

ANNUAL COMPLIANCE SCRUBBER SOURCE EMISSION MONITORING-2022

AUSTRALIAN COMFORT GROUP PTY LTD

WETHERILL PARK, NSW

PROJECT No.: 7252/\$25956/22

DATE OF SURVEY: 12 OCTOBER 2022

DATE OF ISSUE: 14 (DRAFT) & 30 (FINAL) NOVEMBER 2022



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Pw Stephenson

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GARY HALL - ANE

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1 EXECUTIVE SUMMARY

Stephenson Environmental Management Australia (SEMA) was requested by Australian Comfort Group Pty Limited (ACG) to assess the emission from the two exhaust stacks serving the pouring and curing processes at their flexible foam products manufacturing plant at 32-36 Frank Street, Wetherill Park, NSW.

Due to the uncertainty surrounding COVID-19 travel restrictions SEMA appointed the NATA accredited Air Noise Environment (ANE) to perform the emission testing under SEMA project management. The tests were undertaken during normal production conditions on October 12, 2022.

The objectives of the tests were to undertake annual compliance source emission tests of the flexible foam manufacture including pouring, curing and associated exhaust gas cleaning equipment as required by the Environment Protection Authority (EPA) Environment Protection Licence (EPL) No. 2372.

Table 2-1 summarises the scope of work undertaken with the EPL emission concentration limits. Table 2-1 also summarises the emission test results which are presented in detail in the NATA endorsed emission test report in Appendix A.

2 RESULTS AND DISCUSSION

2.1 EMISSION TEST RESULTS

ANE conducted the sampling for all the parameters and the analysis for flow, temperature, moisture, toluene diisocyanate (TDI) (2,4 and 2,6) and dichloromethane (DCM).

ANE is NATA accredited (No.15841) for this work. Refer to Appendix A for ANE's NATA accredited Emissions Test Report and Safe Work NSW/Test Safe Australia NATA accredited certificates of analysis.

The results of the source emission tests are presented in Table 2-1 and Appendix A. The sample locations are graphically presented in Appendix B.

TABLE 2-1 EMISSION CONCENTRATION TEST RESULTS, EPA ID Nos. 1 & 2

| Emission Parameter | EPA ID No. 1 Exhaust Stack serving Pouring Line | EPA ID No. 2 Exhaust Stack serving Hot Block Store for curing foam | | EPL 2732 Emission Limit |
|-------------------------------------|---|--|------------|-------------------------------|
| | Line | Run 1 Pour | Run 2 Cure | |
| Exhaust Temperature (C) | 25 | 25 | 25 | |
| Exhaust Velocity (m/s) | 10.6 | 16.0 | 16.0 | |
| Volumetric Flow (Dry) (m³/s) | 10.7 | 16.2 | 16.2 | |
| Dry Gas Molecular Weight (g/g-mole) | 28.84 | 28.84 | 28.84 | |
| Stack Static Pressure (mmH2O) | 6.5 | 4.6 | 4.6 | |
| Moisture (%) | 1.6 | 1.6 | 1.6 | |
| TDI 2,4 (mg/m³) | 0.002 | <0.002 | <0.0007 | 0.002 |
| DCM (mg/m³) | 130 | 250 | 110 | 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 |

3 CONCLUSIONS

Thus, it is concluded that:

- All emission parameters TDI 2,4 and DCM emissions showed the flexible foam pouring and curing process and associated emission control system for EPA ID No.1 and No.2 were being operated efficiently and the measured emission test results complied with the discharge DCM and TDI 2,4 emission emission limits specified in EPL Licence No.2732.
- However, during the pouring process, the 2,4 TDI emission was at the EPL limit.

| AUSTRALIAN COMFORT GROUP WETHERILL PARK, NSW | Annual Source Emission Monitoring October 2022 |
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Scrubber Emission Monitoring -Australian Comfort Group Pty Ltd - 2022

Stephenson Environmental Management

Wetherill Park, NSW

Sampling Date: 12 October 2022

Issued: 29 November 2022

Prepared by:

