

Burbidge & Son Ltd, Awson Street, Coventry

Permit No: PPC/045

Woodcoating

Solvent Management Plan

2016 usage

1. Objective

To establish a Solvent Management Plan following the Secretary of State's Guidance for Wood Coating PG6/33 (11 rev. 14). This document particularly refers to the requirements of paragraph 4.12.

2. Definitions and Interpretations

The Guidance Note refers to specific Inputs and Outputs of organic solvent. The interpretation of the definitions in relation to Burbidge & Son Ltd is as follows;

Definition Ref	Interpretation
I ₁	The input quantity of VOC will be the sum of all coatings and thinners used in the application process and solvent used for cleaning purposes
I ₂	Organic solvents recovered and reused as solvent input into the process.
O ₁	The emission of VOC from the exhaust stacks in the spray booths, drying ovens and paint kitchens. This is calculated as the difference between the input VOC and the other output VOC.
O ₂	Burbidge & Son Ltd do not use a process where solvents are washed in water and therefore this output requirement is not applicable
O ₃	The potential retention of solvent in the coating is a significant problem to the industry. This can lead to coating instability that normally becomes visible as cracks in the lacquer film and also leads to the panels sticking when stacked together and to the imprinting of packaging onto the surface. As these issues are not apparent at Burbidge & Son Ltd then we believe that no solvent is retained in the final product and therefore this output requirement is not applicable.
O ₄	All mixing of the coating components, transfer of coatings and cleaning of application equipment is carried out in extracted areas. This output requirement is therefore not applicable.
O ₅	None of the coatings used at Burbidge & Son Ltd generate emissions from chemical or physical reactions and therefore this output is not applicable.
O ₆	Organic solvents contained in collected waste arise from the residue of coating materials left in the drums. The drums are partially vented then sealed prior to collection. There are no processes at Burbidge & Son that involve the wiping of excess solvent. There is a very low usage of rags for housekeeping purposes. A proportion of this includes contact with a small quantity of solvent but this is carried out in a spraybooth environment and it is believed that the solvent vapour is removed by the airflow into the spraybooth.

O ₇	All materials mixed are used on site and not sold on as a commercially valuable product and therefore this output requirement is not applicable.
O ₈	Materials are sent for recovery and resale but are not reused in the process.
O ₉	To the best of our knowledge all solvent releases are accounted for in the above definitions and therefore this output is not applicable.

3. Methodology

Inputs

3.1 Input I₁

The input data for materials used in the process is calculated from information supplied by the materials manufacturers.

3.2 Input I₂

Organic solvents recovered and reused as solvent input into the process, I₂, are calculated from the capacity of the recycle still and the number of times this is used.

Outputs

The known outputs cannot realistically be calculated with this level of accuracy and traceability. In order to estimate the relevant outputs the following methodologies have been used.

3.3 Output O₆ - Organic solvents contained in collected waste arise from the residue of coating materials left in the drums.

This output is calculated from an estimated 5mm thick residual layer in a coatings container after emptying into a mixing drum or being pumped to the spray gun.

The coating VOC content used to determine O₆ is a weighted figure calculated from the total VOC weight of all materials in kg divided by the total usage of all materials in litres. (It is not an average VOC content of the materials used)

For example assuming a two material usage as follows

100 litres of material with a VOC content of 500 grams/litre

10 litres of material with a VOC content of 800 grams/litre

The simple average VOC content is

$$(500 + 800)/2 = 650$$

The weighted average taking into account relative volumes is

$$((100 \times 500) + (10 \times 800))/110 = 527$$

This weighted average is the VOC content of the mix.

For the residual waste calculation the average VOC content is determined from the data given in the annual VOC return and is calculated by dividing the total VOC by the total volume of material.

The volume of material in a drum varies with the type of material. For a typical full drum the depth of material would be 500mm. The residue therefore is equivalent to 1% of the drum height and therefore volume of coating in the drum. The calculated average coating VOC content can be used to determine the VOC content of the residue then extrapolated to give a total for O₆. The average coating VOC content of the residue is 65.61%. Therefore the residual VOC equates to 65.61% of the 1% of residue i.e. 0.6561%. The output O₆ is therefore 0.6561% of the materials given in I₁.

