy | Run Report | Save | Close | Help

Figure C-3: TANKS 4.09b configuration screen 2

Vertical Fixed Roof Tank

Identification | Physical Characteristics | **Site Selection** | Tank Contents | Monthly Calculations

Nearest Major City: Region 10

Daily Average Ambient Temperature (F):	64.80
Annual Average Maximum Temperature (F):	72.00
Annual Average Minimum Temperature (F):	57.00
Average Wind Speed (mph):	8.90
Annual Average Solar Insulation Factor (Btu/(ft ² ·day)):	1,582.40
Atmospheric Pressure (psia):	14.3

Sort by State Name

Copy | Run Report | Save | Close | Help

Figure C-4: TANKS 4.09b configuration screen 3

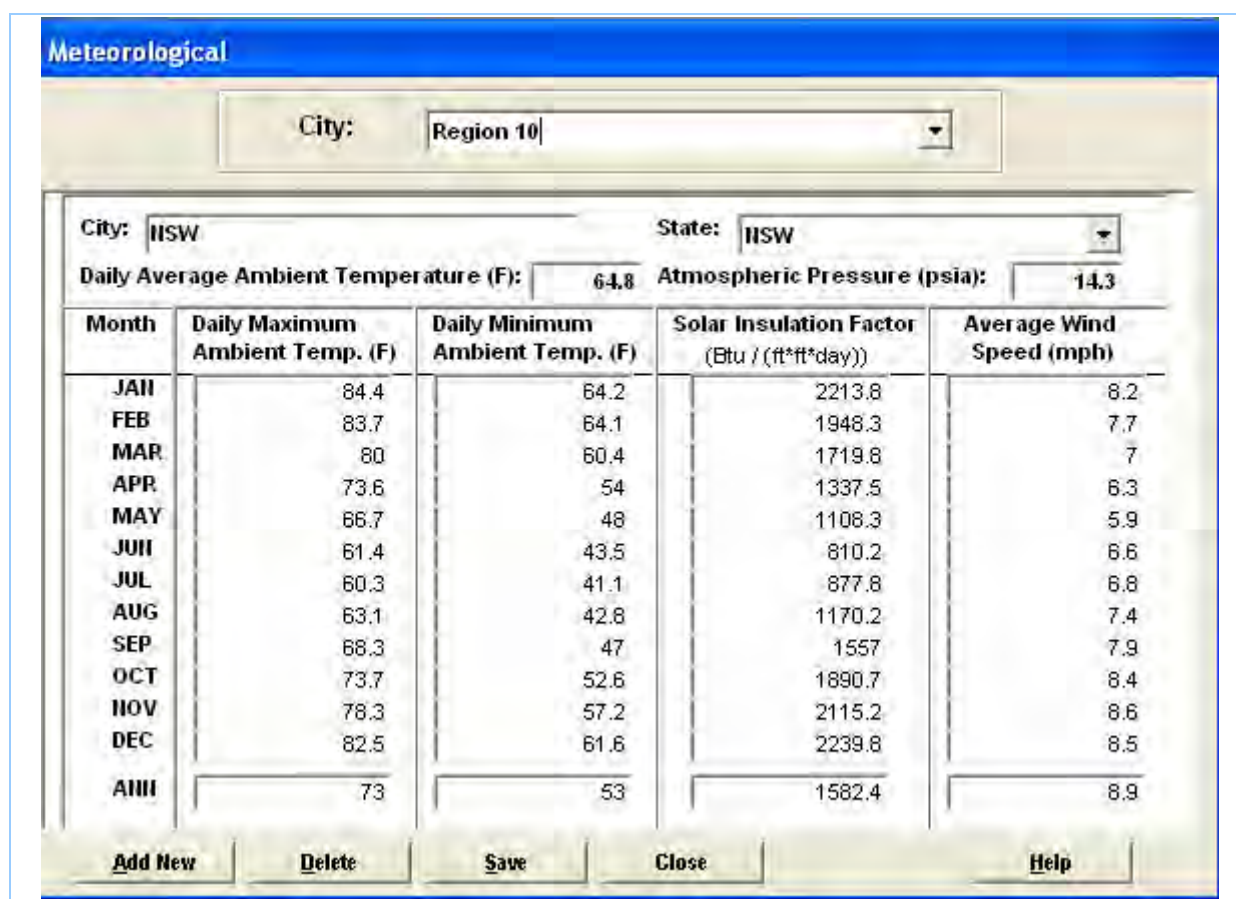


Figure C-5: Meteorological settings used for the GMR

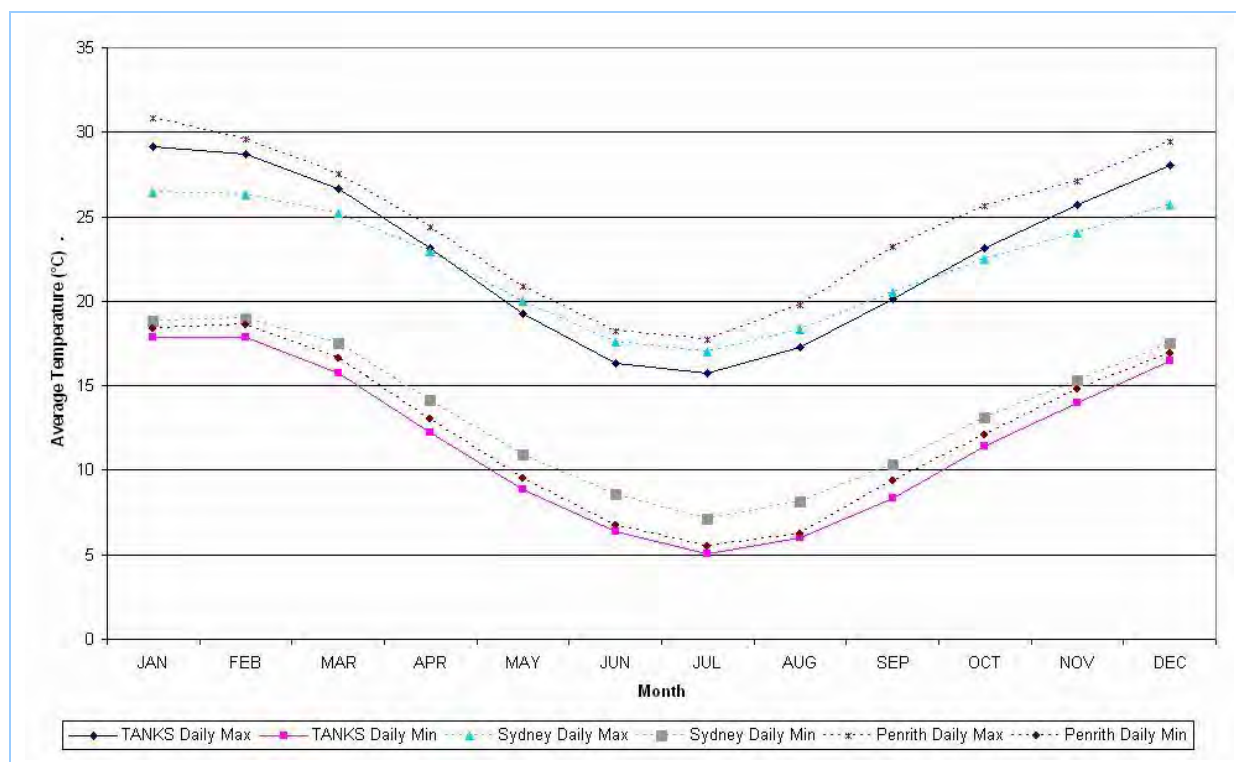


Figure C-6: Comparison of TANKS meteorological conditions to NSW GMR (temperature)

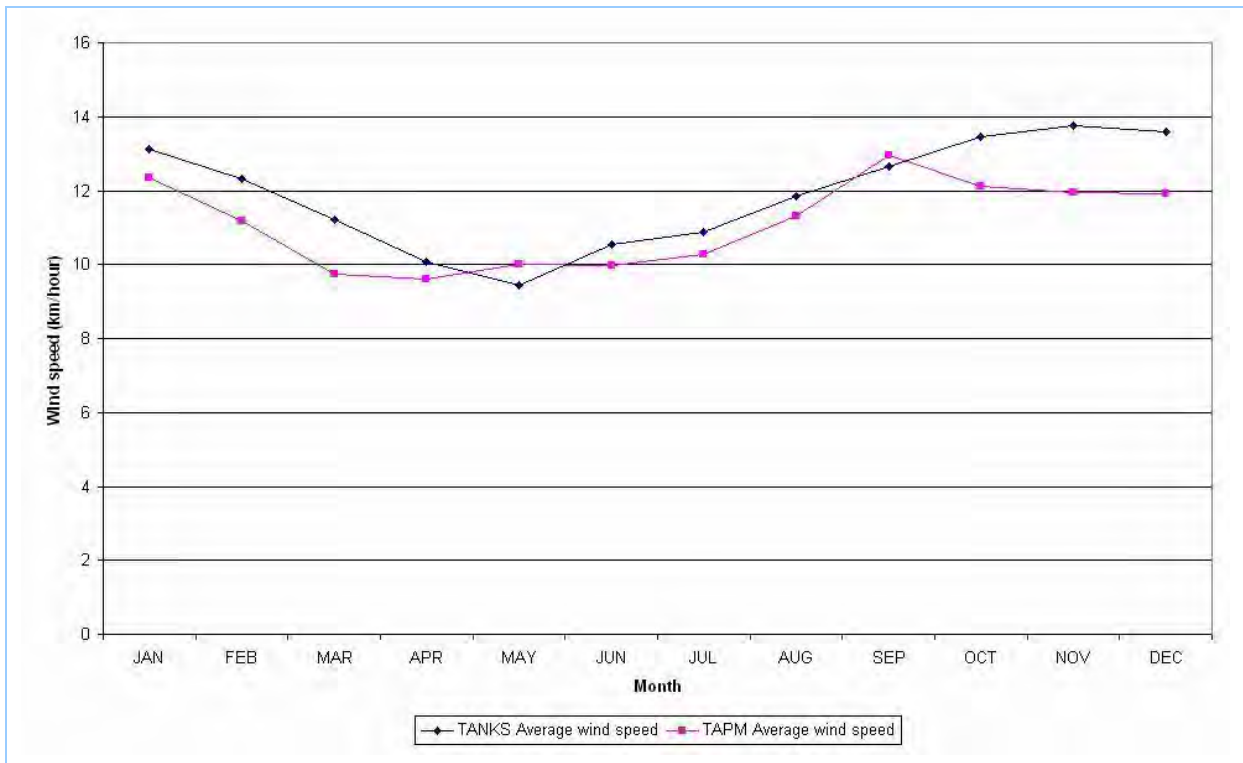


Figure C-7: Comparison of TANKS meteorological conditions to NSW GMR (wind speed)

