

Environmental Management Australia

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EMISSION TEST REPORT (ETR) No.7020

ANNUAL EPL 2732 SCRUBBER EMISSIONS MONITORING

THE COMFORT GROUP - DUNLOP FOAMS

WETHERILL PARK, NSW

PROJECT No.: 7020/\$25392/19

DATE OF SURVEY: 19 SEPTEMBER 2019

DATE OF ISSUE: 15 OCTOBER 2019

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NATA accredited laboratory number 15043.

Accredited for Compliance with ISO/IEC 17025 - Testing

1 EMISSION TEST REPORT NO.7020

The sampling and analysis was commissioned by:

Organisation: The Comfort Group - Dunlop Foams

Contact: Mick Meehan

Site Address: 32-36 Frank Street, Wetherill Park, NSW 2164

Telephone: 02 8784 9903, 0413 025 259

Email: Mick.Meehan@dunlopfoams.com.au

Project Number: 7020/S25392/19

Test Date: 19 September 2019

Production Conditions: Normal operating conditions during testing.

Production details are available upon request to Dunlop Foams.

Analysis Requested: Flow, velocity, pressure, temperature, moisture, gas density,

2,4 TDI and DCM as per EPL 2732.

Sample Locations: EPA ID No.1 Scrubber exhaust stack serving the Pouring line and

EPA ID No.2 Scrubber exhaust stack serving the Hot Block Store

Sample ID Nos.: Refer to Attachment A

Identification The samples are labelled individually. Each label recorded the testing

laboratory, sample number, sampling location (or Identification) sampling date and time and whether further analysis is required.

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 $NATA\ accredited\ laboratory\ number\ 15043.$

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Test	Test Method Number for Sampling and Analysis	NATA Laboratory Analysis By: NATA Accreditation No. & Report No.
Dry Gas Density	NSW TM-23, USEPA M3	SEMA, Accreditation No. 15043, ETR No. 7020
Flow	NSW TM-2, USEPA M2	SEMA, Accreditation No. 15043, ETR No. 7020
Moisture	NSW TM-22, USEPA M4	SEMA, Accreditation No. 15043, ETR No. 7020
Stack Pressure	NSW TM-2, USEPA M2	SEMA, Accreditation No. 15043, ETR No. 7020
Stack Temperature	NSW TM-2, USEPA M2	SEMA, Accreditation No. 15043, ETR No. 7020
Toluene Di-isocyanate (TDI 2,4)	HSE-MDHS 25/3, (WCA 110)	TestSafe Australia, Accreditation No. 3726, Report No. 2019-4366
Velocity	NSW TM-2, USEPA M2	SEMA, Accreditation No. 15043, ETR No. 7020
Volatile Organic Compounds (VOCs) including Dichloromethane (DCM)	NSW TM-34, USEPA 18	TestSafe Australia, Accreditation No. 3726, Report No. 2019 – 4365

Sampling Times

NSW - As per Test Method requirements or if not specified in the Test Method then as per Protection of the Environment Operations (Clean Air) Regulations Part 2.

Reference Conditions

NSW - As per

- (1) Environment Protection Licence conditions, or
- (2) Part 3 of the Protection of the Environment Operations (Clean Air) Regulations

All associated NATA endorsed Test Reports/Certificates of Analysis are provided separately in Attachment A.

Issue Date - 15 October 2019

P W Stephenson Managing Director

1.1 SUMMARY OF EPA ID NOS 1 & 2 EMISSION TEST RESULTS – 19 SEPTEMBER 2019

Parameter	Unit of measure	EPA ID No. 1 Exhaust stack serving Pouring Line	Exhaust stacl	O No. 2 c serving Hot Store	EPL 2732 EPA concentration limit
			Run 1 Pour	Run 2 Purge	
Stack Temperature	°C	24	20	21	
Velocity	m/s	10.5	14.6	14.6	
Volumetric flow	m³/s	10.9	15.1	15.1	
Gas density	kg/m³	1.3	1.3	1.3	
Stack pressure	kPa	102.7	102.9	102.9	
Moisture	%	1.7	1.3	1.3	
TDI 2,4	mg/m³	0.002	<0.002	<0.001	0.002
DCM	mg/m³	1145	284	1157	1200

Key:	TDI 2,4	=	Toluene Di-isocyanate 2,4
	DCM	=	Dichloromethane
	VOC	=	Volatile Organic Compounds
	°C	=	degrees Celsius
	m/s	=	metres per second
	m^3/s	=	dry cubic metre per second at 0°C and 101.3 kilopascals (kPa)
	kg/m³	=	Kilograms per cubic metre
	kPa	=	Kilo Pascals
	%	=	percent
	mg/m³	=	milligrams per cubic metre at 0°C and 101.3 kilopascals (kPa)
	<	=	less than the limit of detection for the analytical method