Air Noise Environment

ABN: 13 081 834 513



Accredited for Compliance with ISO/IEC 17025 - Testing









NATA Accreditation Number: 15841

Accredited for compliance with ISO/IEC 17025 - Testing

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| 01.1 | 29/11/2022 | Gary Hall | GHall | Updated Lab results from revised report. |
| 01.2 | | | Į u | |

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Where site inspections, testing or fieldwork have taken place, the report is based on the information made available by the client or their nominees during the visit, visual observations and any subsequent discussions with regulatory authorities. It is further assumed that normal activities were being undertaken at the site on the day of the site visit(s).

The validity and comprehensiveness of supplied information has not been independently verified and, for the purposes of this report, it is assumed that the information provided to Air Noise Environment Pty Ltd for the purposes of this project is both complete and accurate.





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Executive Summary

Stack Emission testing from the two exhaust stacks serving the pouring and curing processes at the Australian Comfort Group site in Wetherill park was conducted on 12 October 2022. Sampling was conducted for flow parameters as well as toluene diisocyanate 2.4 (TDI) and dichloromethane (DCM) to confirm compliance with Environment Protection Authority (EPA) Environment Protection Licence (EPL) No. 2372. A summary of the results are included in Table 1 below

Table 1: Summary of Results

| Emission Parameter | EPA ID No. 1 Exhaust Stack | Release Point EPA Stack serving H for Curin | EPL 2732 Emission | |
|--------------------|-------------------------------|---|----------------------|-------|
| | serving Pouring Line | Run 1 Pour | Run 2 Cure | Limit |
| TDI (2,4) (mg/m³) | 0.002 | <0.002 | <0.0007 | 0.002 |
| DCM (mg/m³) | 130 | 250 | 110 | 1200 |



1 Introduction

Stephenson Environmental Management (SEMA) commissioned Air Noise Environment Pty Ltd to conduct monitoring of air emissions from the Australian Comfort Group Pty Ltd site in Wetherill Park NSW. The emissions from the 2 stacks were completed on 12 October 2022.

The objectives of the emission testing was to meet the annual monitoring requirements for the stacks under the site's Environmental Protection Licence (EPL), Number (No.) 2372 and to determine if the concentration limits specified in the EPL were met.

Table 1.1 details the monitoring locations and the monitoring performed at each location.

Table 1.1: Monitoring Locations and Parameters

| Compound | Release Point | | |
|------------------|---------------|----------|--|
| Compound | EPA ID 1 | EPA ID 2 | |
| Temperature | ✓ | 1 | |
| Velocity | ✓ | 1 | |
| Volumetric Flow | ✓ | 1 | |
| Dry Gas Density | ✓ | ✓ | |
| Moisture Content | ✓ | 1 | |
| TDI 2,4 (mg/m³) | ✓ | 1 | |
| DCM (mg/m³) | ✓ | 1 | |

The monitoring of air emissions at the Australian Comfort Group was completed during normal operating conditions. Any factors that may have affected the monitoring results were not observed by, or brought to the notice of Air Noise Environment (ANE) staff except where noted in this report.

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Air Noise Environment Stephenson Environmental Management- Scrubber Emission Monitoring - Australian Comfort Group Pty Ltd
Environment Stephenson Environmental - Wetheril Parki227402.0033 - Dunlop Foams - stack testing for TDNOuts227402.0033ReportD



2 Methodology

2.1 Emission Testing

Table 2.1 below lists the Methods used when undertaking emission monitoring at the Australian Comfort Group site.

All air quality monitoring undertaken by Air Noise Environment (ANE) has been undertaken in accordance with the methods identified in Table 2.1 below unless as specified in Section 2.3.