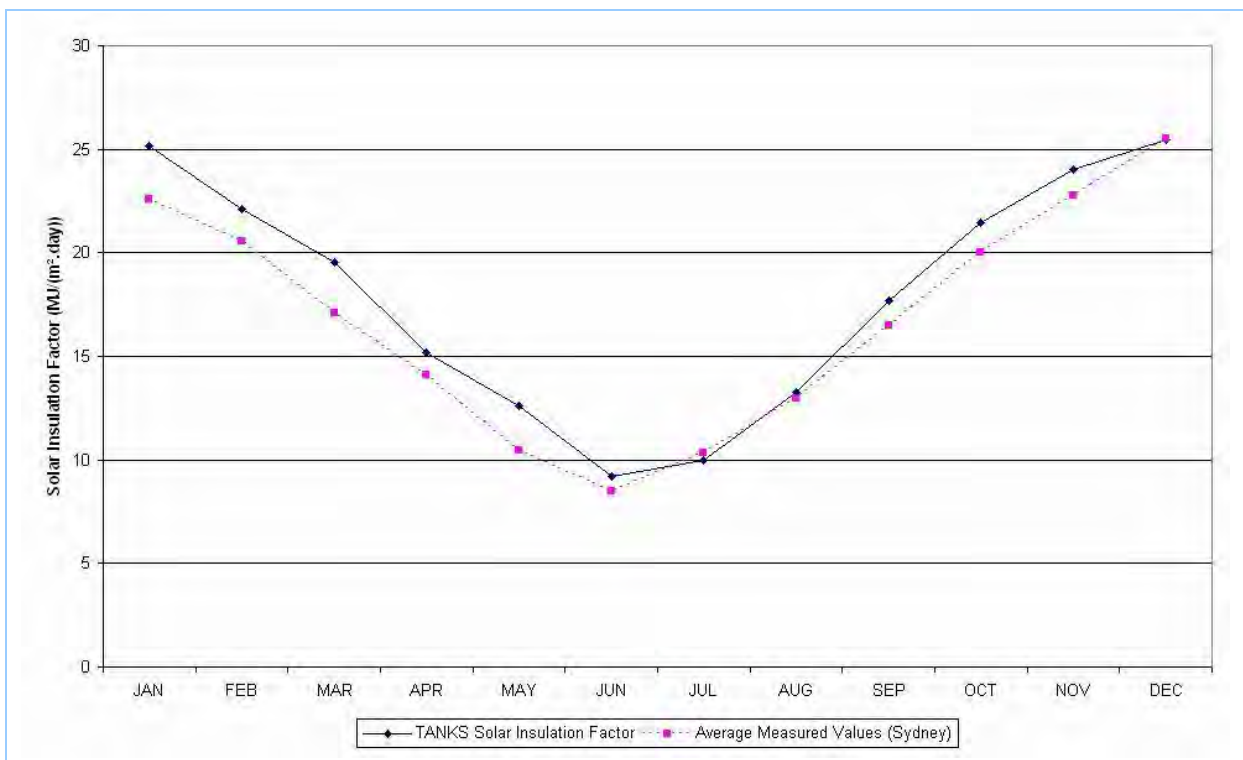


Figure C-8: Comparison of TANKS meteorological conditions to NSW GMR (solar insulation factor)

Vertical Fixed Roof Tank

Identification | Physical Characteristics | Site Selection | **Tank Contents** | Monthly Calculations

Chemical Category of Liquid: Petroleum Distillates
 Single or Multi-Component Liquid: Single

Chemical Name: Distillate fuel oil no. 2
 CAS Number:

Average Liquid Surface Temperature (F):	66.936363
Minimum Liquid Surface Temperature (F):	61.453307
Maximum Liquid Surface Temperature (F):	72.419419
Hot Liquid Temperature (F):	64.82
Vapor Pressure (psia) at Liquid Surface Temperature:	0.0085
Liquid Molecular Weight:	188
Vapor Molecular Weight:	130

Calculate Mixture Properties
 Delete Mixture
 Next Mixture >
 < Previous Mixture
 Add Mixture
 Mixture 1 of 1

Copy | Run Report | Save | Close | Help

Figure C-9: TANKS 4.09b configuration screen 4

Chemical

Chemical Name: Bitumen
CAS Number:

Category: Petroleum Distillates Liq. Mol. Weight: 1000
Liquid Density (lb/gal @ 60F): 9.22 Vapor Molecular Weight: 105

Vapor Pressure Information (fill in one or more options completely)

Option 1: Enter Vapor Pressure (psia) for each temperature:

40F:	0	80F:	0
50F:	0	90F:	0
60F:	0	100F:	0
70F:	0		

Option 2: Constants for Antoine's Equation (using C)
A: 0 B: 0 C: 0

Option 3: Constants for Antoine's Equation (using K)
A: 75350.06 B: 9.00346

Option 4: Reid Vapor Pressure (psia): (Distillates, Crude Oil) 0
ASTM Slope: (Distillates Only) 0

Add New Delete Save Close Help

Figure C-10: Bitumen chemical setting used in TANKS 4.09B

Vertical Fixed Roof Tank

Identification | Physical Characteristics | Site Selection | Tank Contents | Monthly Calculations

	Throughput	Mixture Name
JAN: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
FEB: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
MAR: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
APR: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
MAY: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
JUN: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
JUL: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
AUG: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
SEP: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
OCT: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
NOV: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2
DEC: <input checked="" type="checkbox"/>	440.333333	Distillate fuel oil no. 2

Annual Throughput Specified
5,284.00

Total for Months
5,283.999996

Fill Mixture Names With First Mixture Name

Distribute Throughput

Copy | Run Report | Save | Close | Help

Figure C-11: TANKS 4.09b configuration screen 5

C.3 RESULTS

A summary of tanks included in the emissions inventory is presented in Table C-1 and Figure C-12. A total of 1,486 tanks were processed in USEPA's TANKS 4.09b program.

A summary of estimated VOC emissions from tanks included in the emissions inventory is presented in Table C-2 and Figure C-13. A total of 1,884 tonne of VOC were estimated to be released from tanks in the 2008 calendar year from industrial facilities.

Table C-1: Summary of tanks included in the emissions inventory

Tank Type	Ground reference	Rationalised Material Name	Number of Tanks
External floating roof tank (EFRT)	Above ground	Crude oil	12
		General chemicals	1
		Oil	1
		Petrol	16
		Refinery products	12
Horizontal fixed roof tank (HFRT)	Above ground	Jet fuel (kerosene)	8
		Diesel	319
		General chemicals	37
		Oil	30
		Petrol	13
	Below ground	Jet fuel (kerosene)	4
		Diesel	80
		General chemicals	90
		Oil	2
		Petrol	40
Internal floating roof tank (IFRT)	Above ground	Jet fuel (kerosene)	8
		Crude oil	2
		Diesel	5
		General chemicals	3
		Oil	1
		Petrol	26
		Refinery products	2
Vertical fixed roof tank (VFRT)	Above ground	Jet fuel (kerosene)	23
		Bitumen	78
		Crude oil	11
		Diesel	338
		General chemicals	92
		Oil	83
		Petrol	18
		Refinery products	131
Grand Total			1486