1.2 FLOW EMISSION TEST RESULTS - EPA ID Nos.1 & 2

Emission Test Results	Flow	Flow	Flow
Project Number	7020	7020	7020
Project Name	The Comfort Group Dunlop Foams	The Comfort Group Dunlop Foams	The Comfort Group Dunlop Foams
Test Location	EPA ID No.1 Scrubber stack serving the Pouring Line (Pour)	EPA ID No.2 Scrubber stack serving the Hot Block Store (Pour)	EPA ID No.2 Scrubber stack serving the Hot Block Store (Purge)
Date	19 September 2019	19 September 2019	19 September 2019
RUN	1	1	2
Sample Start Time (hours)	10:22	10:22	11:27
Sample Finish Time (hours)	11:22	11:22	13:27
Sample Location (Inlet/Exhaust)	Exhaust	Exhaust	Exhaust
Stack Temperature (°C)	24	20	21
Stack Cross-Sectional area (m²)	1.13	1.11	1.11
Average Stack Gas Velocity (m/s)	10.5	14.6	14.6
Actual Gas Flow Volume (am³/min)	710	970	970
Total Normal Gas Flow Volume (m³/min)	660	910	910
Total Normal Gas Flow Volume (m³/sec)	10.9	15.1	15.1
Total Stack Pressure (kPa)	102.7	102.9	102.9
Moisture Content (% by volume)	1.7	1.3	1.3
Molecular Weight Dry Stack Gas (g/g-mole)	29	29	29
Dry Gas Density (kg/m³)	1.3	1.3	1.3
Sampling Performed by	PWS, JW	PWS, JW	PWS, JW
Sample Analysed by (Laboratory)	SEMA	SEMA	SEMA
Calculations Entered by	JW	JW	JW
Calculations Checked by	PWS	PWS	PWS

Key:

٥C degrees Celsius m^2 square metres m/s metres per second cubic metres at actual conditions per minute am³/min m³/min cubic metres per minute m^3/sec cubic metres per second kPa Kilo Pascals g/g-mole grams per gram mole kg/m³ kilograms per cubic metre % percent

1.3 ESTIMATED UNCERTAINTY OF MEASUREMENT

Pollutant	Methods	Uncertainty
TDI as part of Total Isocyanates	HSE-MDHS 25/3 (WCA.110)	NA
VOCs (Dichloromethane) (adsorption tube)	NSW TM-34	25%
Velocity	AS4323.1, NSW TM-2, USEPA 2	5%

Key:

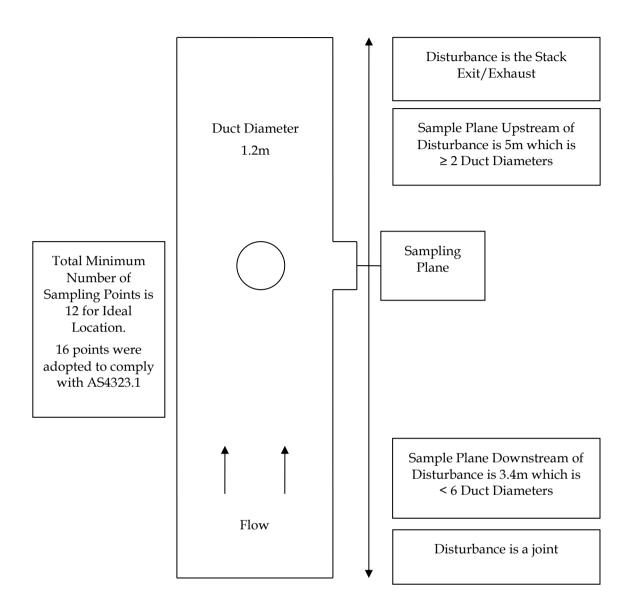
Unless otherwise indicated the uncertainties quoted have been determined @ 95% level of Confidence level (i.e. by multiplying the repeatability standard deviation by a co-efficient equal to 1.96) (Source - Measurement Uncertainty).

Sources: Measurement Uncertainty – implications for the enforcement of emission limits by Maciek Lewandowski (Environment Agency) & Michael Woodfield (AEAT) UK

Technical Guidance Note (Monitoring) M2 Monitoring of stack emissions to air Environment Agency Version 3.1 June 2005.

