Solvent Management Report

Date range Jan 2007 to Dec 2007

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Assumptions

The heat-set inks can contain between 25% and 51% VOCs, but the supplier of our inks has stated that the average is VOC is 35%. Similarly, other substances have wide ranges of solvent content. Therefore, best case and worst case calculations are used.

Solvent Management methods

Heat set inks contain a high proportion of solvent which is evaporated in a heated drier. The efflux from the drier is passed through a thermal oxidiser. The performance of these oxidisers is checked annually by an external competent organisation. It is not feasible to change to a different ink technology. Nor is it feasible to dictate to our customers the ink coverage; a page which is predominantly white consumes less ink than one which is predominantly pictures.

Solvent flow

Inks

	Min Kg	Max Kg	
Total input type I1	736322	757360	Solvent in inks to presses
Total output type O1	3682	3787	Solvent after abatement plant
Total output type O4	22090	22721	Uncaptured solvent
Total output type O5	710551	730852	Incinerated solvent
Total output type O8	2228	2292	Solvent sent to recycling

Blanket wash

	Min Kg	Max Kg	
Total input type I1	3600	7600	Solvent in wash to presses
Total output type O4	108	228	Uncaptured solvent
Total output type O6	3492	7372	Solvent in collected waste

Roller wash

	Min Kg	Max Kg	
Total input type I1	414.7	576.0	Solvent in wash to presses
Total output type O4	20.7	28.8	Uncaptured solvent
Total output type O6	394.0	547.2	Solvent in collected waste

Fugative emissions

	Min Kg	Max Kg	
Total inputs	740337	765536	
Total O1 + O5 + O6 + 08	720347	744851	
Total fugitive	19990	20685	
Fugitive as %	**2.7**	**2.7**	% of input

Inks Supplier	Product name	% Petroleum distillates, hydrotreated light, Risk phrase R65	% Butylated hydroxytoluene Risk phrases R58, R53, R22	Best case % VOC	Worst case % VOC
Flint Schmidt	Premoterm UV Cyan	35	<1	35	36
Flint Schmidt	Premoterm UV Yellow	35	<1	35	36
Flint Schmidt	Premoterm UV Magenta	35	<1	35	36
Flint Schmidt	Premoterm UV Black	35	<1	35	36

Supplier	Date range	kg		Min VOC kg	Max VOC kg
		Purchased qty			
Flint Schmidt	Jan 2007-Dec 2007	2103778		736322.3	757360.1
			Total	736322.3	757360.1
Flint Schmidt	Jan 2007-Dec 2007	**Sent to recycling**			
		6367.00		2228.45	2292.12

ABATEMENT PLANT

Date measured		CO	NOx as NO_2	VOC	Burner Temp
		mg/Nm^3	mg/Nm^3	mg/Nm^3	C
	PG6/16 limit	100	100	100	
	SG6 limit	100	100	20	
	Plant				
16-19 Oct 06	Lithoman 1	160.80	139.90	8.80	790
16-19 Oct 06	Lithoman 2	131.40	215.80	0.00	774
16-19 Oct 06	Katec	77.90	41.40	0.00	785
16-19 Oct 06	Rotoman 1 Lower	117.10	45.90	22.40	790
16-19 Oct 06	Rotoman 1 Upper	126.20	53.30	39.10	790
16-19 Oct 06	Rotoman 2 Lower	78.00	40.90	2.60	760
16-19 Oct 06	Rotoman 2 Upper	60.30	39.80	3.20	765
16-19 Oct 06	Rotoman 3 Lower	30.90	90.60	5.50	760
16-19 Oct 06	Rotoman 3 Upper	56.00	94.40	0.30	747

BLANKET WASH

Supplier	**Varn**
Type	Natural Wash

Contents	**Min %**	**Max %**	**Risk Phrase**
Petroleum Distillate	30	60	R65,66
Amine (petroleum)	0	1	R22,38,41,50/53
Distillates (petroleum)	5	10	R65,66
Naptha (Petroleum)			
Hydrotreated Heavy	1	5	R10,38,51/53,65
Total	36	76	

Substance	**Date range**	**Purchased qty.** kg	**Min VOC** kg	**Max VOC** kg
Varn Natural Wash	Jan 2007-Dec.2007	100000	36000	76000
		Total	36000	76000