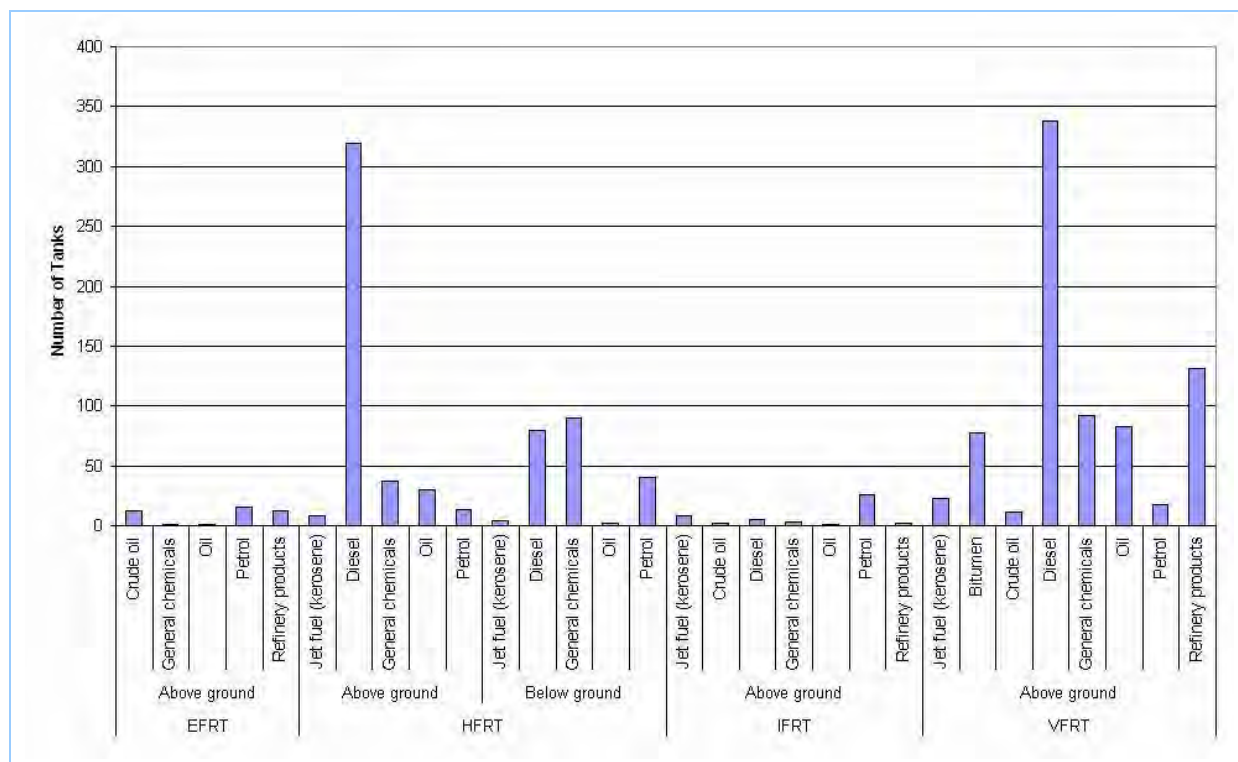


Figure C-12: Summary of tanks included in the emissions inventory

Table C-2: Summary of VOC emission estimates from tanks

Tank Type	Ground reference	Rationalised Material Name	Emissions (kg/year)
External floating roof tank (EFRT)	Above ground	Crude oil	15,805
		General chemicals	297
		Oil	36
		Petrol	336,224
		Refinery products	20,374
Horizontal fixed roof tank (HFRT)	Above ground	Jet fuel (kerosene)	4
		Diesel	203
		General chemicals	4,635
		Oil	53
		Petrol	4,554
	Below ground	Jet fuel (kerosene)	1
		Diesel	71
		General chemicals	6,648
		Oil	-
		Petrol	4,819
Internal floating roof tank (IFRT)	Above ground	Jet fuel (kerosene)	355
		Crude oil	1,335
		Diesel	276
		General chemicals	458
		Oil	2
		Petrol	66,904
		Refinery products	800
Vertical fixed roof tank (VFRT)	Above ground	Jet fuel (kerosene)	3,567
		Bitumen	5,533
		Crude oil	58,313
		Diesel	27,866
		General chemicals	369,204
		Oil	9,124
		Petrol	500,379
		Refinery products	446,356
		Grand Total	

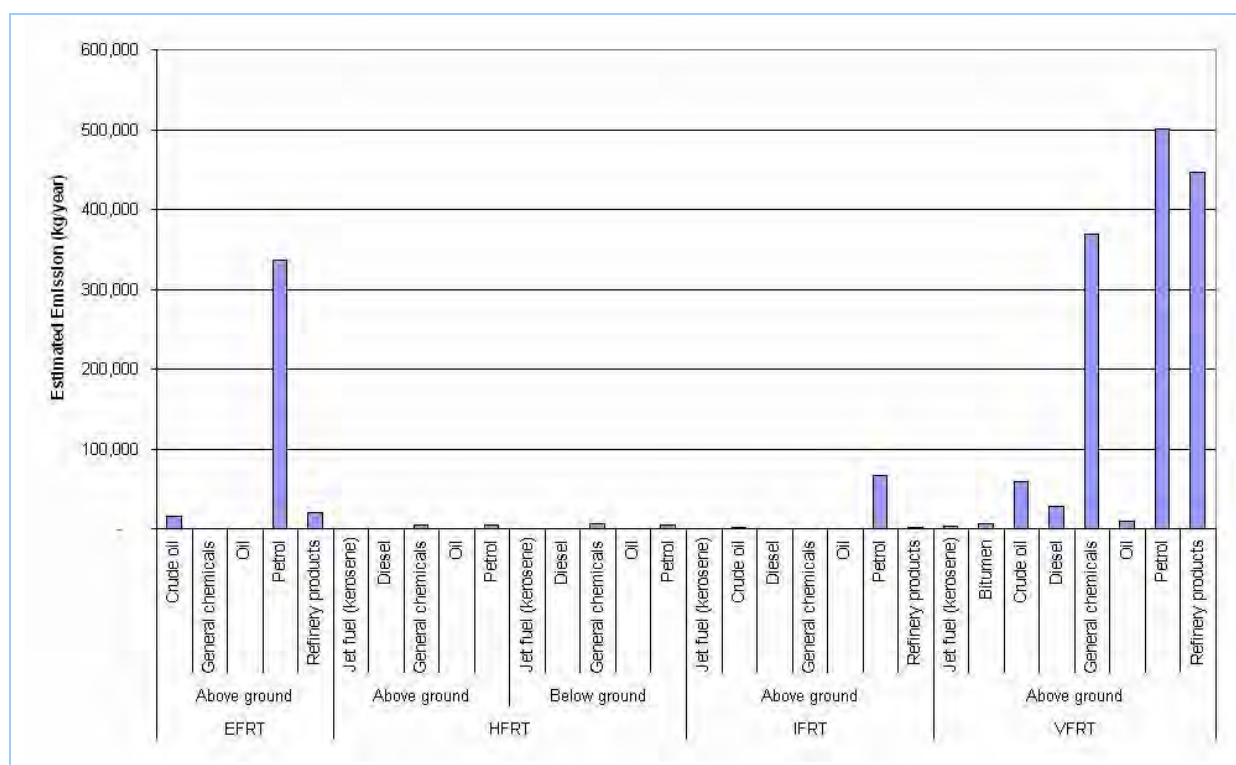


Figure C-13: Summary of VOC emission estimates from tanks

C.4 COMPARISON TO NPI ESTIMATES

The National Pollutant Inventory publishes constant emission factors for tanks that store fuel or organic liquids (DEWHA, 2010). The emission factors are expressed as quantity of emission per unit throughput. This implies that emissions from tanks are only related to liquid throughput and there is no influence from changing tank capacity. Separate emission factors are published for different fuel types and tank types in different regions.

A comparison has been made between using site specific data to estimate emissions using the USEPA TANKS4.09b program and using the emission factors published in the *NPI EET Manual for Fuel and Organic Liquid Storage v3.2* (DEWHA, 2010). Only the tank and fuel configurations outlined in Table C-3 are used to directly compare the respective emission estimation methodologies.

Table C-3: Tank configurations used to compare emission estimation methodologies

Tank configuration	Number of tanks included in analysis
Above ground, vertical fixed roof tank, diesel	336
Above ground, horizontal fixed roof tank, diesel	318
Above ground, horizontal fixed roof tank, petrol	13
Below ground, horizontal fixed roof tank, petrol	40

Comparisons between emissions estimated using USEPA TANKS 4.09b and the NPI EET method are illustrated in Figure C-14, Figure C-15, Figure C-16 and Figure C-17. In each chart, a straight line representing a one to one relationship is shown (i.e. if both techniques returned the same result, all data points would be on this line).