1.4 EXHAUST SAMPLING LOCATIONS

FIGURE 1-1 EPA NO.1 SCRUBBER STACK SERVING THE POURING LINE

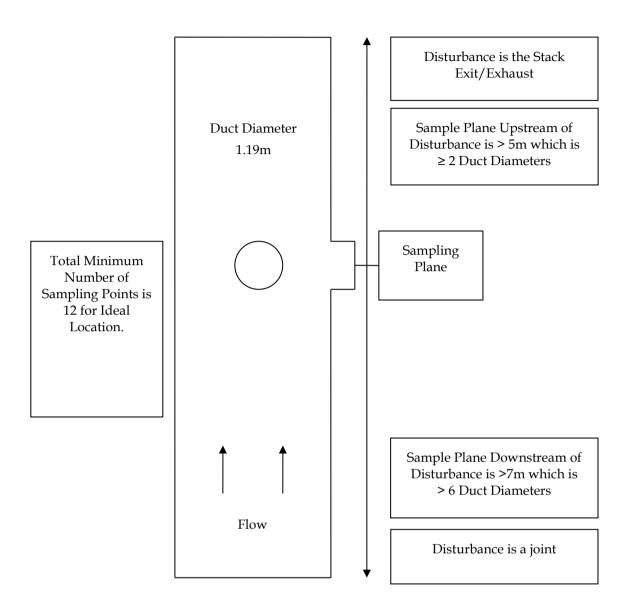


In the absence of cyclonic flow activity ideal sampling plane conditions will be found to exist at 6-8 duct diameters downstream and 2-3 duct diameters upstream from a flow disturbance. The sampling plane does not meet this criterion. Additional sample points were used in compliance with AS4323.1 as the sampling plane was non-ideal.

The sample plane however does meet the minimum sampling plane conditions; sampling plane conditions will be found to exist at 2 duct diameters downstream and 0.5 duct diameters upstream from a flow disturbance.

The location of the sampling plane complies with AS4323.1 criteria for temperature, velocity and gas flow profile and therefore is satisfactory for gas flow sampling.

FIGURE 1-2 EPA NO.2 SCRUBBER STACK SERVING THE HOT BLOCK STORE

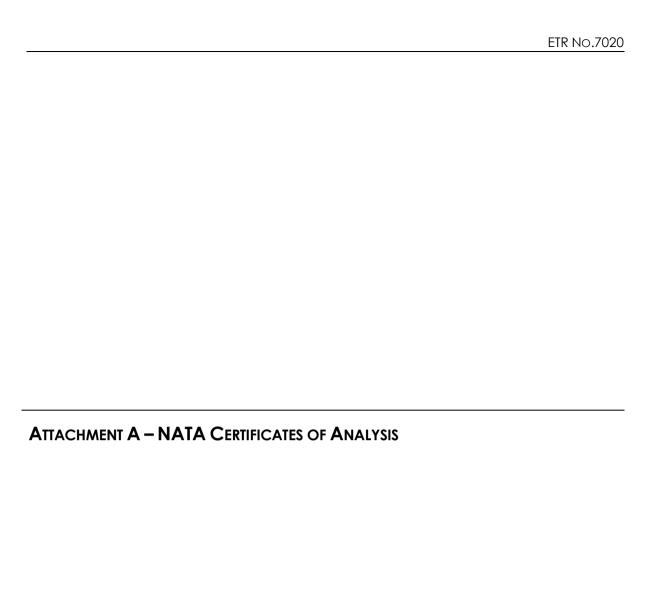


In the absence of cyclonic flow activity ideal sampling plane conditions will be found to exist at 6-8 duct diameters downstream and 2-3 duct diameters upstream from a flow disturbance. The sampling plane does meet this criterion.

The location of the sampling plane complies with AS4323.1 criteria for temperature, velocity and gas flow profile and therefore is satisfactory for gas flow sampling.

1.5 INSTRUMENT CALIBRATION DETAILS

SEMA Asset No.	Equipment Description	Date Last Calibrated	Calibration Due Date
857	Digital Temperature Reader	04-Jul-19	04-Jan-20
858	Digital Temperature Reader	04-Jul-19	04-Jan-20
769	Thermocouple	04-Jul-19	04-Jan-20
919	Thermocouple	04-Jul-19	04-Jan-20
815	Digital Manometer	21-Jan-19	21-Jan-20
885	Digital Manometer	21-Jan-19	21-Jan-20
613	Barometer	21-Jan-19	21-Jan-20
835	Personal Sampler	14-Mar-19	14-Mar-20
24	Personal Sampler	09-Apr-19	09-Apr-20
834	Personal Sampler	14-Mar-19	14-Mar-20
675	Personal Sampler	09-Apr-19	09-Apr-20
726	Pitot	23-Jul-19	23-Jul-2020 Visually inspected On-Site before use
183	Pitot	17-Apr-19	17-Apr-2020 Visually inspected On-Site before use







