

Vent Measurements: May 22nd 2013

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 toSLC3	BT4 to BT5	SLC1 to BT1
Mean ppm	ppm	0.66	24.13	0.02
Flow Volume	m3/min	1.89	1.89	1.89
Emission rate	gm/min	0.00466	0.17032	0.00014
Emission Rate MR	kg/min	0.00000	0.00017	0.00000
Prebalanced Rate (PBR)	kg/min	0.18000	0.18000	0.04400
MR/PBR		0.00003	0.00095	0.00000
Efficiency 1-MR/PBR		0.99997	0.99905	1.00000
EFFICIENCY PERCENT	%	99.997	99.905	100.000

Vent Measurements: Nov 14th 2013

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 toSLC3	BT4 to BT5	SLC1 to BT1
Mean ppm	ppm	0.00	4.57	8.67
Flow Volume	m3/min	3.77	3.77	3.77
Emission rate	gm/min	0.00000	0.06446	0.12233
Emission Rate MR	kg/min	0.00000	0.00006	0.00012
Prebalanced Rate (PBR)	kg/min	0.18000	0.18000	0.04400
MR/PBR		0.00000	0.00036	0.00278
Efficiency 1-MR/PBR		1.00000	0.99964	0.99722
EFFICIENCY PERCENT	%	100.000	99.964	99.722

CALIBRATION CERTIFICATE

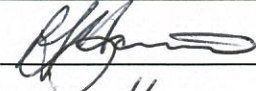
CUSTOMER: DAREX UK LTD CERT NO: 43140/041113
MANUFACTURER: Telegan SHEET: 1 OF 1
MODEL/TYPE: Autofim 2
SERIAL NUMBER: 5211 TAG No: 43140
RANGE/UNITS: 0 to 10000 ppm ACCURACY: See Results
LOCATION: Insteng Process Automation

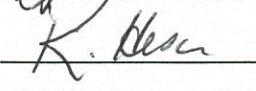
Ref	
Test Gas	Autofim 2
0	0 ppm
LEL Methane (5000ppm)	4980 ppm

REF. INST: Test gas 5000ppm Methane in air cylinder no: 005119

Valid to 10th Dec 2015

COMMENTS: Zero test in fresh air

PERFORMED: B. Harrison SIGN:  TEMP: 20 ±2°C

AUTHORISED: R. Hester SIGN:  POSN: QA Co'dr

Form No: W.01 DATE: 04.11.13 DUE: 04.05.14



Cert.No. 7159

This logo demonstrates that the organisation has a Management System to assure compliance to the system standard.

Unit 3, Moy Road Industrial Estate, Taffs Well, Cardiff. CF15 7QR.
Tel Cardiff (029) 2081 5000 Fax: (029) 2081 3051 E-mail: service@insteng.co.uk

Part D

Solvent/Product Analysis: 2013 *(Base Data for VOC Calculation)*

Solvent Analysis

Solvent	Op. Bal.	Receipts	Cl. Bal.	Usage		
ACETONE	3494	3960	1690	5765		
ISOPROPANOL	2881	15729	2102	16508	16774	
N-PROPANOL	114	165	13	266		
HEPTANES	0	2010	0	2010		
HEXANES	2811	69900	6871	65841	2274041	1137021
CYCLOHEXANE	1251	4691	2	5940		
HYDROCARBON	53359	2171020	22118	2202261		
ETHANOL (IMS)	119	2370	65	2424		
TOTAL	64029	2269846	32860	2301015	1,598,961	41.00%

Production Analysis

Production Volume Jan - Dec 2011					
Product	Tanker	IBC	Drum	Poly	Total
SLC 100A	80,100	95,747	1,923,806	-	2,099,653
SLC 160	-	-	859,360	-	859,360
SLC 235	129,100	-	312,460		441,560
SLC 239G	-	-	8,170		8,170
SLC 9291ES	-	-	27,808		27,808
	-	-	-		0
SOLV 1E	-	-	8,040		8,040
SOLV 3	-	-	320		320
NDF 20/27T DF	-	-	26,860		26,860
SP 1427	107,620	158,250	160,664		426,534
DL	-	-	771		771
LF	-	-	-		-
NW	-	-	900		900
CSF	-	-	-		-
DREM	-	-	-	-	-
Total	316,820	253,997	3,329,159	-	3,899,976