3.4 Output O₈ - Materials are sent for recovery and resale but are not reused in the process.

The data for solvent materials sent for recovery is calculated from information supplied by the recycling contractor.

4. Determination of Annual Solvent Consumption

The VOC content and solids content are available from data supplied by the coating manufacturer. The VOC or solids content of the total coating used can be determined by multiplying the volume by VOC or solids content as appropriate.

The annual actual consumption of organic solvents (C) is

$$C = I_1 - O_8$$

5. Determination of Target Emission

The Target Emission for a wood coating installation in the 15 tonne or more solvent consumption band is

$$\text{Total Mass of Solids} \times 1.0 \text{ (see Table 6 PG6/33(11))}$$

Compliance with the Reduction Scheme is achieved if the annual actual solvent emission determined by the Solvent Management Plan is less than or equal to the Target Emission.

6. Determination of Annual Actual Solvent Emission

The annual actual solvent emission (para 4.7 PG6/33(11)) is

$$I_1 - O_8 - O_7 - O_6$$

7. Solvent Management Plan

Using the definitions in paragraph 4.12 the input of VOC is

$$I_1$$

The outputs are

$$O_1 + O_6 + O_8 \text{ (other outputs equal zero)}$$

where

I_1 = the quantity of organic solvents used in preparations and as thinners is taken from the annual VOC return

O_1 = the quantity of organic solvent in exhaust stacks from the spray booths, drying ovens and paint kitchens and is the difference between the input VOC and the other outputs

O_6 = organic solvents contained in collected empty drums and is calculated in section 3.3

O_8 = organic solvents sent for recovery and re-sale but not re-used on site

For Burbidge & Son Ltd during 2016

$$I_1 = 51.624 \text{ tonnes}$$

$$O_1 = 33.131 \text{ tonnes}$$

$$O_6 = 0.339 \text{ tonnes}$$

$$O_8 = 18.154 \text{ tonnes}$$

The annual actual consumption (C) of organic solvents in 2016 is

$$C = 51.624 - 18.154 = 33.470 \text{ tonnes}$$

The annual actual solvent emission for Burbidge & Son Ltd in 2016 equals

$$O_1 = 51.624 - 18.154 - 0 - 0.339 = 33.131 \text{ tonnes}$$

The total mass of solids is shown in the annual VOC return for Burbidge & Son Ltd. and is

$$25.285 \text{ tonnes}$$

The target emission is therefore

$$25.285 \times 1.0 = 25.285 \text{ tonnes}$$

The annual actual solvent emission is therefore greater than the target emission.

Data

Renner Ltd: Burbidge solvent use 2016			
CODE	DESCRIPTION	TOTAL VOC KG	TOTAL SOLIDS
AY---M460/-----51	WB CLEANER	68.3	0.0
CDA 478/-----51	MUSSEL WB TOPCOAT	3.0	20.2
CDA 479/-----51	PORCELAIN WB TOPCOAT	2.9	20.2
CDA 497/-----51	PORCELAIN WB PU / YU-20M754	6.9	99.7
CDA 498/-----51	MUSSELL WB PU / YU-20M754	8.3	119.5
CDA 715/-----26	SOFT GREY WATERBASED TOPC	0.5	8.1
CDA 715/-----51	SOFT GREY WATERBASED TOPC	1.2	20.3
CDA 733/-----51	SOFT GREY WB TOPCOAT	67.6	924.5
CDA 751/-----51	ALABASTER WB UV TOPCOAT	42.8	601.6
CDA 752/-----51	PUTTY WB UV	55.6	783.8
CDA 763/-----51	PUTTY AIR DRY WATERBASED T	1.5	20.1
CDA 764/-----51	ALABASTER AIR DRY TOPCOAT	1.5	20.1
CDS 800/-----33	FB ELEPHANTS BREATH 10% SHE	18.2	20.6
CDS 822/-----33	CHARCOAL PU	2.3	2.6
CDS 824/-----33	SEAL GREY PU TOPCOAT	6.8	7.7
CDS 825/-----33	OLD NAVY PU TOPCOAT	6.8	7.7
CDS 826/-----33	GRAVEL PU TOPCOAT	4.4	10.4
DF---M002/-----31	THINNERS FOR PU MEDIUM FAS	204.8	0.0
DF---M002/-----46	THINNERS FOR PU MEDIUM FAS	83.6	0.0
DF---M008/-----46	SOLVENT FOR PU	2257.2	0.0
FC---M040/-----41	PU HARDENER NON YELLOWING	17.7	6.2
FC---M040/-----80	PU HARDENER NON YELLOWING	12.4	4.3
FC---M194/-----31	PU HARDENER	111.5	36.0
FC---M199/-----31	HARDENER	923.6	361.4
FC---M199/-----41	PU HARDENER	120.8	47.3
FI---M194/-----31	SEALER FOR MELANIME PAPERS	225.3	56.1
FI---M292/--C02--54	WHITE SEALER BARRIER	2929.1	2307.5
YC---M402/-----104	HARDENER FOR WB PU	67.0	237.0
YC---M407/-----02	CROSSLINKER FOR WB	0.5	4.5
Grand Total		7252.1	5747.6