Jay Weber

Lab. Reference:

2019-4366

Stephenson Environmental Management Australia PO Box 6398 SILVERWATER NSW 1811

Samples analysed as received

SAMPLE ORIGIN: Project No. 7020

DATE OF INVESTIGATION: 19/9/2019

DATE RECEIVED:

23/09/19

ANALYSIS REQUIRED: Isocyanates

REPORT OF ANALYSIS

See attached sheet(s) for sample description and test results.

The results of this report have been approved by the signatory whose signature appears below.

For all administrative or account details please contact the Laboratory.

Increment and total pagination can be seen on the following pages.

Martin Mazereeuw

Manager

Date: 8/10/19

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Page 1





Analysis of Total Isocyanates in Air

Client: Jay Weber

Date Sampled: 23th September 2019

Stephenson

Reference Number	Sample ID	Sample Type	TDI (2,4) (μg NCO/Sample)	TDI (2,6) (µg NCO/Sample)
2010 1244	727672-F	Filter	0.19	0.25
2019-4366-1	727672-S	Impinger	ND	ND
2010 1044 2	727673-F	Filter	ND	ND
2019-4366-2	727673-S	Impinger	ND	ND
2010 1277 2	727674-F	Filter	ND	ND
2019-4366-3	727674-S	Impinger	ND	ND
2019-4366-4	727675-F	Filter	ND	ND
	727675-S	Impinger	ND	ND

ND = Not Detected

Method : Analysis of Total Isocyanates in Air by HPLC Method No : WCA.110

Quantification Limit: 0.1 µg NCO/Sample

Brief Description: Isocyanates are collected onto filters and/or impingers containing 1-(2-methoxyphenyl)piperazine toluene absorbing solution. The filters trap the greater proportion of isocyanates in the vapour phase and the impingers trup the greater proportion of isocyanates in the aerosol phase. The organic isocyanates react to form urea derivatives that are measured by HPLC using UV detection at 242 nm and electrochemical detection.

2019-4366-1-4

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Accreditation No. 3726

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50008051 0817





2019-4365

Jay Weber Lab. Reference: Stephenson Environmental Management Australia PO Box 6398 SILVERWATER NSW 1811

Samples analysed as received

SAMPLE ORIGIN: Project No. 7020

DATE OF INVESTIGATION: 19/09/2019 DATE RECEIVED: 23/09/19

ANALYSIS REQUIRED: Volatile Organic Compounds

REPORT OF ANALYSIS

See attached sheet(s) for sample description and test results.

The results of this report have been approved by the signatory whose signature appears below.

For all administrative or account details please contact the Laboratory.

Increment and total pagination can be seen on the following pages.