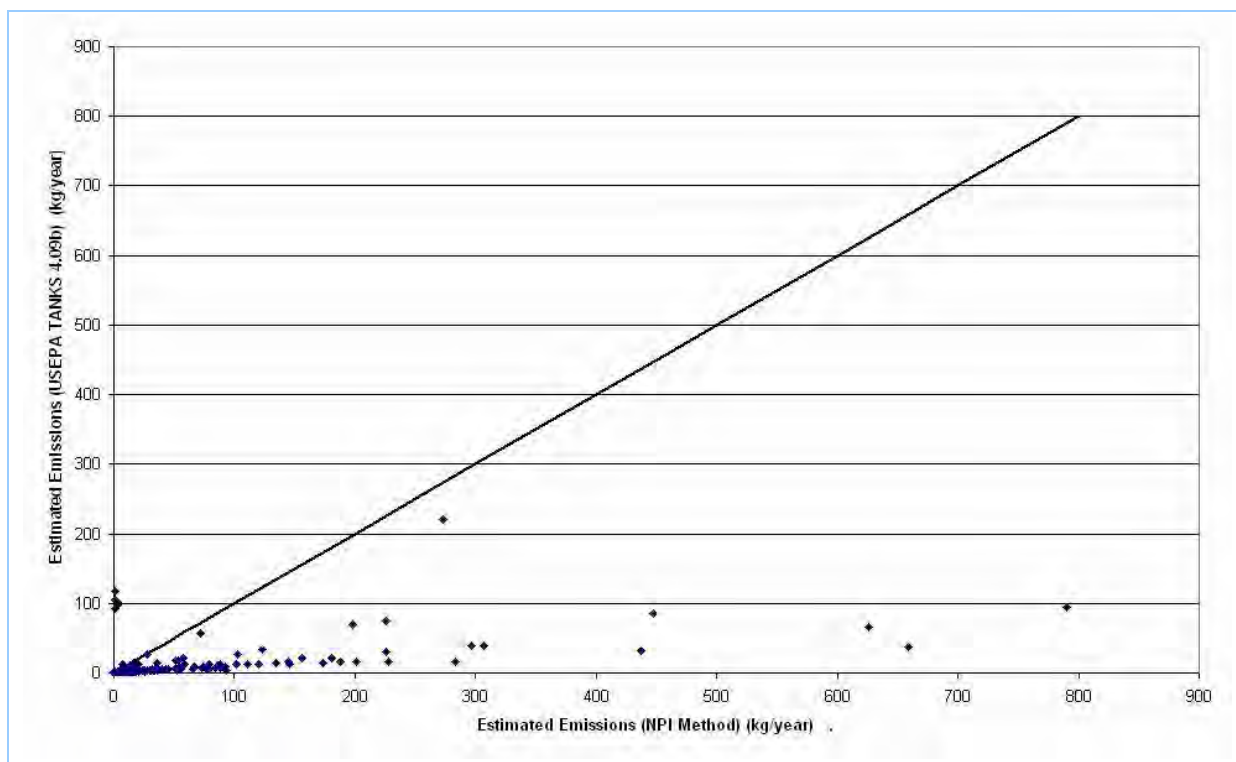


Figure C-14: USEPA versus NPI method - above ground, VFRT, diesel

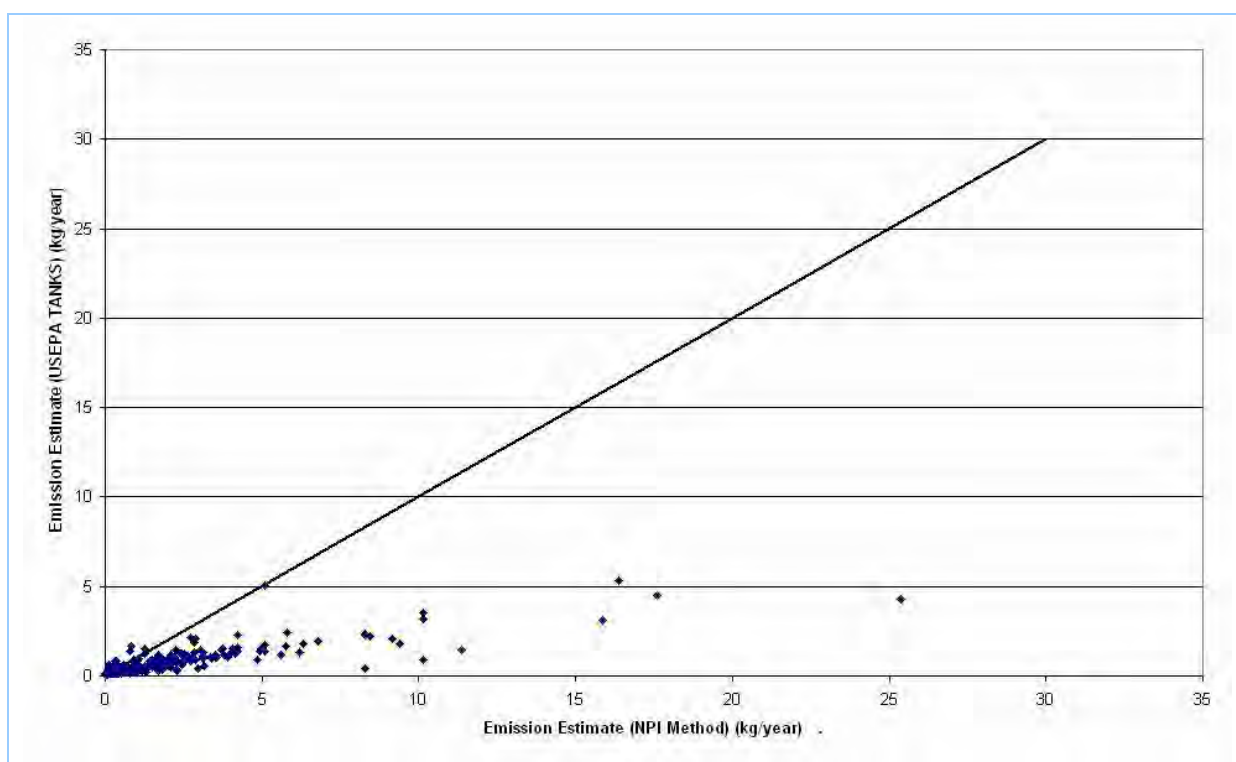


Figure C-15: USEPA vs NPI - above ground, HFRT, diesel

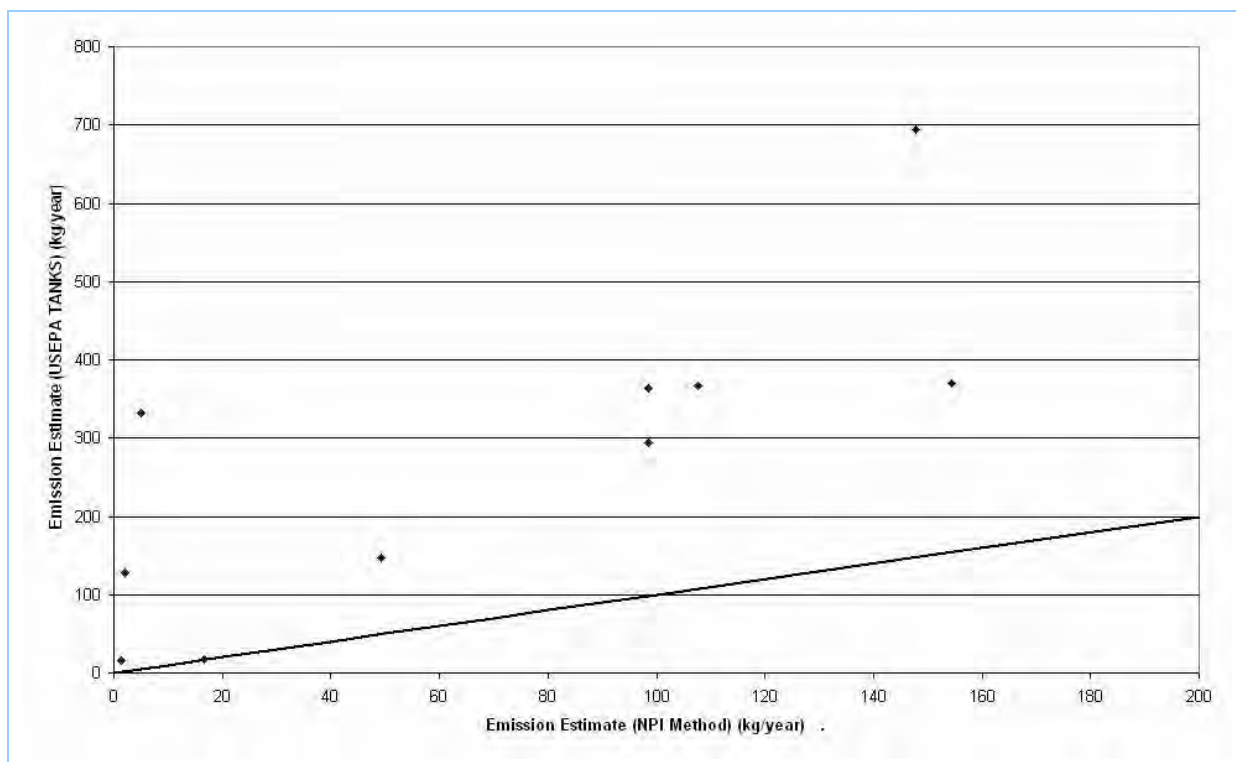


Figure C-16: USEPA vs NPI - above ground, HFRT, petrol

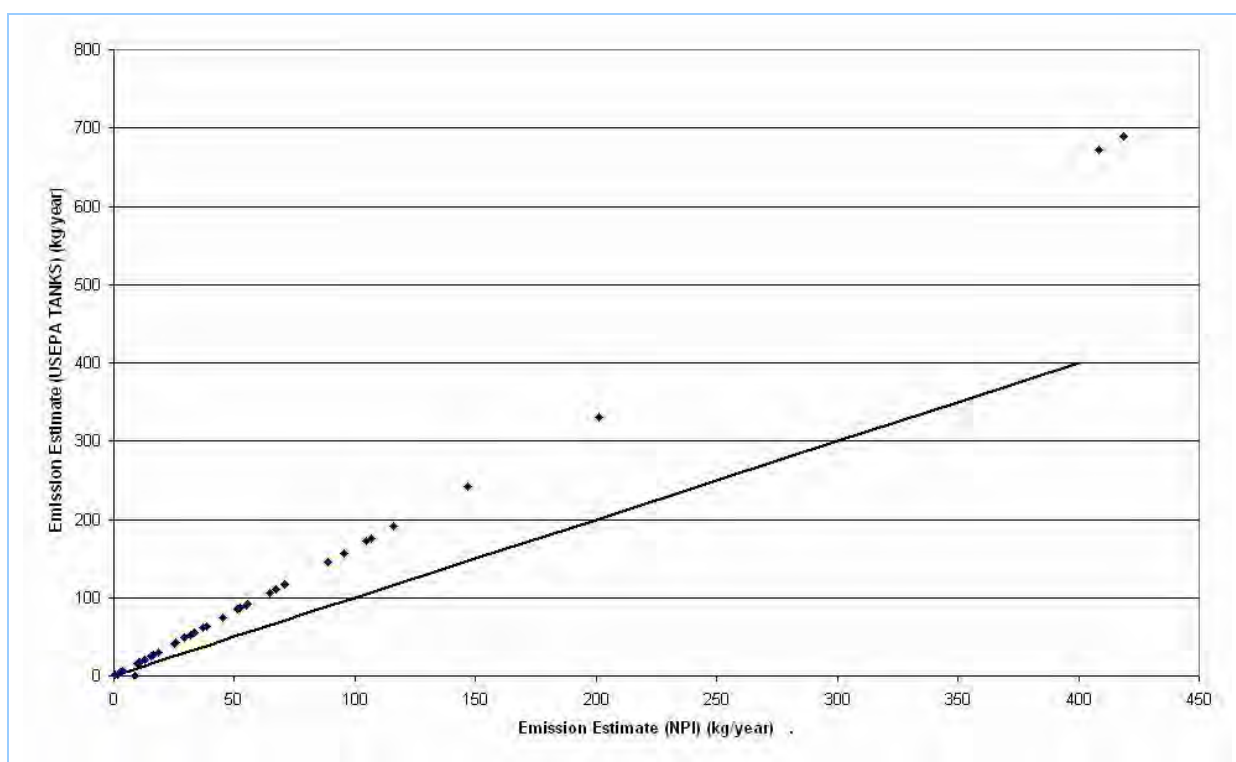


Figure C-17: USEPA vs NPI - below ground, HFRT, petrol

As can be seen from the comparison, emissions from diesel storage in the NSW GMR appear to be overestimated when using the NPI technique and emissions from petrol storage are generally underestimated when using the NPI technique.

In future inventories and assessments, it is recommended that USEPA TANKS 4.09b is used to estimate emissions from fuel and organic liquid storage rather than the abbreviated version of the technique presented in the NPI manual.

Appendix D: Emissions from Wheel-Generated Dust

D.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.

D.2 METHODOLOGY

The emission estimation techniques used to estimate emissions of TSP, PM₁₀ and PM_{2.5} from unpaved and paved roads on industrial facilities are shown in Equation 5 and Equation 6 respectively.

$$E_i = \left[k_i \times \left(\frac{s}{12} \right)^{a_i} \times \left(\frac{(W \times 1.1023)^{0.45}}{3} \right) \right] \times f \times \left(\frac{365 - P}{365} \right) \times VKT \times \left(\frac{100 - CE}{100} \right) \quad \text{Equation 5}$$

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 _{PM_{2.5}} = 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 _{PM_{2.5}} = 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	(%)

$$E_i = \frac{\left[k_i \times (sL)^{0.91} \times (W \times 1.1023)^{1.02} \right] \times \left[1 - \frac{P}{(4 \times 365)} \right]}{1000} \times VKT \times \left(\frac{100 - CE}{100} \right) \quad \text{Equation 6}$$

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 _{PM_{2.5}} = 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 7.

$$E_i = E_{TSP} \times mf_i \quad \text{Equation 7}$$

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 industrial facilities for vehicles used on site is detailed in Table D-1. Industrial vehicle fuel consumption rates were also collected in the industrial survey.