Sherwin
Williams

Burbidge & Son Ltd

BUR003

Report Date(s) January 2016 to December 2016

Item	Description	Contents	Invoiced	Total Weight or Volume	Density Kg/L	VOC g/L	Solids Wt %	Solids g/L	VOC kg	Solids kg
AF0618/00-25	AF0618/00 WB SELF SEALER 25KG	25.00 KG	1	25.00 KG	1.04	39.17	29.10	302.35	0.94	7.28
AH1550/00-2,5	AH1550/00 HARDENER FOR EB 2.5L	2.50 KG	1	2.50 KG	1.06	387.00	80.00	848.00	0.91	2.00
AH1564/00-2,5	AH1564 CLEAR 2.5KG	2.50 KG	1	2.50 KG	1.00	200.00	80.00	800.00	0.50	2.00
DM1132-0025-C	DM1132-0025 AC TOPCOAT 25% 20L	20.00 L	15	300.00 L	0.98	490.00	50.00	490.00	147.00	147.00
DM394-0010-C	DM394-0010 MATT AC TOPCOAT 10% 20L	20.00 L	10	200.00 L	0.98	490.00	50.00	490.00	98.00	98.00
DM394-0010-C	DM394-0010 MATT AC TOPCOAT 10% 20L	20.00 L	179	3,580.00 L	0.98	490.00	50.00	490.00	1,754.20	1,754.20
DT1150/00-25	DT1150 CLEAR 25L	25.00 L	13	325.00 L	0.85	848.00	0.00	0.00	275.60	0.00
DT1150/00-25	DT1150 CLEAR 25L	25.00 L	129	3,225.00 L	0.85	848.00	0.00	0.00	2,734.80	0.00
DT1150/00-5	DT1150 CLEAR 5L	5.00 L	1	5.00 L	0.85	848.00	0.00	0.00	4.24	0.00
DT2004-P	DT2004 CLEAR 20L	20.00 L	59	1,180.00 L	0.86	861.15	0.00	0.00	1,016.16	0.00
DV309-A	DV309 CLEAR 25L	25.00 L	34	850.00 L	0.91	675.00	25.00	226.25	573.75	192.31
IMS005	IMS CLEAR 5L	5.00 L	4	20.00 L	0.82	817.00	0.00	0.00	16.34	0.00
ZZL0987025	L0987 OLD WHITE/SAGE TZ9910 25KG	25.00 KG	2	50.00 KG	1.37	460.62	66.25	904.47	16.87	33.13
ZZL0987005	L0987 OLD WHITE/SAGE TZ9910 5KG	5.00 KG	95	475.00 KG	1.37	460.62	66.25	904.47	160.27	314.70
ZZL0988025	L0988 CREAM TZ9910 25KG	25.00 KG	21	525.00 KG	1.35	460.42	65.95	891.69	178.79	346.25
ZZL0988005	L0988 CREAM TZ9910 5KG	5.00 KG	12	60.00 KG	1.35	460.42	65.95	891.69	20.43	39.57
ZZL0988005	L0988 CREAM TZ9910 5KG	5.00 KG	190	950.00 KG	1.35	460.42	65.95	891.69	323.52	626.56
ZZL1437005	L1437A Cornflower TZ9910 5L	5.00 L	110	550.00 L	1.35	458.68	66.05	892.15	252.27	490.68
ZZL1978005	L1978005	5.00 L	3	15.00 L	1.11	525.15	52.46	579.68	7.88	8.70
ZZL2569500	L2569 OLD WHITE TOUCH UPS 500ML	0.50 L	20	10.00 L	1.19	578.05	51.43	612.28	5.78	6.12
ZZL2607500	L2607 SZ9910 CORNFLOWER 500ML	0.50 L	30	15.00 L	1.20	577.62	51.95	624.44	8.66	9.37
ZZL2609500	L2609 TOUCH UP POTS 500ML	0.50 L	40	20.00 L	1.20	577.62	51.95	624.57	11.55	12.49
ZZL2609005	L2609A IVORY PC 500ML	0.50 L	10	5.00 L	1.20	577.62	51.95	624.57	2.89	3.12
ZZL2766005	L2766 OYSTER MATT PU TOPCOAT 5KG	5.00 KG	15	75.00 KG	1.37	460.62	66.25	904.45	25.31	49.69
ZZL2766005	L2766 OYSTER MATT PU TOPCOAT 5KG	5.00 KG	200	1,000.00 KG	1.37	460.62	66.25	904.45	337.40	662.50
ZZL2766025	L2766025	25.00 KG	3	75.00 KG	1.37	460.62	66.25	904.45	25.31	49.69
ZZL2931005	L2931 GRAVEL TZ9910 5KG	5.00 KG	85	425.00 KG	1.37	460.62	66.26	904.62	143.38	281.60
ZZL2975500	L2975 OYSTER TOUCH UP 500ML	0.50 L	67	33.50 L	1.20	577.62	51.95	624.69	19.35	20.93
ZZL3081005	L3081 HESSIAN TZ9910 5KG	5.00 KG	65	325.00 KG	1.37	460.62	66.25	904.31	109.67	215.31
ZZL3319500	L3319500	0.50 L	30	15.00 L	1.20	577.62	51.94	624.32	8.66	9.36