Martin Mazereeuw

Manager

Date: 10/10/19

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Page 1





Client : Jay Weber Sample ID : 727676

No	Compounds	CAS No	Front mg/se	Back	No	Compounds	CAS No	Front 11g/se	Back
+	Aliphatic hydrocarbon	5 (I.00 = 5erre	75.00	2000	H	Aromatic hydrocarbons	(d.00 = Jasím	(F) 55 C)	200220
1	2-Methylbutane	76-78-4	ND	ND	30	Betrene	71-43-2	ND	ND
2	n-Pentane	109-66-0	ND	ND	40	Ethylbenzene	100-41-4	ND	ND
3	2-Methylpentane	107-81-5	ND	ND	41	Logropy/beazone	86-82-8	ND	ND
4	3-Methylpentane	96-14-0	ND	ND	42	1.2.3-Trimethylbenseur	526-73-W	ND	ND
5	Cyclopentane	387-03-3	ND	ND:	43	1.2.4-Trimefly/benzese	V5-63-6	ND	ND
6	Mothyleyelopentane	96-37-7	ND	ND	44	1,5,5-Trimethylberouse	108-67-8	ND	ND
7	2.3-Dimethylpentane	365.59-3	ND	ND	45	Styrene	100-42-5	ND	ND
8	n-Heaung	110-34-3	ND	ND.	46	Tolucoe	108-88-3	114	97
9	3-Mertythevane	389-34-4	ND	ND	47	p-Xylene &/or m-Xylene	506307.6 506307.6	ND	ND
10	Cyclohexane	110-82-7	ND	ND.	48	o-Xylene	95-47-6	ND	ND.
11	Methyleyelohexane	108-87-2	ND	ND .		Ketones (2.00) 144, 254 & 255		LAST & ASS	-25µg/n/q
12	2.2.4 Trimethylpenture	540-84-7	ND:	ND:	49	Acetone	67-64-7	ND	ND
13	n-Heptime	142-82-5	ND	ND	50	Acetoin	573-86-0	ND	NB
14	n-Octane	775-65-9	ND	ND:	51	Diacetone alcohol	128-42-2	ND	ND
5	n-Notane	111-84-2	ND	ND.	12	Cyclohexanone	108-94-1	ND.	ND.
6	n-Decine	124-18-5	ND	ND	53	Isophorone	28-59-7	ND	ND
7	n-Undecase	1120-21-4	ND:	ND.	54	Methyl ethyl ketone (MEK)	78-93-3	ND	ND
8	n-Dodecase	112-49-3	ND.	ND	55	Methyl isobutyl ketone (MIIK)	108-10-1	ND .	ND
9.1	n-Tridocana	629-50-5	ND	ND		Alcohols (LOQ = 254g/comprent/section)			
20	n-Tetradecare	629-39-4	ND	ND	56	Ethyl alcohol	64-17-5	ND	ND
21	o-Pinene	M-36-Y	ND	ND	57	n-Butyl alcohol	77-36-1	ND	ND
22	Ji-Pinene	/27-97-3	ND	ND.	58	Isobutyl alcohol	78-83-7	ND	ND
23	D-Linonene	138-86-3	ND	ND:	.59	Impropyl alcohol	67-69-0	ND	ND
	Chlorinated hydrocarl	000s (LOQ-5)	g/emposed	rection)	-00	2-Ethyl hexmol	104-76-7	NO:	ND
24	Dichlorometlune	75-69-2	7973	ND	61	Cyclohexanol	108-93-0	ND.	ND
25	1.1-Dichloroethune	75-34-3	ND	ND		Acetates 11.00 - 2512/000ps	and/section).		
26	1.2-Dichloroethune	707-06-2	ND	ND	62	Ethyl acetate	141-28-6	ND.	ND
27	Chloroform	67-66-3	ND	ND	63	n-Propyl acetate	109-60-4	ND	ND
28	L.L.I-Trichloroefune	77-55-6	ND	ND	64	n-Butyl acetate	123-86-4	ND:	ND
19	1.1.2-Trichloroethane	79-00-5	ND	ND	0.5	Isobutyl nortate	110-19-0	ND	ND
90	Trichloroethylone	19-01-6	ND	ND		Ethers (1.00 - 25sp/conpens	Foreign)		7 707-0
31	Carbon tetracMoride	36-25-3	ND	ND	0.5	Ethyl other	69-29-7	ND	ND
12	Perchloroethylene	127-18-4	ND	ND	67	terr-Butyl methyl ether arms	1634-04-4	ND	ND
5.5	1.1.22-Telrachtoesethane	79-34-3	NU	NU	68	Felmhydroturan /IIII's	209-99-9	NU	2011
34	Chlorobenzene	708-90-7	ND.	ND		Glycols (0.00 - 25/g/corpeu	olisection)		
15	1,2-Dichlombenzene	95-50-1	ND	ND	6.0	FGME	207-98-2	ND	ND
16	L4-Dichlorobenzena	106-46-7	ND	ND	70	Ethylene glycol diethyl ether	629-14-1	ND	ND
1	Miscellaneous (Log str-	Spig & #58-25pg	compound to	rtion	71	PGMEA	108-63-6	ND	ND
37	Acetenitrile	73-05-8	ND	ND.	72	Cellosolve scetate	111-15-9	ND	ND
18	n-Vary)-2-pyrrolidinone	89-72-0	ND	ND	73	DGMEA	112-15-2	ND	ND
T	Tetal VOCs (LOQ =Stagious	popularcian)	8886	97		Worksheet check		YES	YES

