

Vent Measurements: APRIL 23rd 2015

Mass Emission is calculated from Ideal Gas Law

mass emission mg/min = ppm x flow rate x molecular weight x P /RT

$n = PV/RT$

V = measured flow rate (m3/min)	
P = 101325 Pa (760 mm Mercury)	101325
T = 293 K	293
R = molar gas constant 8.314 (m3Pa/mol K)	8.314
Molecular weight for solvent = 90	90
R x T	2436.002
P/RxT	41.595

		Solvent Tank to Mixer	Homogenisation Tank to Tank	Mixer to Buk Tank
		ST1-SLC2	BT1-BT5	SLC3-BT1
Mean ppm	ppm	0.00	1.31	3.59
Flow Volume	m3/min	4.15	4.15	4.15
Emission rate	gm/min	0.00000	0.02039	0.05569
Emission Rate MR	kg/min	0.00000	0.00002	0.00006
Prebalanced Rate (PBR)	kg/min	0.18000	0.18000	0.04400
MR/PBR		0.00000	0.00011	0.00127
Efficiency 1-MR/PBR		1.00000	0.99989	0.99873
EFFICIENCY PERCENT	%	100.000	99.989	99.873