ZZL3368005	L3368 SLATE TZ9910 5L	5.00	L	70	350.00	L	1.11	525.15	52.47	580.10	183.80	203.03
ZZL3369025	L3369 CHALK PU TZ9910 25KG	25.00	KG	8	200.00	KG	1.37	460.62	66.25	904.82	67.46	132.51
ZZL3369005	L3369 CHALK PU TZ9910 5KG	5.00	KG	220	1,100.00	KG	1.37	460.62	66.25	904.82	371.01	728.78
ZZL3370025	L3370 BONE MATT PU TZ9910 25KG	25.00	KG	2	50.00	KG	1.37	460.62	66.26	904.39	16.87	33.13
ZZL3370005	L3370 BONE PU TZ9910 5KG	5.00	KG	145	725.00	KG	1.37	460.62	66.26	904.39	244.65	480.36
ZZL3371025	L3371 PUTTY PU TZ9910 25KG	25.00	KG	4	100.00	KG	1.37	460.62	66.25	904.49	33.74	66.25
ZZL3371005	L3371 PUTTY TZ9910 5KG	5.00	KG	155	775.00	KG	1.37	460.62	66.25	904.49	261.49	513.46
ZZL3618500	L3618500	0.50	L	40	20.00	L	1.20	577.62	51.94	624.32	11.55	12.49
ZZL3619500	L3619 CHALK NC TOUCH UP 500ML	0.50	L	40	20.00	L	1.20	577.62	51.95	624.83	11.55	12.50
ZZL3620500	L3620500	0.50	L	30	15.00	L	0.97	719.99	25.02	241.94	10.80	3.63
ZZL3623500	L3623500	0.50	L	90	45.00	L	1.19	580.57	51.04	605.33	26.13	27.24
ZZL4911025	L4911 JUTE PU TOPCOAT TZ9910 25KG	25.00	KG	2	50.00	KG	1.35	456.90	66.23	895.91	16.89	33.12
ZZL4911005	L4911 JUTE PU TOPCOAT TZ9910 5KG	5.00	KG	75	375.00	KG	1.37	460.62	66.25	904.83	126.48	248.45
ZZL4944005	L4944 SOFT GREY PU TZ9910 5KG	5.00	KG	245	1,225.00	KG	1.37	460.62	66.25	904.76	413.20	811.61
ZZL4944025	L4944025	25.00	KG	16	400.00	KG	1.37	460.62	66.25	904.71	134.92	265.00
ZZL5039005	L5039 CHARCOAL TZ9910 5L	5.00	L	125	625.00	L	1.11	525.15	52.47	580.18	328.22	362.61
ZZL5231500	L5231500	0.50	L	20	10.00	L	1.20	577.62	51.94	624.32	5.78	6.24
ZZL5232500	L5232 SOFT GREY NC TOUCH UP 500ML	0.50	L	140	70.00	L	1.20	577.62	51.94	624.38	40.43	43.71
ZZL5233500	L5233500	0.50	L	60	30.00	L	0.96	719.99	25.02	240.19	21.60	7.21
ZZL5290005	L5290 MATT PU DOWN PIPE 5L	5.00	L	80	400.00	L	1.11	525.15	52.47	580.08	210.06	232.03
ZZL5383005	L5383 MWU708 LT GREY TZ9910 5KG	5.00	KG	2	10.00	KG	1.37	460.62	66.25	904.83	3.37	6.63
ZZL5493005	L5493 KASHMIR PU TZ9910 5KG	5.00	KG	110	550.00	KG	1.36	457.14	66.48	906.36	184.41	365.63
ZZL5620005	L5620 MOLES BREATH TZ9910 5L	5.00	L	95	475.00	L	1.11	525.15	52.46	579.68	249.45	275.35
ZZL5713005	L5713005	5.00	KG	15	75.00	KG	1.37	460.62	66.25	904.31	25.31	49.69
ZZL5716005	L5716 CEMENT MATT PU TOPCOAT 5KG	5.00	KG	30	150.00	KG	1.37	460.62	66.26	904.74	50.60	99.39
ZZL5756005	L5756005	5.00	KG	85	425.00	KG	1.37	460.62	66.25	904.46	143.40	281.57
ZZL5757005	L5757 ALABASTER TZ9910 5KG	5.00	KG	110	550.00	KG	1.37	460.62	66.26	904.57	185.57	364.42
ZZL5758005	L5758 GOOSEBERRY PU TOPCOAT 5KG	5.00	KG	120	600.00	KG	1.37	460.62	66.26	904.73	202.40	397.54
ZZL5761005	L5761 LEAD PU TZ9910 5KG	5.00	KG	130	650.00	KG	1.37	460.62	66.25	904.55	219.29	430.64
ZZL5762005	L5762 CELADON TZ9910 5KG	5.00	KG	35	175.00	KG	1.37	460.62	66.25	904.31	59.05	115.94
ZZL5845500	L5845 CASHMERE TOUCH UP SZ9910	0.50	KG	20	10.00	KG	1.20	577.62	51.94	624.32	4.81	5.19
ZZL5847500	L5847 GREY TEAL TOUCH UP SZ9910	0.50	L	10	5.00	L	1.20	577.62	51.95	624.73	2.89	3.12
ZZL5848500	L5848 FROST SZ9910 500ML	0.50	L	10	5.00	L	1.18	581.83	50.86	602.31	2.91	3.01
ZZL5849500	L5849 MUSSEL TOUCH UP 500ML	0.50	L	20	10.00	L	1.20	577.62	51.94	624.32	5.78	6.24
ZZL5850500	L5850 500ML ALABASTER	0.50	L	40	20.00	L	1.20	577.62	51.94	624.32	11.55	12.49
ZZL5851500	L5851 500ML	0.50	L	50	25.00	L	1.20	577.62	51.94	624.32	14.44	15.61
ZZL5853500	L5853 TOUCH UP PAINT LEAD	0.50	L	30	15.00	L	1.20	577.62	51.95	624.53	8.66	9.37
ZZL6161005	L6161 PORCELAIN TZ9910 5KG	5.00	KG	4	20.00	KG	1.37	460.62	66.25	904.31	6.75	13.25