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Accreditation No. 3726

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SW06051 0817





Client : Jay Weber Sample ID : 727677

Sample : 2019-4365-2

	Compounds	Compounds CAS No Front Back No Compounds pg/section Aromatic hydrocarbons	CAS No	Fried	Back						
1			μg/section		0.00	***************************************		µg/section			
1	Aliphatic hydrocarbor		mpoundines	ins)	\Box	Aromatic hydrocarbon	mpound/section	-			
1	2-Methybutane	78-78-4	ND	ND	39	Bestzene	77-43-2	ND	ND		
2	n-Pentane	209-66-0	ND	ND:	40	Ethylbenzene	100-41-4	ND	ND		
3	2-Methylpentane	107-83-5	ND	ND	41	Isopropythemene	98-82-8	ND	ND		
4	3-Methylpentane	96-74-0	ND-	ND.	42	1,2.3-Trimethyfomerus	126-73-8	ND	ND		
5	Cyclopentane	287-92-3	ND.	ND	43	1,2,4-Trimethylbenzme	95-63-6	ND	ND		
6	Methyleyelopeatane	96-37-7	ND	ND	44	1,3.5-Trimethylomzone	108-67-8	ND	ND		
7	2.3-Dimethylpertane	543-39-3	ND	ND	45	Styrene	100-42-5	ND .	ND		
8	n-Hexane	110-54-3	ND	ND:	46	Tolsiene.	108-88-3	41	48		
9	3-Methyfrexans	589-34-4	ND	ND	47	p-Xylene & for in-Xylene	(M-27.7 a)	ND	NO		
10	Cycloberane	110-82-5	ND	ND	48	o-Xylene	95-47-6	ND	NO		
11	Methylcyclohexane	108-87-2	ND	ND.		Ketones (1.00 Att. 151 & 155	depresentation, 45	(192 A 193)	-15agicte		
12	2,2,4-Trimethy Ipentane	549-84-7	ND	ND.	49	Acetone	67-64-1	ND	ND		
13.	n-Heptane	142-82-5	ND	ND.	50	Acetoin	315,86.0	ND	ND		
14	u-Octave	111-65-9	ND	ND	51	Discetose alcolol	125-42-2	ND-	NO		
15	n-Nomme	111-84-2	ND.	ND	52	Cyclobescanne	108-94-1	ND	ND		
16	n-Decine	124-18-5	ND	ND:	-53	Isophorone	78-59-1	ND-	ND		
17	n-Undecane	1126-21-4	ND	ND.	54	Methyl ethyl ketone (MBC)	78-03-3	ND	ND		
18	n-Dodocane	112-40-3	ND	ND:	35	Methyl isoburyl ketone (sunc)	108-70-1	NB	ND		
19	n-Tridecare	629-50-5	ND	ND .	+	Alcohols (L0Q = 15sp/copp)					
10	n-Tetradecane	629-19-4	ND	ND	56	Ethyl alcohol	84-17-5	ND	ND		
21	ra-Pinene	MI-56-N	ND	ND	57	r-Butyl alcohol	71-36-3	ND	ND		
22	β-Pinene	127-91-3	ND	ND	58	Isohutyl alcohol	78-83-7	NO-	NO		
23	D-Limonene	138-86-3	ND:	ND.	50	Isopropyl alcebel	67-63-0	ND-	ND		
-	Chlorinated hydrocar	-		_	60	2-Ethyl hexanol	104-76-7	ND	ND		
24	Dichloromethone	75-09-2	2012	ND	61	Cyclohexanol		ND	ND		
15	1,1-Dichloroethane	75/34-3	ND	ND	1	Acetates (1.00 - Hagicappe	/68-93-0	1897	310		
16	1.2-Dichloroethane	107-06-2	ND	ND	62	Ethyl acetate		ND:	ND		
17	Chloroform		ND	ND	63	n-Propyl acctate	145-78-6	ND	ND		
18	I.1.1-Trickloroethane	67-66-3	ND:	ND	64	n-Butyl acctanc	109-60-4	ND	ND		
19	1,1.2-Trichloroeffane	71-55-8	ND	ND	65	Isohuryl acetate	123-86-4	ND	ND		
30	Trichloroethylene	79-00-5	ND.	ND	20		170-19-6	MID	Pilo		
31	Carbon tetrachloride	79-07-6	ND.	ND	66	Ethers (LOQ - 25g/conpoun		ND	NO		
12	Perchlomethylete	36-23-3	ND	ND	67	- Anniel Communication of the	60-29-7	ND	ND		
11	1.1.2.3-Tetrachlomethane	727-78-4	NII	NB	101	nrt Butyl methyl efter anno Tetrahydrofurun (THF)	1634-04-4	NO	NE		
14	Chlorobergene	79-34-3	ND	ND:	100		709-99-9	NO.	190		
15	1,2-Dichlorobeszese	108-96-7	ND.	ND.	60	Glycols (Log-Engineering PGME	-	ND	ND		
16	1,4-Dichlorobenzene	95-39-/	ND ND	ND	70		(07-98-2		NE		
100		106-46-7	35.55	3.35	71	Ethylene glycol diethyl ether	679-74-7	ND	-		
17	Miscellaneous (Log siz	1			-	PGMEA	708-65-6	ND	NE		
38	Acetonitrile n-Vinyl-2-pyrmlalinone	75-05-W #8-12-9	ND ND	ND ND	72	Cellosolve acetate DGMEA	111-15-9	ND ND	NE NE		
1	Total VOCs (LOQ =50kg/con		2054	ND		Worksheet check	115,10,0	YES	Ye		