ROLLER WASH

Supllier	**Varn**
Type	**MRC**

Contents	**Min %**	**Max %**	**Risk Phrase**
Ethanol	10	30	R11
n-Hexane	1	5	R11,38,51/53,65,67
petane	1	5	R12,38,51/53,65,67
Naphtha(petroleum)	60.0	100	R11,38,51/53,65,67
	72	100	

Date range	**Purchased qty.**	**Min VOC**	**Max VOC**
	kg	kg	kg
Jan 2007-Dec 2007	5760	4147.2	5760
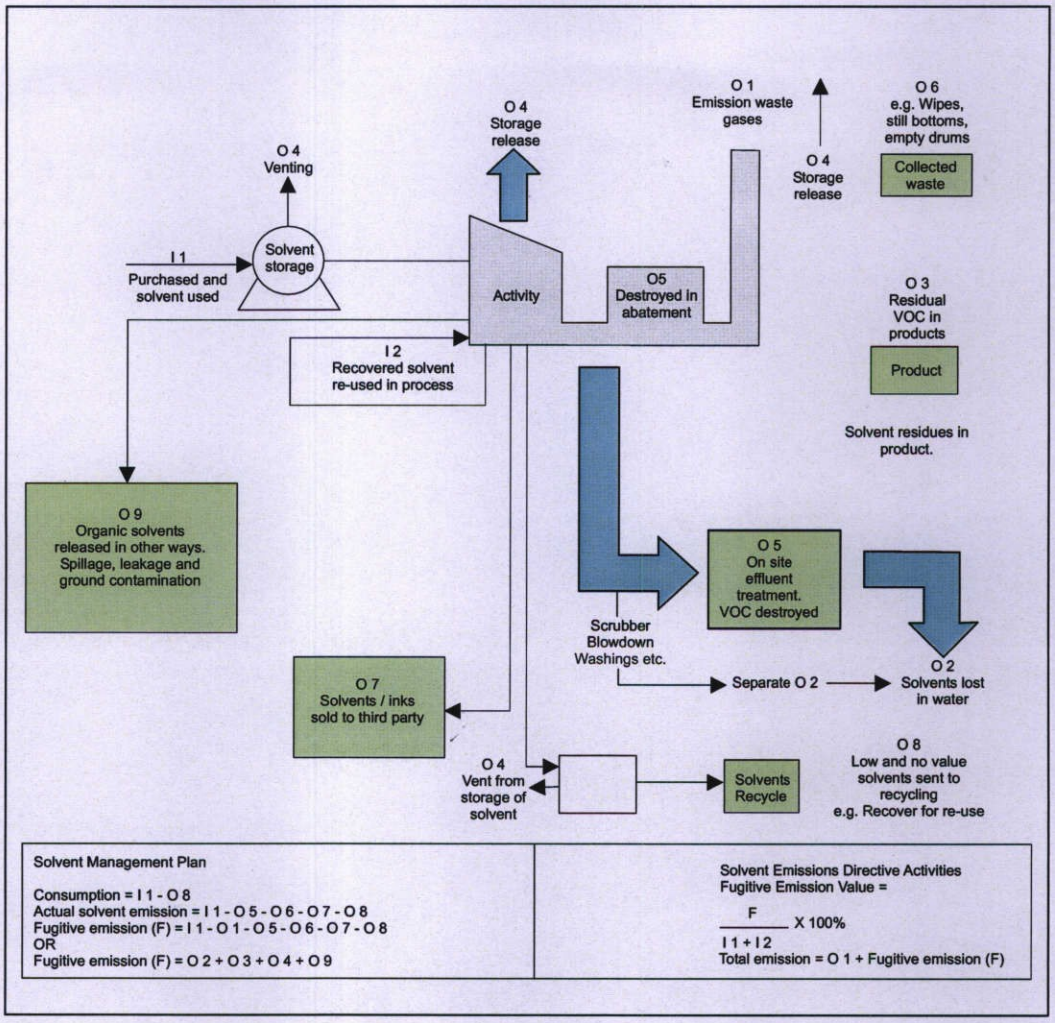
Figure 3.14: Solvent management plan