ZZL6166005	L6166 BRINJAL PAINT 5KG	5.00	KG	1	5.00	KG	1.11	525.15	52.46	579.68	2.38	2.62
ZZL6283010	L6283 SOFT GREY AT9915 10L	10.00	L	0.5	5.00	L	1.24	0.00	0.00	0.00	0.00	0.00
ZZL6329005	L6329 JUNIPER ASH TZ9910 5KG	5.00	KG	1	5.00	KG	1.19	547.10	54.14	645.89	2.29	2.71
ZZL6495005	L6495 BLUE GRAY TZ9910 5KG	5.00	KG	70	350.00	KG	1.37	453.97	66.91	917.63	115.85	234.17
ZZL6537005	L6537 PEWTER TZ9910 5L	5.00	L	31	155.00	L	1.02	476.00	53.13	539.27	73.78	83.59
ZZL6538005	L6538 OLD NAVY TZ9910 5KG	5.00	KG	70	350.00	KG	1.14	499.84	55.99	635.77	154.05	195.95
ZZL6598005	L6598 MALMO WHITE TZ9910 5KG	5.00	KG	155	775.00	KG	1.35	460.77	65.90	890.33	264.32	510.74
ZZL6789500	L6789 SEAL GREY TOUCH UP SZ9910	0.50	L	60	30.00	L	0.96	719.99	25.03	240.95	21.60	7.23
ZZL6790500	L6790 GRAVEL SZ9910 TOUCH UP	0.50	L	30	15.00	L	1.20	577.62	51.95	624.40	8.66	9.37
ZZL6791500	L6791 MINK TOUCH UP SZ9910	0.50	L	40	20.00	L	0.97	719.99	25.02	242.29	14.40	4.85
ZZL6792500	L6792 OLD NAVY TOUCH UP SZ9910	0.50	L	30	15.00	L	0.97	719.99	25.03	241.93	10.80	3.63
ZZL6794500	L6794 SOFT MOSS SZ9910 TOUCH UP	0.50	L	20	10.00	L	1.20	577.62	51.94	624.59	5.78	6.25
ZZL6795500	L6795 MATT WHITE TOUCH UP 500ML	0.50	L	30	15.00	L	1.20	577.62	51.94	624.33	8.66	9.36
ZZL6825025	L6825 SOFT GREY AF7410 25KG	25.00	KG	1	25.00	KG	1.10	11.49	24.92	273.39	0.26	6.23
ZZL6861020	L6861 SOFT GREY AF7420 20L	20.00	L	1	20.00	L	1.10	11.49	24.96	273.88	0.23	5.48
ZZL6880020	L6880 SOFT GREY EG1380 20L	20.00	L	1	20.00	L	1.26	11.72	53.11	666.81	0.23	13.34
ZZL6911025	L6911 SOFT GREY AFL3110 25L	25.00	L	1	25.00	L	1.07	34.31	39.12	420.07	0.86	10.50
ZZL7020018	L7020 SOFT GREY WH1667 18L	18.00	L	1	18.00	L	1.21	49.02	48.60	586.59	0.88	10.56
ZZL7095005	L7095 PEIGNOIR TZ9910 5KG	5.00	KG	1	5.00	KG	1.35	460.08	65.96	891.32	1.70	3.30