Table D-1: Information collected for vehicles used on industrial 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 VKT's for a particular vehicle type will be the 'number of vehicles' by the 'VKT's' for each vehicle). This data only needs to be approximate.

D.3 RESULTS

D.3.1 Summary Activity Data

A summary of activity data provided by industrial facilities categorised into industrial vehicle types is provided in Table D-2. Vehicle weights were derived by looking up the make and model of the vehicle provided. In determining the vehicle weight, consideration was given to the tare weight and the gross vehicle weight. The weight used to determine emissions from wheel generated dust is the average of the gross vehicle weight and the tare weight (assuming a truck does one trip empty and one trip full on the industrial road).

The proportion of total kilometres travelled by industry vehicle types on unpaved roads and paved roads are shown in Figure D-1 and Figure D-2 respectively.

Table D-2: Summary activity data relevant for wheel generated dust emissions from industrial facilities

Type of vehicle	Average Weight (tonne)	Number	Paved Road VKT (km/year)	Unpaved road VKT (km/year)
AGITATOR	8.5	2	11,117	0
ALL TERRAIN VEHICLE	0.22	7	2,149	1,684
ARTICULATED DUMP TRUCK	34	3	0	2,280
BOOM LIFT	6.5	6	14,281	266
BUGGY	0.50	1	24,000	0
BUS	4.2	1	14,250	750
CAR	1.7	3	206,558	48,146
DUMP TRUCK	55	69	33,953	2,648,215
DUMPER	1.0	3	0	137
FIRE TRUCK	56	5	21,300	200
FLOOR SWEEPER	5.6	1	600	0
FORKLIFT	5.6	1137	15,030,792	497,968
FUEL TRUCK	9.0	8	912	19,760
GOLF CART	0.50	3	1,281	85,050
HAUL TRUCK	52.8	7	0	534,417
LIGHT TRUCK	5.0	1	1,123	125
LIGHT VEHICLE	2.5	27	17,152	4,128,024
MINING TRUCKS	251	49	0	28,188,918
MISCELLANEOUS	2.5	38	409,890	26,607
OFF HIGHWAY TRUCK	64.7	61	406,821	8,748,481
ROAD SWEEPER	11.2	31	92,477	11,722
SMALL CAR	1.5	1	30	0
STACKER	73	8	27,080	4,597
SWEEPER	12	19	104,946	14,932
TANKER	40.0	3	8,300	20,128
TIPPER	12	5	1,708	832
TIPPER TRUCK	10	8	24,134	57,448
TRUCK	29	160	1,640,409	1,867,804
UTE	2.5	18	103,609	15,325
UTILITY	2.5	88	1,012,622	848,691
UTILITY TRUCK	10.0	2	27,000	0
VAN	2.9	4	12,467	0
VARIOUS	2.5	1	0	5,720
WATER TRUCK	27	106	58,158	748,995
YARD TRUCK	20	2	205	45
Grand Total		1,888	19,309,325	48,527,265

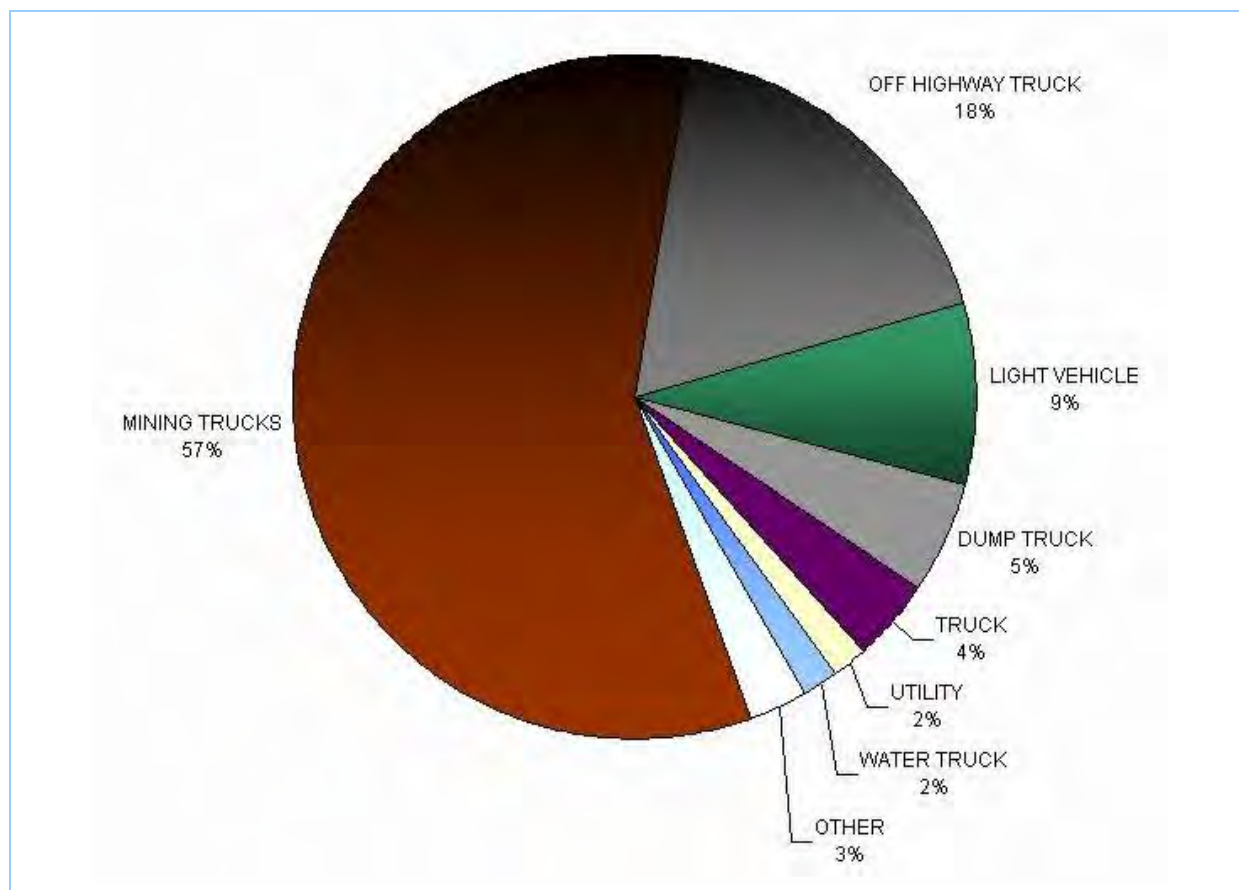
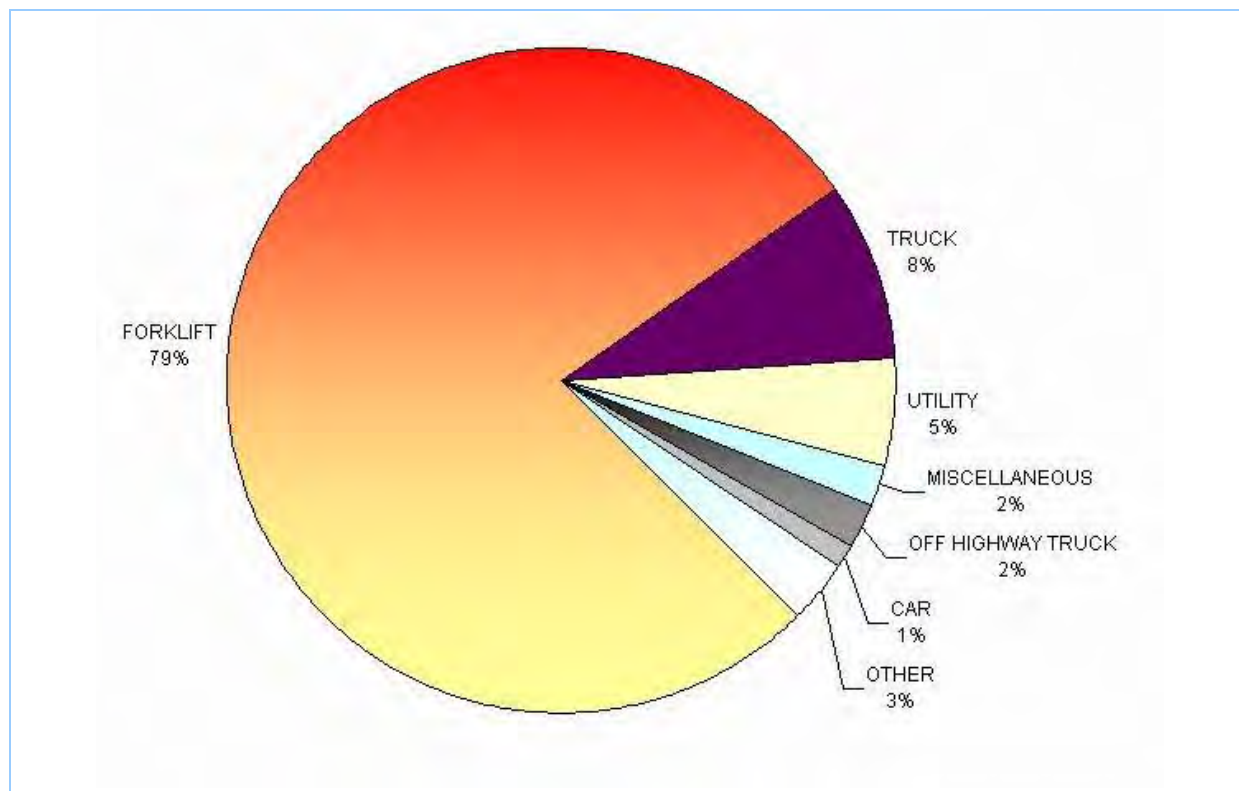


Figure D-1: Proportion of vehicle kilometres travelled on unpaved roads by industrial vehicle type



FigureD-2: Proportion of vehicle kilometres travelled on paved roads by industrial vehicle type

D.3.2 Summary Industry Specific Averaged Emission Factors

Derived industry averaged, controlled emission factors for unpaved road wheel generated dust are provided in Table D-3 and Figure D-3. The activity averaged controlled emission factors are presented to show the variance between emission factors depending on site specific factors. It is also noted that there is large variance between wheel generated dust emissions within an industry type. Site specific derived emission factors were used to estimate emissions in the industrial air emissions inventory (and not industry averaged factors).