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TestSafe Australia - Chemical Analysis Branch

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IAC MRA NATA

Accreditation No. 3726

Accredited for compliance with ISO/IEC 17025 - Testing

5M/08051 0817





Client : Jay Weber Sample ID : 727678

No	Compounds	CAS No	Frant	Buck. etion	Nα	Compounds	CAS No	Frant	Back
+					₩				
+	Aliphatic hydrocarbon	-			-	Aromatic hydrocarbons	and the same of the same of		
1	2-Methylbatase	78-78-4	ND	ND	39	Berwene	71-43-2	ND	ND
2	n-Pentine	109-66-0	ND	ND	40	Efsylbenzese	100-41-4	ND	ND
3	2-Methylpentane	107-83-5	ND	ND.	41	Isopropythensene	98-87-8	ND.	ND
4	3-Methylparrane	96-14-0	ND	ND	42	1,2,3-Trimethy/betteene	526-73-8	ND	ND
5	Cyclopestane	287-92-3	ND	ND	43	1,2,4-Trimethy/benzene	95-63-6	ND	ND
6	Methylcyclopentane	96-37-7	ND	ND	44	1,3,5-Trimethy/become	108-67-8	ND	ND
7	2.3-Dinethylpenane	365-59-3	ND	ND	45	Styrene	100-42-3	ND	ND
8.	n-Hexane	710-54-3	ND	ND	46	Toluese	708-88-3	35	21
9	3-Methyfresine	599-34-4	ND	ND	47.	p-Xylene &/or m-Xylene	09-36-7 196-02.1-8	ND	ND
10	Cycloberane	110-82-7	ND	ND.	48	e-Xyline	95-47-6	ND	ND
111	Methylcyclohexane	108-87-2	ND	ND		Ketones (1.00 A49, 854 & 855	Sugario, 1998, Art		
12	2.2.4 Trinothylpenting	541-84-1	ND	ND	49	Apploise	67-64-1	ND.	ND
13	n-Heptane	142-82-5	ND	ND	50	Aortoin	813-86-0	ND	ND
14	n-Octanii	111-63-9	ND	ND:	51	Discetone alcohol	123-42-2	ND	ND
13	n-Norane	111-84-2	ND	ND	52	Cyclohexanone	108-94-1	ND	ND
16	n-Decane	174-18-5	ND	ND	53.	Isophotose	28.59-1	ND	ND
17	n-Undecare:	1120-21-4	ND	ND	54	Methyl ethyl ketone (MIK)	78-93-7	ND.	ND
18	n-Dodecane	112-49-3	ND	ND	-55	Methyl isoburyl ketone (MBK)	108-10-1	ND	ND
19	n-Tridecase	629-59-5	ND	ND.		Alcohols (LOQ - 25pg/compound/oction)			
20	n-Vetrudecans	629-39-4	ND	ND	56	Ethyl alcohol	64-17-3	ND	ND
11	te-Pinene	89-36-8	ND	ND.	57	z-Butyl alcehol	21-36-3	ND	ND
12	ß-Pinene	127-91-3	ND	ND	58	Isobatyl alcohol	78-83-1	ND	ND
23	D-Linconene	138-86-3	ND	ND	59	Isopropyl alcohol	67-63-0	ND	NO
	Chlorinated hydrocarl	bons (Loo-s	gionegrand	senten)	60	2-Ethyl hexanol	204-76-7	ND	ND
14	Dichlocomethane	73-09-2	15160	55	61	Cyclohexanol	108-93-6	ND:	ND
15	1.1-Dichloroethane	73-34-3	ND	ND		Acetates (Log-25(g)compe-	ent/section)		
16	1,2-Dichloroethage	207-06-2	ND	ND	62	Ethyl acetate	141-78-6	ND	ND
17	Chloroform	67-66-3	ND	ND	63	n-Propyl acetate	109-80-4	ND	NO
18	1.1.1-Tricklosochane	71-35-6	ND	ND	64	a-Butyl acetate	123-86-4	ND	ND
19	1.1.2-Trichlospethane	79-00-3	NO.	ND	65	(sohuty) nortate	110-19-0	ND	NO
10	Trichloroethy less	79-02-6	ND	ND		Ethers (Log-25-group-san	Essitiva)	1.000	
11	Carbon tetrachloride	56-23-3	ND	ND	66	Ethyl either	69-79-7	ND	ND
12	Perchloroethylene	127-18-4	ND	ND.	67	tert-Butyl methyl ether name	1634-04-4	ND	ND
13	1,1,2,2-Tetrachlospethane	79-24-5	ND	ND	68	Tetrahydrofimin (1981)	109-99-9	ND	ND
14	Chlorobenzene	J08-90-7	ND	ND		Glycols a.oq - 25ggcomma	struction)		
15	1.2-Diehondenzene	95-50-7	ND	ND	40	POME	107-98-2	ND	NO
16	1,4-Dichlorobenzene	106-46-7	ND	ND.	70	Ethylene glycol diethyl ether	629-14-1	ND:	ND
	Miscellaneous alogan-	- Sug & #18-25ug/	сипревибо	clinic	71	POMEA	108-65-6	ND	NO
37	Acetonitrile	75-05-8	ND	ND	72	Cellosolve acetate	111-13-9	ND	ND
38	n-Vinyl-2-pytrolidinone	88-12-8	ND .	ND	73	DGMEA	113-15-3	ND:	ND
-	Total VOCs (LOQ -Stagimer	and testing?	15195	76		Worksheer check		YES	YES
100	THE PARTY OF PARTY AND PERSONS ASSESSED.	Production receipted.	15455	-70		711/3/8/21/0/11 (USKUN		1.150	4 3.450