ZZL7156005	L7156 MARINE BLUE TZ9910 5L	5.00	L	1	5.00	L	1.12	497.19	55.75	626.33	2.49	3.13
ZZL7157005	L7157 TRUE TAUPE TZ9910 5L	5.00	L	1	5.00	L	1.21	497.59	58.86	712.02	2.49	3.56
ZZL7163005	L7163 LEAD LIGHT TZ9910 5L	5.00	L	1	5.00	L	1.19	499.76	57.97	689.16	2.50	3.45
BUTACE025	N-BUTYL ACETATE 25L	25.00	L	6	150.00	L	0.88	880.00	0.00	0.00	132.00	0.00
BUTACE025	N-BUTYL ACETATE 25L	25.00	L	54	1,350.00	L	0.88	880.00	0.00	0.00	1,188.00	0.00
ZZP017020	P017 WASHED OAK WM1629 UV TC 20L	20.00	L	4	80.00	L	1.05	55.75	36.38	383.08	4.46	30.65
ZZP017020	P017 WASHED OAK WM1629 UV TC 20L	20.00	L	19	380.00	L	1.05	55.75	36.38	383.08	21.19	145.57
ZZP352025	P352 SMOKE MALMO 25L SOLVENT STAIN	25.00	L	19	475.00	L	0.86	815.78	5.09	43.77	387.50	20.79
ZZP366025	P366 MIDBROWN 25L	25.00	L	2	50.00	L	0.85	823.31	3.46	29.51	41.17	1.48
ZZP368020	P368 CHARCOAL MALMO STAIN 20L	20.00	L	16	320.00	L	0.90	825.82	7.71	69.00	264.26	22.08
ZZP429025	P429 FIRED EARTH UV TOPCOAT 25KG	25.00	KG	1	25.00	KG	1.08	510.30	52.65	567.57	11.83	13.16
ZZP884025	P884 SMOKED MALMO STAIN 25L	25.00	L	7	175.00	L	0.90	760.83	10.70	96.09	133.15	16.82
ZZP899025	P899 ARS5122 SOFT GREY 25KG	25.00	KG	1	25.00	KG	1.18	49.10	41.65	490.22	1.04	10.41
RX7102/00-5	RX7102 CLEAR HARDENER FOR UV 5L	5.00	L	1	5.00	L	0.95	646.00	32.00	304.00	3.23	1.52
RX8220/00-1	RX8220 CLEAR 1KG	1.00	KG	1	1.00	KG	0.97	678.00	30.00	290.70	0.70	0.30
SU0340/13-20	SU0340/13 PRE CAT WHT PRIMER 20L	20.00	L	14	280.00	L	1.20	639.00	53.28	639.36	178.92	179.02
SU0340/13-20	SU0340/13 PRE CAT WHT PRIMER 20L	20.00	L	220	4,400.00	L	1.20	639.00	53.28	639.36	2,811.60	2,813.18
THL3355/00-5	THL3355/00 CLEAR ACRYLIC HARDENER	5.00	L	66	330.00	L	0.89	724.74	18.90	168.97	239.16	55.76