Table 2.1: Summary Of Emission Monitoring Methods

| Measurement Parameter | Method Equivalency |
|--------------------------|--|
| Temperature | TM-2 (USEPA Method 2 Determination of Stack Gas Velocity and Flow Rate) |
| Dry Gas Density | TM23 (USEPA Method 3 Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources) |
| Flow | TM-2 (USEPA Method 2 Determination of Stack Gas Velocity and Flow Rate) |
| Moisture Content | TM-22 USEPA Method 4 Determination of Moisture Content in Stack Gases |
| Molecular Weight | TM23 (USEPA Method 3 Determination of Oxygen and Carbon Dioxide Concentrations in Emissions from Stationary Sources) |
| TDI 2,4 (mg/m³) | HSE-MDHS 25/3, (WCA 110) |
| DCM (mg/m³) | TM-34 - USEPA Method 18 Measurement of Gaseous Organic Compounds by Gas Chromatography. |

2.2 Laboratory Analysis

Table 2.2 Provides a list of the NATA accredited laboratories that performed the applicable analysis, NATA accreditation number, and report number.

Table 2.2: Table of NATA Accredited Laboratories with NATA Accreditation Number

| Measurement Parameter | NATA Accreditation Number | Report Number |
|-----------------------|--------------------------------------|---------------|
| TDI 2,4 (mg/m³) | SafeWork NSW TestSafe Australia 3726 | 2022-4226 |
| DCM (mg/m³) | SafeWork NSW TestSafe Australia 3726 | 2022-4225 |

2.3 Deviation from Methods

Post sampling, DCM and TDI sample media were provided to SEMA who submitted the samples to Test Safe Laboratories for the analysis.

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3 Results

3.1 Introduction

The following sections present a summary of results for each sampling location.

3.1.1 Monitoring Results

Results of emissions monitoring for the 2 stacks are provided in Table 3.1 below for emissions monitoring completed on 12 October 2022.

Table 3.1: Flow and Sample Characteristics for EPA ID Nos 1 & 2 - 13 October 2022.

| Parameter | Unit of Measure | EPA ID No. 1 Exhaust stack serving Pouring Line | Exhaust st H | O No. 2 ack serving lot Store | EPL 2732 EPA limit |
|-----------------------------|--------------------|--|-----------------|--|--------------------------|
| | | | Run 1 Pour | Run 2 Purge | |
| Sample Start Time (hours) | hh:mm | 10:27 | 10:27 | 11:53 | - |
| Sample Finish Time (hours) | hh:mm | 11:27 | 11:27 | 14:53 | - |
| Stack Temperature | °C | 25 | 25 | 25 | - |
| Stack Cross-Sectional area | m² | 1.13 | 1.13 | 1.13 | - |
| Velocity | m/s | 10.6 | 16.0 | 16.0 | - |
| Actual Volumetric flow | m³/s | 12 | 18.3 | 18.3 | - |
| Normal volumetric flow rate | Nm³/s | 10.7 | 16.2 | 16.2 | - |
| Dry Gas Molecular Weight | g/g-mole | 28.84 | 28.84 | 28.84 | - |
| Stack Static Pressure | mmH₂O | 6.5 | 4.6 | 4.6 | - |
| Moisture | % | 1.6 | 1.6 | 1.6 | - |
| TDI 2,4 | mg/m³ | 0.002 | <0.002 | <0.0007 | 0.002 |
| DCM | mg/m³ | 130 | 250 | 110 | 1200 |



3.2 Accuracy of Monitoring Results

Table 3.2 presents a summary of the estimated method uncertainties for each of the monitoring parameters.

Table 3.2: Estimated Method Uncertainties

| Measurement Parameter | Method | % Uncertainty |
|-------------------------|-------------------------------|---------------|
| TDI (Total Isocyanates) | HSE-MDHS 25/3 (WCA.110) | - |
| VOC's (DCM) | NSW TM-34 | 15 |
| Velocity | NSW TM-2 (AS 4323.1, US EPA2) | 5 |

[#] Uncertainty values cited are calculated at the 95% confidence level, with a coverage factor of 2.