The emission factors range between each facility due to the following reasons:

- A different mix of vehicles operating on each site leading to a different weighted average fleet weight using site roads;
- Differences in unpaved road silt contents at each industrial facility;
- Differences in site unpaved road management practices (e.g. different levels of watering, surface treatments).

Table D-3: Activity averaged controlled unpaved road emission factors

Activity	Activity Average Controlled Unpaved Road Emission Factor (kg/km) ^a		
	TSP	PM ₁₀	PM _{2.5}
Coal works	2.48	0.71	0.071
Mining for minerals	2.48	0.71	0.071
Hazardous, industrial or group A waste D	2.38	0.68	0.068
Water-based extractive activity	2.24	0.64	0.064
Other land-based extraction	2.18	0.62	0.062
Land-based extractive activity	1.99	0.57	0.057
Aluminium production (scrap metal)	1.96	0.56	0.056
Mining for coal	1.68	0.48	0.048
Iron or steel production (scrap metal)	1.58	0.45	0.045
Composting	1.41	0.40	0.040
Coke production	1.41	0.40	0.040
Recovery of waste	1.39	0.40	0.040
Miscellaneous licensed discharges to waters (at any time)	1.38	0.39	0.039
Cement or lime production	1.36	0.39	0.039
Shipping in bulk	1.36	0.39	0.039
Waste disposal (application to land)	1.27	0.36	0.036
Contaminated soil treatment	1.24	0.35	0.035
Concrete works	1.21	0.34	0.034
Ceramics production	1.20	0.34	0.034
Crushing, grinding or separating	1.16	0.33	0.033
Petroleum products and fuel production	1.16	0.33	0.033
Iron or steel production (iron ore)	1.10	0.31	0.031
Coal washery reject or slag landfilling	1.09	0.31	0.031
Railway systems activities	1.04	0.30	0.030
Rendering or fat extraction	1.04	0.30	0.030
Petroleum products storage	1.00	0.28	0.028
Road construction	1.00	0.28	0.028

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix D. Emissions from Wheel-Generated Dust

Activity	Activity Average Controlled Unpaved Road Emission Factor (kg/km) ^a		
	TSP	PM ₁₀	PM _{2.5}
Bitumen mixing	0.99	0.28	0.028
Explosives production	0.99	0.28	0.028
Recovery of waste oil	0.99	0.28	0.028
Boat construction/maintenance (general)	0.99	0.28	0.028
Slaughtering or processing of animals	0.96	0.27	0.027
Waste storage	0.94	0.27	0.027
Sewage treatment - small plants	0.91	0.26	0.026
Inert waste landfilling	0.90	0.26	0.026
Solid waste landfilling	0.90	0.26	0.026
Boat construction/maintenance (dry/float)	0.80	0.23	0.023
Bird accommodation	0.80	0.23	0.023
Sewage treatment - large plants	0.80	0.23	0.023
Cement or lime handling	0.80	0.23	0.023
Container reconditioning	0.78	0.22	0.022
Generation of electrical power from coal	0.70	0.20	0.020
Metal plating or coating	0.67	0.19	0.019
Chemical production	0.62	0.18	0.018
Non-thermal treatment of waste	0.58	0.16	0.016
Metal processing	0.34	0.10	0.010
Wood or timber milling or processing	0.014	0.0040	0.00040
General agricultural processing	0.010	0.0028	0.00028
Pharmaceutical and veterinary products production	0.010	0.0028	0.00028
Chemical storage	0.010	0.0028	0.00028
Paints/polishes/adhesives production	0.010	0.0028	0.00028

^a Includes rain correction factor, site specific correction factors (e.g. water trucks (level 1 and level 2 watering), surface improvements), and incorporates road surface silt content and incorporates site specific average vehicle weights travelling on unpaved roads)

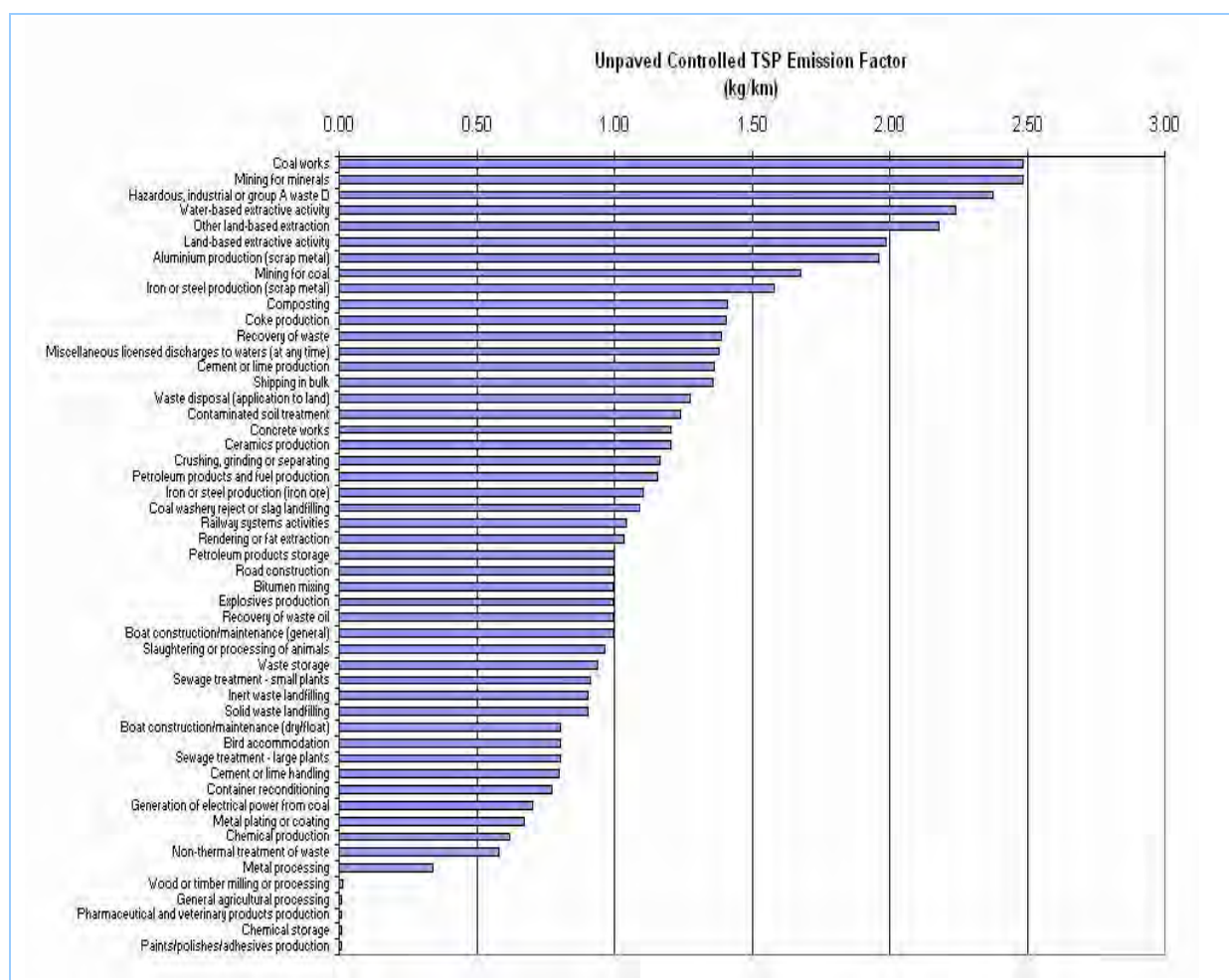


Figure D-3: Activity averaged controlled unpaved road emission factors

Derived industry averaged, controlled emission factors for paved road wheel generated dust are provided in Table D-4. The activity averaged controlled emission factors are presented to show the variance between emission factors depending on site specific factors. It is also noted that there is large variance between wheel generated dust emissions within an industry type. Site specific derived emission factors were used to estimate emissions in the industrial air emissions inventory (and not industry averaged factors).

Table D-4: Activity averaged controlled paved road emission factors

Activity	Activity Average Controlled Paved Road Emission Factor (kg/km) ^a		
	TSP	PM ₁₀	PM _{2.5}
Bitumen mixing	2.65 ^b	0.51 ^b	0.12 ^b
Other land-based extraction	0.50	0.096	0.023
Iron or steel production (iron ore)	0.50	0.096	0.023
Land-based extractive activity	0.33	0.064	0.016
Iron or steel production (scrap metal)	0.32	0.061	0.015
Waste disposal (application to land)	0.31	0.060	0.015
Coke production	0.30	0.057	0.014
Road construction	0.25	0.047	0.011
Aluminium production (alumina)	0.24	0.047	0.011

Air Emissions Inventory for the Greater Metropolitan Region of New South Wales
Appendix D. Emissions from Wheel-Generated Dust