TH0787/00-12,5	TH0787/00 HARDENER 12,5LT	12.50	L	2	25.00	L	0.94	677.43	28.07	264.42	16.94	6.61
TH0720/00-12,5	TH720 CLEAR PU HARDENER 12.5L	12.50	L	36	450.00	L	0.96	707.00	26.00	248.30	318.15	111.74
TH0720/00-12,5	TH720 CLEAR PU HARDENER 12.5L	12.50	L	468	5,850.00	L	0.96	707.00	26.00	248.30	4,135.95	1,452.56
TH0735/00-12,5	TH735 CLEAR HARDENER 12.5L	12.50	L	2	25.00	L	1.00	0.00	44.00	439.12	0.00	10.98
TH0735/00-6	TH735 CLEAR PU HARDENER 6L	6.00	L	2	12.00	L	1.00	559.00	44.00	439.12	6.71	5.27
TP2009/06-5	TP2009/06 ELBA BLUE SB PIGMENT 5L	5.00	L	0	0.00	L	1.09	497.00	54.40	593.50	0.00	0.00
TP2009/17-5	TP2009/17 PALE YELLOW SB PIGMENT 5L	5.00	L	1	5.00	L	1.10	542.00	50.60	555.08	2.71	2.78
TUL3535/13-20	TUL3535/13 WHITE ACRYLI BASECOAT 20L	20.00	L	64	1,280.00	L	1.25	617.87	50.42	628.23	790.87	804.14
TU6110/00-25	TU6110/00 CLEAR PU 10% 25L	25.00	L	5	125.00	L	0.97	558.00	42.44	411.67	69.75	51.46
WM1629-0005-C	WM1629-0005 DEADMATT WB UV TOP 20L	20.00	L	75	1,500.00	L	1.05	55.86	36.23	380.78	83.79	571.17
XA4080/00-1	XA4080 WB CROSSLINKER 1KG	1.00	KG	1	1.00	KG	1.18	142.00	78.00	920.40	0.12	0.78
Totals					43,890.50					23,735.10	19,519.18	

