

AS4454:2012 COMPOSTS, SOIL CONDITIONERS AND MULCHES REPORT

1 sample supplied by Goulburn Mulwaree Council on the 18 February 2022. Lab Job No. M6311.

Analysis requested by Sarah Chinnery. **Your Job: PO 086776 - 201221.**

184 Bourke Street GOULBURN NSW 2580

		Product Name: Product Type: Manufacturing Site: Manufactured Date: Test Code: Standard Applicable:	Sample 1 160222 Compost Goulburn Mulwaree Council 16/02/2022 CA-PACK-011 AS4454:2012	Guideline AS4454:2012 Mature Compost
Parameter	Method Reference	M6311/1		
Wet Bulk Density (kg/L)	AS4454:2012 Appendix J	0.74	..	
Dry Bulk Density (kg/L)	AS4454:2012 Appendix J	0.45	..	
Moisture Content (%)	AS4454:2012 Appendix I	39	> 25	
pH		9.10	> 5	
Electrical Conductivity (dS/m)	AS4454:2012 Appendix B	4.99	< 10	
Total Organic Carbon (%)		18.5	≥ 20	
Total Carbon (%)	AS4454:2012 Appendix C	19.6	..	
Total Nitrogen (%)		1.62	≥ 0.8 <i>see note 7</i>	
Carbon/Nitrogen Ratio	Calculation - Total Organic Carbon/Total Nitrogen	11.4	..	
Estimated Organic Matter (% OM)	Calculation - Total Organic Carbon x 1.7	31.5	..	
Ammonium Nitrogen (mg/L N)		229	< 100	
Ammonium Nitrogen (mg/kg N)		1,145	..	
Nitrate Nitrogen (mg/L N)	AS4454:2012 Appendix B Dissolved Nutrients	4.4	..	
Nitrate Nitrogen (mg/kg N)		22.1	≥ 10 <i>see note 7</i>	
Phosphate Phosphorus (mg/L P)		30.7	≤ 5 <i>see note 7</i>	
Phosphate Phosphorus (mg/kg P)		154	..	
Ammonium/Nitrate Ratio	Calculation - Ammonium/Nitrate	51.8	< 0.5	
Nitrogen Drawdown Index (NDI ₁₅₀)	AS4454:2012 Appendix O	>1.0	> 0.5	
Total Calcium (%)		1.98	..	
Total Magnesium (%)		0.36	..	
Total Potassium (%)	AS4454:2012 Appendix D Total Salts	1.20	..	
Total Sodium (%)		0.21	<1 Na	
Total Sulphur (%)		0.20	..	
Total Phosphorus (%)	AS4454:2012 Appendix D	0.41	≤ 0.1 P <i>see note 10</i>	
Total Zinc (mg/kg)		240	< 300 Zn	
Total Manganese (mg/kg)		487	..	
Total Iron (mg/kg)		12,480	..	
Total Copper (mg/kg)	AS4454:2012 Appendix D Total Metals	41.2	< 150 Cu	
Total Boron (mg/kg)		20.0	< 100 B	
Total Silicon (mg/kg)		1,048	..	
Total Aluminium (mg/kg)		5,967	..	
Total Molybdenum (mg/kg)		2.41	..	
Total Cobalt (mg/kg)	AS4454:2012 Appendix D Total Metals	4.76	..	
Total Selenium (mg/kg)		1.11	< 5 Se	
Total Cadmium (mg/kg)		<0.5	< 1 Cd	
Total Lead (mg/kg)		67.2	< 150 Pb	
Total Arsenic (mg/kg)		7.20	< 20 As	
Total Chromium (mg/kg)	AS4454:2012 Appendix D Total Heavy Metals	23.4	< 100 Cr	
Total Nickel (mg/kg)		8.23	< 60 Ni	
Total Mercury (mg/kg)		<0.1	< 1 Hg	
Total Silver (mg/kg)		<1	..	