Appendix A - Glossary of Terms





| Al | PPENDIX A: GLOSSARY OF TERMS | | | | | | |
|-------|---|--|--|--|--|--|--|
| < | The analytes tested for was not detected, the value stated is the reportable limit of detection | | | | | | |
| μg | Micrograms (10⁴grams) | | | | | | |
| AS | Australian Standard | | | | | | |
| dscm | dry standard cubic meters (at 0°C and 1 atmosphere) | | | | | | |
| g | grams | | | | | | |
| kg | kilograms | | | | | | |
| m | metres | | | | | | |
| m³ | Cubic Metres, actual gas volume in cubic metres as measured. | | | | | | |
| mg | Milligrams | | | | | | |
| min | Minute | | | | | | |
| mg/m³ | Milligrams (10 ⁻³) per cubic metre. | | | | | | |
| mmH₂O | Millimetres of water | | | | | | |
| Mole | The mole, symbol mol, is the SI unit of amount of substance. One mole contains exactly $6.022\ 140\ 76\ x\ 10^{23}$ elementary entities. This number is the fixed numerical value of the Avogadro constant, N_A , when expressed in the unit mol ⁻¹ and is called the Avogadro number. The amount of substance, symbol n, of a system is a measure of the number of specified elementary entities. An elementary entity may be an atom, a molecule, an ion, an electron, any other particle or specified group of particles. This definition implies the exact relation $N_A = 6.022\ 140\ 76\ x\ 10^{23}\ mol^{-2}$. Inverting this relation gives an exact expression for the mole in terms of the defining constant N_A : $1\ mol = \left(\frac{6.022\ 140\ 76\ x\ 10^{23}}{N_A}\right)$ The effect of this definition is that the mole is the amount of substance of a system that contains $6.022\ 140\ 76\ x\ 10^{23}$ specified elementary entities. | | | | | | |
| N/A | Not Applicable | | | | | | |
| ng | Nanograms (10 ⁻³ grams) | | | | | | |
| Nm³ | Normalised Cubic Metres - Gas volume in dry cubic metres at standard temperature and pressure (0°C and 101.3 kPa). | | | | | | |
| ou | Odour Units | | | | | | |
| °C | Degrees Celsius | | | | | | |
| μg/m³ | Micrograms (104) per cubic metre. Conversions from $\mu g/m^3$ to parts per | | | | | | |

up Pty Ltd - 2022





| APPENDIX A: GLOSSARY OF TERMS | | | | | | |
|--|--|--|--|--|--|--|
| | volume concentrations (ie, ppb) are calculated at 25 °C. | | | | | |
| ppb / ppm | Parts per billion / million. | | | | | |
| PM | Particulate Matter. | | | | | |
| PM ₁₀ , PM _{2.5} , PM ₁ | Fine particulate matter with an equivalent aerodynamic diameter of less than 10, 2.5 or 1 micrometres respectively. Fine particulates are predominantly sourced from combustion processes. Vehicle emissions are a key source in urban environments. | | | | | |
| sec | Second | | | | | |
| Sm ³ | Standardised Cubic Metres - Gas volume in dry cubic metres at standard temperature and pressure (0°C and 101.3 kPa) and corrected to a standardised value (e.g. 7% O ₂). | | | | | |
| STP | Standard Temperature and Pressure (0°C and 101.3 kPa). | | | | | |
| TVOC | Total Volatile Organic Compounds. These compounds can be both toxic and odorous. | | | | | |
| USEPA | United States Environmental Protection Agency | | | | | |







Peter Stephenson

Lab. Reference:

2022-4225

Stephenson Environmental Management Australia

PO Box 6398

SILVERWATER NSW 1811

Samples analysed as received

SAMPLE ORIGIN: Project No: 7252

DATE OF INVESTIGATION: 12/10/2022

DATE RECEIVED:

14/10/22

ANALYSIS REQUIRED: Volatile Organic Compound

REPORT OF ANALYSIS OFFICIAL: Sensitive - Personal

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: 20/10/22

TestSafe Australia – Chemical Analysis Branch Level 2, Building 1, 9-15 Chilvers Road, Thornleigh, NSW 2120, Australia T: +61 2 9473 4000 E: <u>lab@safework.nsw.gov.au</u> W: <u>testsafe.com.au</u> ABN 81 913 830 179 ISC MRA NATA