Activity	Activity Average Controlled Paved Road Emission Factor (kg/km) ^a		
	TSP	PM ₁₀	PM _{2.5}
Concrete works	0.22	0.042	0.010
Slaughtering or processing of animals	0.20	0.038	0.0092
Composting	0.19	0.037	0.0090
Petroleum products and fuel production	0.19	0.037	0.0090
Recovery of waste	0.19	0.037	0.0089
Shipping in bulk	0.19	0.036	0.0087
Contaminated soil treatment	0.18	0.035	0.0085
Railway systems activities	0.16	0.031	0.0076
Mining for coal	0.16	0.031	0.0074
Cement or lime production	0.15	0.030	0.0072
Non-thermal treatment of waste	0.15	0.028	0.0068
Glass production (container)	0.14	0.026	0.0064
Boat construction/ maintenance (general)	0.13	0.025	0.0061
Sewage treatment - small plants	0.13	0.025	0.0060
Generation of electrical power from coal	0.13	0.024	0.0059
Ceramics production	0.11	0.022	0.0053
Coal works	0.11	0.021	0.0051
Non-ferrous metal production (scrap)	0.11	0.021	0.0051
Generation of electricity not coal or gas	0.11	0.021	0.0051
Recovery of waste oil	0.11	0.021	0.0051
Generation of electrical power from gas	0.11	0.021	0.0051
Pig accommodation	0.11	0.021	0.0051
Agricultural fertiliser (phosphate) production	0.11	0.021	0.0051
Petroleum products storage	0.11	0.021	0.0050
Crushing, grinding or separating	0.10	0.020	0.0048
Rendering or fat extraction	0.093	0.018	0.0043
Boat construction/ maintenance (dry/float)	0.089	0.017	0.0041
Sewage treatment - large plants	0.087	0.017	0.0040
General chemicals storage	0.086	0.017	0.0040
Miscellaneous licensed discharges to waters (at any time)	0.086	0.017	0.0040
Boat mooring and storage	0.082	0.016	0.0038
Cement or lime handling	0.080	0.015	0.0037
Scrap metal processing	0.079	0.015	0.0037
Waste storage	0.078	0.015	0.0036
General animal products production	0.069	0.013	0.0032
Bird accommodation	0.068	0.013	0.0032
Container reconditioning	0.065	0.012	0.0030
Dairy processing	0.056	0.011	0.0026
Explosives production	0.056	0.011	0.0026
Glass production (float)	0.055	0.011	0.0025
General agricultural processing	0.046	0.0088	0.0021
Metal processing	0.041	0.0078	0.0019
Petrochemical production	0.035	0.0068	0.0016
Plastics resins production	0.034	0.0066	0.0016
Metal plating or coating	0.033	0.0063	0.0015
Chemical production	0.028	0.0055	0.0013

Activity	Activity Average Controlled Paved Road Emission Factor (kg/km) ^a		
	TSP	PM ₁₀	PM _{2.5}
Pesticides and related products production	0.010	0.0020	0.00048
Paper or pulp production	0.010	0.0020	0.00047
Aluminium production (scrap metal)	0.0041	0.00079	0.00019
Wood or timber milling or processing	0.0025	0.00048	0.00012
Ammonium nitrate production	0.0016	0.00031	0.000076
Hazardous, industrial or group A waste G	0.0013	0.00025	0.000061
Printing, packaging and visual media production	0.0013	0.00025	0.000060
Soap and detergent production	0.0012	0.00024	0.000058
Paper production using recycle materials	0.0012	0.00022	0.000054
Recovery of waste tyres	0.0012	0.00022	0.000054
Battery production	0.0012	0.00022	0.000054
Rubber products/tyre production	0.0012	0.00022	0.000054
Sterilisation activities	0.0012	0.00022	0.000054
Chemical storage	0.0012	0.00022	0.000054
Brewing and distilling	0.0012	0.00022	0.000054
Pharmaceutical and veterinary products production	0.0012	0.00022	0.000054
Paints/polishes/adhesives production	0.0012	0.00022	0.000054

^a Includes rain correction factor, site specific correction factors (e.g. indoor operation (assumed 99% control), , and incorporates road surface silt loading and incorporates site specific average vehicle weights travelling on paved roads)

^b A relatively high emission factor for paved road wheel generated dust is derived for bitumen mixing due to a high default silt loading of 120 g/m² provided in Chapter 13.2.1 Paved Roads (USEPA, 2011c)

D.3.3 Summary Emission Estimates

The total estimated emissions of TSP, PM₁₀ and PM_{2.5} is shown in Table D-5 for unpaved and paved roads in the GMR.

Table D-5: Breakdown of emissions from wheel generated dust by road type

Emission Source	Estimated emission (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Unpaved road	98,298,412	27,991,132	2,799,113
Paved road	2,154,030	413,288	99,989
Total	100,452,442	28,404,420	2,899,102

The proportion of total wheel generated dust particulate matter emissions released from unpaved versus paved roads is provided in Figure D-4.

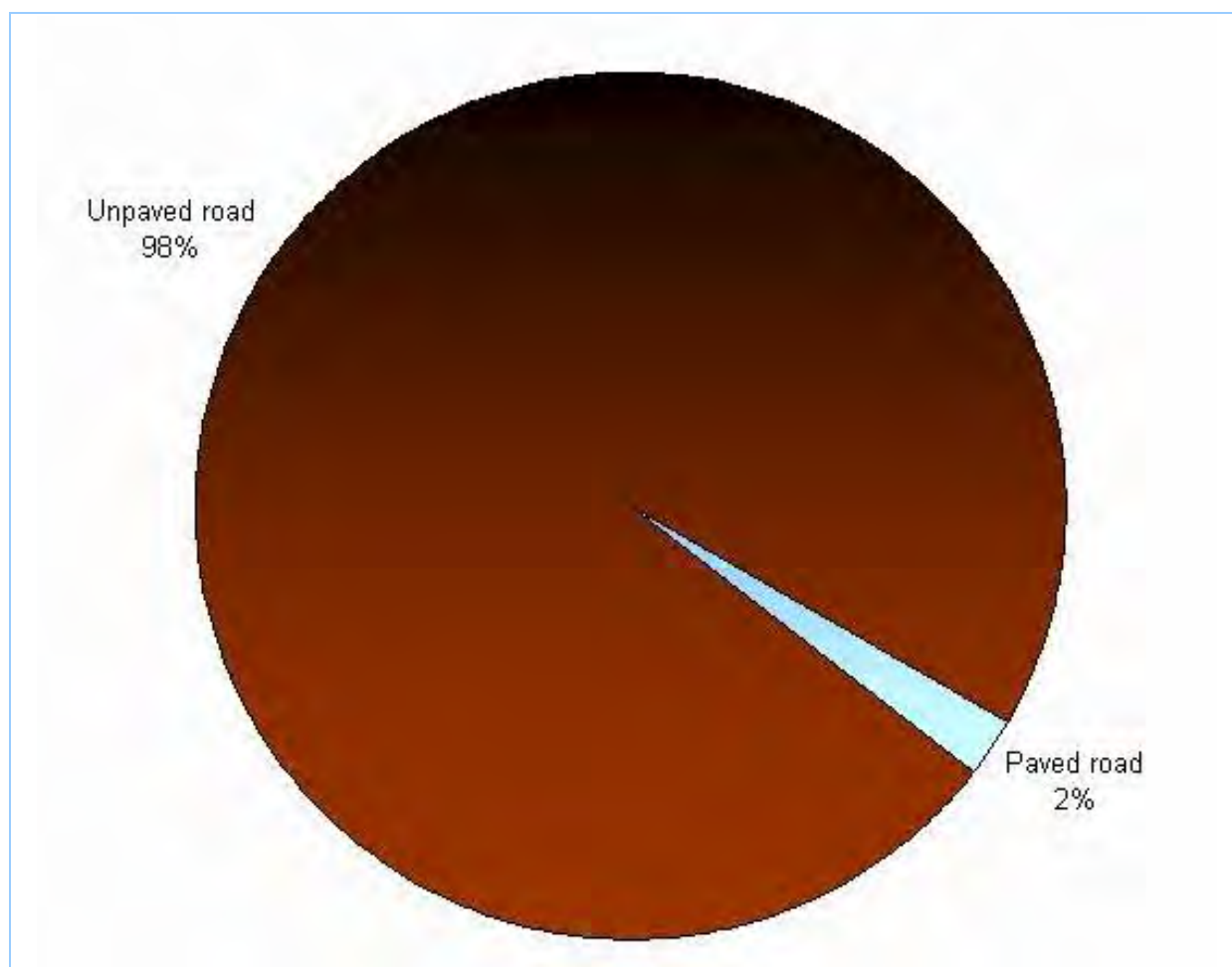


Figure D-4: Proportion of wheel generated particulate matter emissions released from each road type

Total estimated emissions of TSP, PM₁₀ and PM_{2.5} from unpaved roads by activity are provided in Table D-6.

Table D-6: Total estimated emissions from unpaved roads by activity

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Mining for coal	83,856,356	23,902,910	2,390,291
Land-based extractive activity	4,743,331	1,348,832	134,883
Other land-based extraction	4,162,925	1,183,786	118,379
Coal works	1,806,626	514,971	51,497
Waste disposal (application to land)	754,342	203,640	20,364
Crushing, grinding or separating	566,539	161,103	16,110
Mining for minerals	524,055	149,380	14,938
Iron or steel production (iron ore)	387,131	103,168	10,317
Railway systems activities	244,058	69,401	6,940
Ceramics production	231,602	65,859	6,586
Recovery of waste	148,293	42,169	4,217
Composting	129,367	34,924	3,492
Cement or lime production	90,181	25,644	2,564
Generation of electrical power from coal	87,411	24,857	2,486
Hazardous, industrial or group A waste D	74,154	21,087	2,109
Contaminated soil treatment	62,231	17,696	1,770
Sewage treatment - small plants	60,663	17,250	1,725
Road construction	59,869	17,106	1,711
Concrete works	55,556	15,874	1,587
Chemical production	45,762	13,013	1,301
Miscellaneous licensed discharges to waters (at any time)	27,522	7,826	783
Metal plating or coating	22,089	6,281	628
Coke production	21,608	6,159	616
Bird accommodation	17,065	4,853	485
Solid waste landfilling	16,952	4,576	458
Iron or steel production (scrap metal)	15,521	4,136	414
Metal processing	15,063	4,283	428
Waste storage	11,909	3,386	339
Aluminium production (scrap metal)	8,586	2,288	229
Water-based extractive activity	8,177	2,325	233
Cement or lime handling	7,755	2,205	221
Slaughtering or processing of animals	7,366	2,095	209
Boat construction/maintenance (dry/float)	6,812	1,937	194
Non-thermal treatment of waste	3,600	1,024	102
Bitumen mixing	3,501	996	100
Container reconditioning	3,380	961	96
Rendering or fat extraction	3,138	892	89
Shipping in bulk	2,592	737	74
Petroleum products and fuel production	1,732	492	49
Coal washery reject or slag landfilling	1,091	311	31
Inert waste landfilling	1,082	292	29
Sewage treatment - large plants	445	127	13
Explosives production	418	119	12

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Petroleum products storage	309	88	9
Boat construction/maintenance (general)	99	28	3
General agricultural processing	87	25	2
Wood or timber milling or processing	43	12	1
Recovery of waste oil	6	2	0.2
Pharmaceutical and veterinary products production	5	1	0.1
Chemical storage	4	1	0.1
Paints/polishes/adhesives production	3	1	0.1
Grand Total	98,298,412	27,991,132	2,799,113

The proportion of total estimated particulate matter emissions from unpaved roads by activity is presented in Figure D-5.