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Polychlorinated Biphenyls (mg/kg)		<LOR (0.2)	< 0.2
Organochlorine Pesticides - DDT, DDD, DDE (mg/kg)	Sub** - SGS Laboratories SE229782 Pesticides and PCBs	<LOR (0.010)	< 0.5
Organochlorine Pesticides - Other (mg/kg) ^{see note 9}		<LOR (0.010)	< 0.02
Salmonella spp (Absent in 25 g)		ND	Absent in 25 g
E. coli (MPN/g DW)	Sub** - Symbio Laboratories B1126857 Indicator Pathogens	<LOR (3.0)	< 100 MPN/g
Faecal Coliforms (MPN/g DW)		<LOR (3.0)	< 1000 MPN/g
Particle Size Grading > 16 mm Sieve (%)		Nil	.. see note 5
Particle Size Grading 5-16 mm Sieve (%)	AS4454:2012 Appendix G Particle Size Grading	5.6	.. see note 5
Particle Size Grading < 5 mm Sieve (%)		94.4	.. see note 5
Plastics Light Flexible or film > 5 mm (%)		<0.01	≤ 0.05
Stones and Lumps of Clay > 5 mm (%)	AS4454:2012 Appendix I Visible Contaminants	1.37	≤ 5
Glass, metal and rigid plastics > 2 mm (%)		0.03	≤ 0.5
Wettability (min)	AS4454:2012 Appendix E	0m 39s	<5
Total CaCO ₃ Equivalent (%)	AS4454:2012 Appendix H	5.62	..
Plant Growth Test - Germination (%)	TMECC 05.05-B	22	> 90
Plant Growth Test - Root Elongation (%)		26	> 90
Oxygen Consumption Rate (mgO ₂ /g/min)	SOUR Testing	0.19	..
Specific Oxygen Uptake Rate (mgO ₂ /gVVS/hr)		0.06	≤ 1
Solvita Compost Maturity Index	Solvita NH3	2	..
	Solvita CO2	7	..
	Solvita Maturity Index	5	7 - 8
Viable Plant Propagules (7 days)	AS4454:2012 Appendix M	Nil	..
Viable Plant Propagules (21 days)	AS4454:2012 Appendix M	NR	Nil after 21 days
Asbestos Containing Material (ACM)	Sub** - SGS Laboratories SE229276	No Asbestos Found at RL of 0.1g/kg. Organic Fibres Detected.	Absent

* < LOR Less than limit of reporting. ND Not detected. MA Not applicable. NR Not required.

Notes:

- Methods from AS4454:2012 Composts, soil conditioners and mulches.
- Indicative guidelines are based on those in AS4454:2012 for raw mulches, pasteurized product, composted product, mature composts.
- Total Acid Extractable Nutrients indicate a store of nutrients.
- Conversions for 1 mg/kg = 1 ppm; 1 % = 10,000 ppm; kg/ha = mg/kg x 2.24.
- Coarse Mulch > 70% >16mm, Fine Mulch <20% >16mm and <20% <5mm, Soil Conditioner <20% >16mm.
- The chloride calculation of Cl mg/L = EC x 640 is considered an estimate, and most likely an over-estimate.
- Guide only to be used if a product claims to contribute to plant nutrition.
- The full test observes the potential growth of viable plant propagules in a 21 day test period. In order to pass there should be Nil after 21 days
- Other Organochlorines include: Aldrin, Dieldrin, Chlordane, Heptachlor, HCB, Lindane, BHC Other Organophosphorus include: Guthion, Bromophos-ethyl, Chlorpyrifos, Chlorpyrifos-methy, Diazinon, Dichlorvos, Dimethoate, Ethion, Fenitrothion, Malathion, Parathion, Ronnel.
- Guide only to be used if a product claims to be used for phosphorus sensitive plants.
- Testing completed in a NATA accredited laboratory.
- Analysis conducted between sample arrival date and reporting date.
- This report is not to be reproduced except in full. Results only relate to the item tested.
- All services undertaken by EAL are covered by the EAL Laboratory Services Terms and Conditions (refer SCU.edu.au/eal/t&cs or on request).
- This report was issued on 22/03/2022.

Quality Checked: Brian Smith
 Compost & Landscape Soils Co-ordinator