The Environmental Protection Act - Legislation References PG6/33 and PG6/23

<u>Stock Code</u>	<u>Stock Description</u>		<u>DEFRA 3</u>	<u>(DEFRA 4)</u>	<u>DEFRA 5</u>	<u>Solvent (Kg)</u>	<u>Solids (Kg)</u>	
26300/0.5/SAM	Polyurethane Reactor	1.00	309.50	688.90	0.50	0.34	0.15	
26300/2.5/BRG	Polyurethane Reactor	1.00	309.50	688.90	12.50	8.61	3.87	
26340/1 ISAM	40% P/U Lacquer	0.98	401.38	574.02	1.00	0.57	0.40	
26340/5/PDE	40% Gloss P/U Lacquer	0.98	401.38	574.02	25.00	14.35	10.03	
31608/25/BRG	Standard Thinners	0.85	0.00	823.88	25,000.00	20,597.00	0.00	
48931/5/RDE	SMOKED OAK SPRAY STAIN	0.95	87.04	855.45	40.00	34.22	3.48	
49035/1 [SAM	Oak On Oak Stain	0.86	14.31	842.09	1.00	0.84	0.01	
49035/5/RDE	Oak On Oak Stain	0.86	14.31	842.09	25.00	21.05	0.36	
EMPTY/205/OWB	Delivery empty 205 Litre open top t			0.00	5,219.00	0.00		
FORM	Hazardous Waste Consignment NC			0.00	32.00	0.00		
MOBILE	Collect Paint Waste Sludge	0.90	-180.00	-720.00	23,575.00	-16,974.00	-4,243.50	
THICK	Collect Waste Paint Sludge	0.90	-180.00	-720.00	1,640.00	-1,180.80	-295.20	
THICK/205/OWB	Deliver empty open Drum for Sludg	0.90	0.00	0.00	1,640.00	0.00	0.00	
Grand Totals						57,211.00	2,522.19	-4,520.39

Burbidge & Son Ltd, Awson Street, Coventry

Permit No: PC/045

Coatings on Wood, Usage 2016

Intercoat		density	VOC	solids	total	total	total
Coating	Type	kg/l	kg/l	kg/l	litres	VOC	solids
						kg	kg
26300/0.5/SAM	Polyurethane Reactor	1.00	309.50	688.90	0.50	0.34	0.15
26300/2.5/BRG	Polyurethane Reactor	1.00	309.50	688.90	12.50	8.61	3.87
26340/1 ISAM	40% P/U Lacquer	0.98	401.38	574.02	1.00	0.57	0.40
26340/5/PDE	40% Gloss P/U Lacquer	0.98	401.38	574.02	25.00	14.35	10.03
31608/25/BRG	Standard Thinners	0.85	0.00	823.88	25,000.00	20,597.00	0.00
48931/5/RDE	SMOKED OAK SPRAY STAIN	0.95	87.04	855.45	40.00	34.22	3.48
49035/1 [SAM	Oak On Oak Stain	0.86	14.31	842.09	1.00	0.84	0.01
49035/5/RDE	Oak On Oak Stain	0.86	14.31	842.09	25.00	21.05	0.36
					Sub total VOC	20,636.98	
					sub-total solids		18.3

Burbidge & Son Ltd, Awson Street, Coventry

Permit No: PPC/045

Coatings on Wood, Usage 2016

Recovery

Company	Type	VOC kg/l	total litres	total VOC kg
Intercoat	waste to reclaim	0.720	25,215	18,154
		Total		18,154

Burbidge & Son Ltd, Awson Street, Coventry
 Permit No: PPC/045
 Coatings on Wood, Usage 2016

VOC by supplier/ tonnes	Sherwin Williams	23.735
	Intercoat	20.637
	Renner	7.252
Total VOC Input (I₁)/ tonnes		51.624

Total VOC Output in tin residues (O₆)/tonnes	0.339
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Total VOC Output to Reclaim (O₈)/tonnes	18.154
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Nett Consumption VOC (C₁)/ tonnes	33.470
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Solids by supplier/ tonnes	Sherwin Williams	19.519
	Intercoat	0.018
	Renner	5.748
Total solids/ tonnes		25.285

Ratio VOC : solids	1.32 : 1
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Solvent reduction progress and other areas of investigation during 2016

- The company has continued to undertake testing and development work to identify suitable low solvent and high solids coatings.
- Installation of Schubox drying oven
- Installation of new automatic spray line with paper belt (rather than a belt requiring solvent based cleaning). This line should also reduce consumption via:
 - High efficiency spray pumps which can work at lower capacity leading to lower waste on coating changeover
 - Close proximity of pumps to spray cabin leading to less wastage in the coating lines
- Market forces have been pushing towards higher solvent consumption with the switch in consumer demand from natural finishes to painted along with a demand for more choice and kitchens with two colours – leading to smaller batches of individual colours