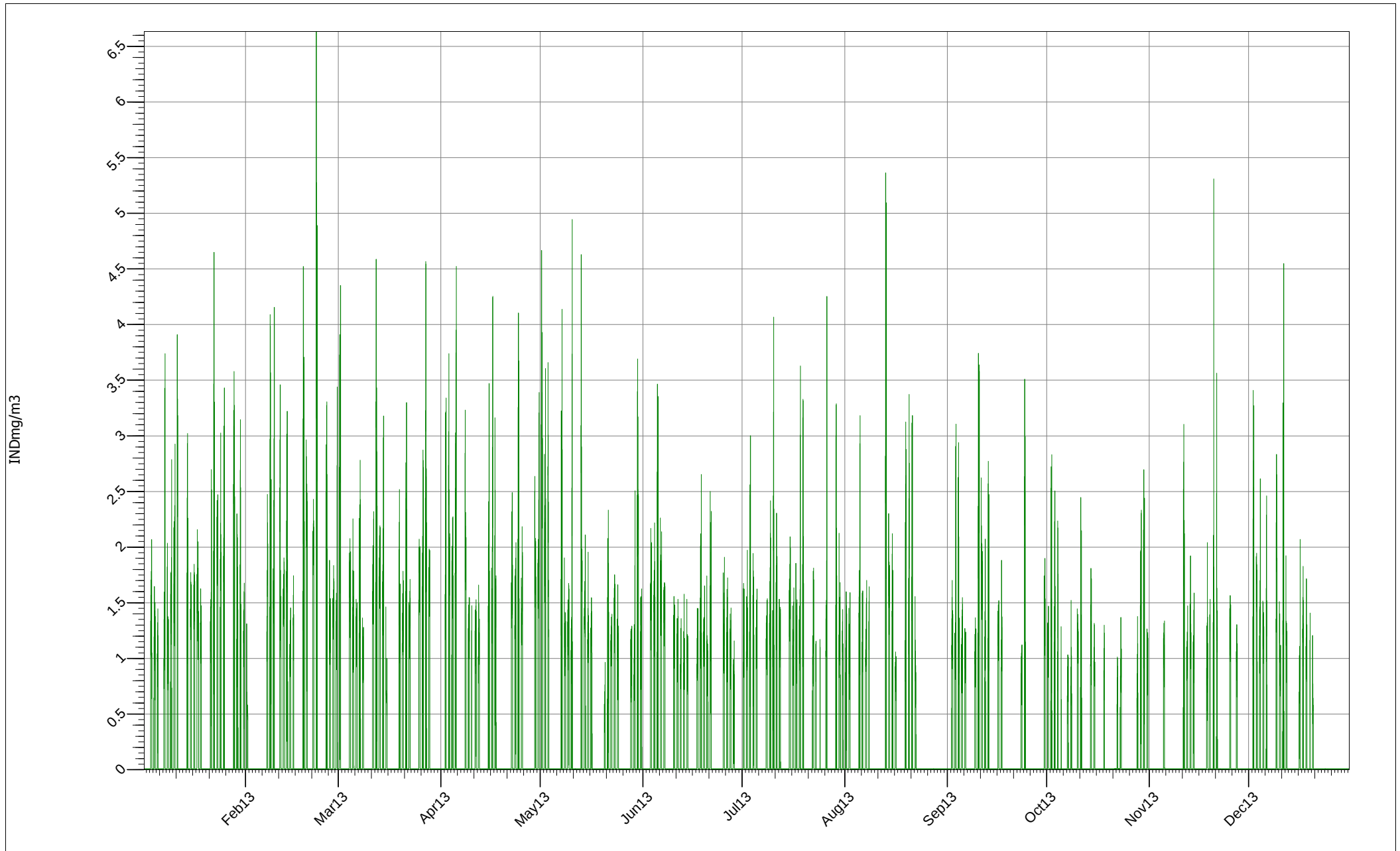
Emission Report

Company:DAREX UK LTD Contact:GLENN DRAPER

BANBURY STACK 1

From:01 Jan 13 09:15:00 To:31 Dec 13 09:15:00

Device 1 : Stack1 Banbury Cal Factor: WARNING CAL FACTOR IS NOT CONSTANT Average:0.298 Averaging Period:15 mins Maximum:6.630



Emission Report

Company:DAREX UK LTD Contact:GLENN DRAPER

CONVEYORS STACK 2

From:01 Jan 13 09:15:00 To:31 Dec 13 09:15:00

Device 1 : Stack2 Conveyor Cal Factor: 1.00 (constant) Average:0.116 Averaging Period:15 mins Maximum:17.58