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TestSafe Australia - Chemical Analysis Branch

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ILAC MRA NATA

Accreditation No. 3726

Accredited for compliance with ISO/IEC 17025 - Testing

SV908051 0817





Client: Jay Weber

Stephenson Environment Management Australia

VOCs - Volatile Organic Compounds

All compounds maribreed 1-73 are included of this analysis in the scope of NATA accreditation. Any subditional compounds attenued with * are not covered by NATA accreditation.

Method: Analysis of Volatile Organic Compounds in Workplace Air by Gas Chromatography/Mass Spectrometry
Method Number: WCA,207
Limit of Quantitation: Sug-section; 25µg-section for oxygenated hydrocarbons except acreone. MEK and MHSK at 5µg-section
and arounts hydrocarbon at lag-section.
Being Dascription: Volatile organic compounds are trapped from the workplace air orto charcoal tubes by the axe of a personal air
monitoring purity. The volatile organic compounds are then desorbed from the charcoal in the laboratory with CS₁. An alliquot of
the desorbant is mulysed by cupillary gas chromatography with mass apecrometry detection.

Total Volatile Organic Compounds (TVOC) test result in agricultion is calculated by comparison to the average mass detects scapones of the 73 quantified compounds. The response of a mess detector is dependent on the fragmentation of the molecule. Therefore, the TVOC text result should be interpreted as a senti-quantitative guide to the amount of VCCs present. If the TVOC text result is less than the addition of the total amount of the 73 quantified compounds than the TVOC result is of little value other than for comparative guipeoses. If the TVOC text result is greater than the addition of all the compounds quantified then this can indicate that there are additional compounds present other than the 73 quantified compounds reported.

PGME: Propylene Glycol Monomethyl Ether

PGMEA: Propylene Glycol Monomethyl Ether Acetate DGMEA: Diethylene Glycol Monoethyl Ether Acetate

Measurement Uncertainty

recognition to commit the calculation of the characterises the range of values within which the range value is asserted to lie. The uncertainty estimate is an expanded uncertainty using a coverage factor of 2, which gives a level of confidence of approximately 95%. The estimate is compliant with the "ISO Guide to the Expression of Uncertainty in Measurement" and is a full estimate boost on in-bouse method validation and quality control data.

Quality Assumance
In order to ensure the highest degree of necuricy and precision in our analytical results, we undertake extensive intra- and interlaboratory quality assumance (QA) activities. Widnin our own laboratory, we analyse laboratory and field blanks and perform
deplicate and report analysis of amples. Spiked QA samples are also included motively in each native course the accuracy of the
analyses. WorkCover Laboratory Services has participated for many years in several national and inter-laboratory
comparison programs listed below:

Workplace Analysis Scheme for Profiniency (WASP) conducted by the Bealth & Safety Executive UK.

Quality Management is Occupational and Bavironamental Metheine QA Program, conducted by the Institute for Occupational.

Social and Environamental Medicine, Chimenaly of Enlargen – Nutemberg, Germany:

Quality Control Technologies QA Program, Australia;

Royal College of Pathologists QA Program, Australia;

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SW00051-0817