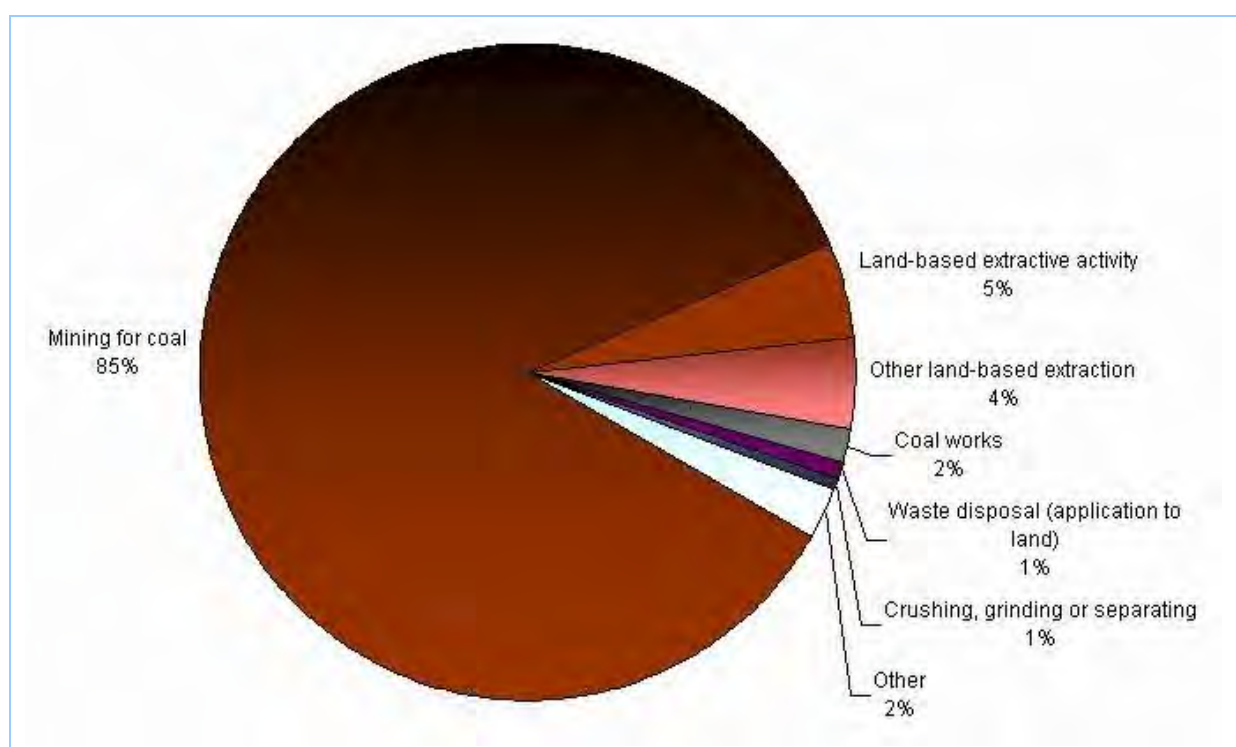


Figure D-5: Proportion of estimated emissions from unpaved roads by activity

Total estimated emissions of TSP, PM₁₀ and PM_{2.5} from paved roads by activity are provided in Table D-7.

Table D-7: Total estimated emissions from paved roads by activity

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Iron or steel production (iron ore)	416,917	80,028	19,361
Mining for coal	330,645	63,467	15,355
Aluminium production (alumina)	287,803	55,231	13,362
Dairy processing	180,113	34,572	8,364
Ceramics production	115,716	22,212	5,374
Concrete works	109,305	20,980	5,076

2008 Calendar Year Industrial Emissions: Results
Appendix D. Emissions from Wheel-Generated Dust

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Slaughtering or processing of animals	88,787	17,035	4,121
General chemicals storage	66,051	12,673	3,066
Non-thermal treatment of waste	58,425	11,214	2,713
Metal processing	47,643	9,134	2,210
Petroleum products and fuel production	41,437	7,954	1,924
Composting	34,552	6,632	1,605
Metal plating or coating	33,044	6,317	1,528
Waste storage	32,755	6,287	1,521
Railway systems activities	25,297	4,856	1,175
Coke production	22,482	4,315	1,044
Shipping in bulk	19,999	3,839	929
Petrochemical production	18,339	3,519	851
Sewage treatment - small plants	17,904	3,437	831
Land-based extractive activity	17,372	3,335	807
Boat construction/maintenance (dry/float)	16,881	3,240	784
General agricultural processing	16,485	3,159	764
Waste disposal (application to land)	15,705	3,015	729
Chemical production	15,124	2,879	696
Cement or lime handling	14,556	2,785	674
Generation of electrical power from coal	12,982	2,492	603
Iron or steel production (scrap metal)	12,678	2,420	585
Petroleum products storage	12,139	2,330	564
Bitumen mixing	9,786	1,878	454
Sewage treatment - large plants	8,080	1,551	375
Crushing, grinding or separating	5,884	1,126	273
Cement or lime production	5,719	1,098	266
Glass production (float)	5,481	1,051	254
Glass production (container)	5,132	985	238
Rendering or fat extraction	4,507	865	209
Agricultural fertiliser (phosphate) production	2,630	505	122
Paper or pulp production	2,447	459	111
Non-ferrous metal production (scrap)	2,063	396	96
Scrap metal processing	2,020	388	94
Plastics resins production	2,006	379	92
Recovery of waste	1,510	290	70
Road construction	1,452	279	67
Coal works	1,440	276	67
Aluminium production (scrap metal)	1,393	264	64
Recovery of waste oil	1,368	263	64
Miscellaneous licensed discharges to waters (at any time)	1,363	262	63
General animal products production	1,204	228	55
Contaminated soil treatment	1,047	201	49
Boat mooring and storage	785	151	36
Pharmaceutical and veterinary products production	714	130	31
Brewing and distilling	709	129	31
Container reconditioning	565	108	26
Boat construction/maintenance (general)	532	102	25
Pesticides and related products production	490	94	23

Activity	Estimated emissions (kg/year)		
	TSP	PM ₁₀	PM _{2.5}
Explosives production	416	80	19
Printing, packaging and visual media production	416	76	18
Other land-based extraction	414	79	19
Paints/polishes/adhesives production	384	70	17
Soap and detergent production	373	68	17
Generation of electricity not coal or gas	161	31	7
Ammonium nitrate production	119	22	5
Pig accommodation	88	17	4
Bird accommodation	54	10	3
Wood or timber milling or processing	33	6	1
Rubber products/tyre production	30	6	1
Chemical storage	26	5	1
Paper production using recycle materials	15	3	1
Recovery of waste tyres	13	2	1
Battery production	10	2	0.4
Hazardous, industrial or group A waste G	8	2	0.4
Sterilisation activities	3	0.5	0.1
Generation of electrical power from gas	1	0.1	0.03
Grand Total	2,154,030	413,288	99,989

The proportion of total estimated particulate matter emissions from unpaved roads by activity is presented in Figure D-6.

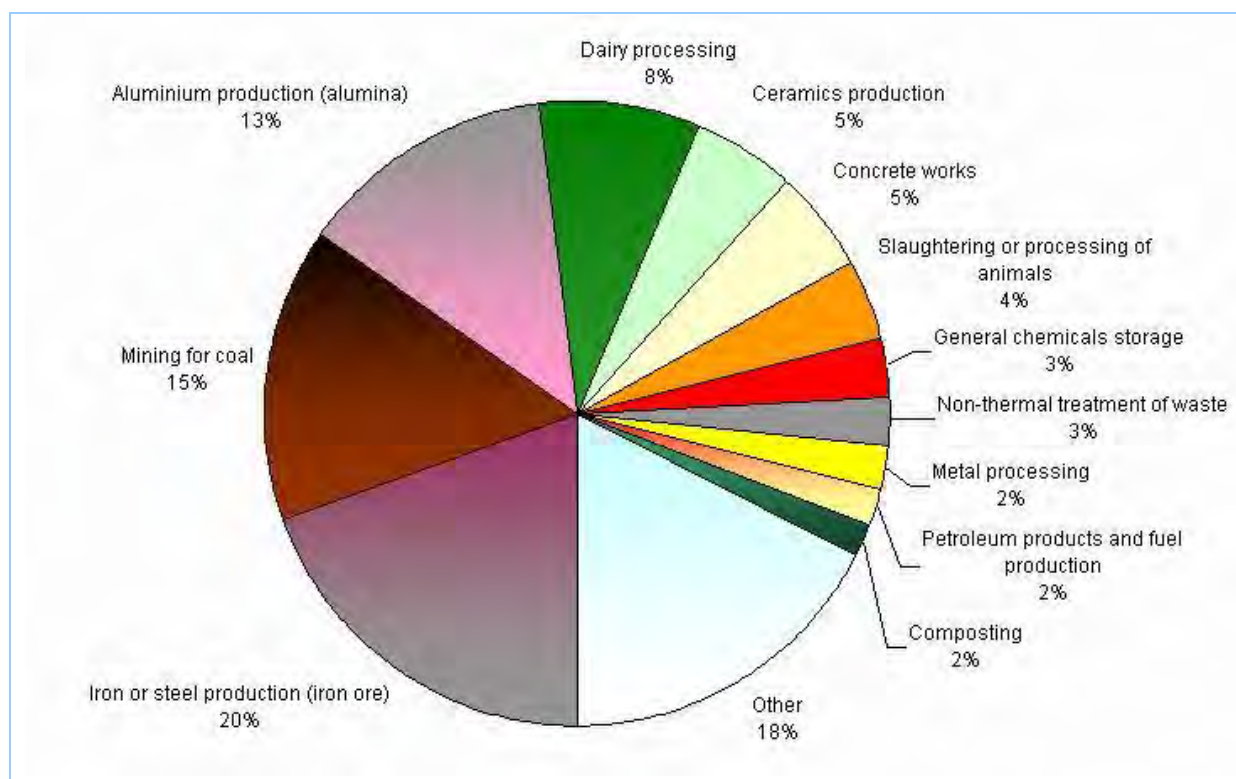


Figure D-6: Proportion of estimated emissions from paved roads by activity