Accreditation No. 3726

Accredited for compliance with ISO/IEC 17025 - Testing





Client: Stephenson Sample ID: 728358 Date Sampled: 12/10/2022 Date Analysed: 18/10/2022 Reference Number: 2022-4225-1

| No | Compounds | CAS No | Front | Back | No | Compounds | CAS No | Front | Back |
|----|---|----------------|---|---|-----|---|------------------|---|---------------------|
| | | | μg/section | | | | | μg/s | ection |
| | Aliphatic hydrocarbons (LOQ =lag(ch; AIR - AZI =Sag(ch) | | | | | Aromatic hydrocarbon | 5 (LOQ = 1µg/ce | mpound/sect | an) |
| 1 | 2-Methylbutane | 78-78-4 | <loq< td=""><td><loq< td=""><td>39</td><td>Benzene</td><td>71-43-2</td><td><loq< td=""><td><1.00</td></loq<></td></loq<></td></loq<> | <loq< td=""><td>39</td><td>Benzene</td><td>71-43-2</td><td><loq< td=""><td><1.00</td></loq<></td></loq<> | 39 | Benzene | 71-43-2 | <loq< td=""><td><1.00</td></loq<> | <1.00 |
| 2 | n-Pentane | 109-66-0 | <l0q< td=""><td><1.0Q</td><td>40</td><td>Ethylbenzene</td><td>100-41-4</td><td><loq< td=""><td><1.00</td></loq<></td></l0q<> | <1.0Q | 40 | Ethylbenzene | 100-41-4 | <loq< td=""><td><1.00</td></loq<> | <1.00 |
| 3 | 2-Methylpentase | 107-83-5 | <l0q< td=""><td><l0q< td=""><td>41</td><td>Isopropylbenzene</td><td>98-82-8</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<></td></l0q<> | <l0q< td=""><td>41</td><td>Isopropylbenzene</td><td>98-82-8</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<> | 41 | Isopropylbenzene | 98-82-8 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 4 | 3-Methylpentane | 96-14-0 | <l0q< td=""><td><loq< td=""><td>42</td><td>1,2,3-Trimethylbenzene</td><td>526-73-8</td><td><loq< td=""><td><1.00</td></loq<></td></loq<></td></l0q<> | <loq< td=""><td>42</td><td>1,2,3-Trimethylbenzene</td><td>526-73-8</td><td><loq< td=""><td><1.00</td></loq<></td></loq<> | 42 | 1,2,3-Trimethylbenzene | 526-73-8 | <loq< td=""><td><1.00</td></loq<> | <1.00 |
| 5 | Cyclopentane | 287-92-3 | <1.0Q | <loq< td=""><td>43</td><td>1,2,4-Trimethylbenzene</td><td>95-63-6</td><td><1.0Q</td><td><1.00</td></loq<> | 43 | 1,2,4-Trimethylbenzene | 95-63-6 | <1.0Q | <1.00 |
| 6 | Methylcyclopentane | 96-37-7 | <l0q< td=""><td><loq< td=""><td>44</td><td>1,3,5-Trimethylbenzene</td><td>108-67-8</td><td><l0q< td=""><td>4.00</td></l0q<></td></loq<></td></l0q<> | <loq< td=""><td>44</td><td>1,3,5-Trimethylbenzene</td><td>108-67-8</td><td><l0q< td=""><td>4.00</td></l0q<></td></loq<> | 44 | 1,3,5-Trimethylbenzene | 108-67-8 | <l0q< td=""><td>4.00</td></l0q<> | 4.00 |
| 7 | 2,3-Dimethylpentane | 565-59-3 | <l0q< td=""><td><l0q< td=""><td>45</td><td>Styrene</td><td>100-42-5</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<></td></l0q<> | <l0q< td=""><td>45</td><td>Styrene</td><td>100-42-5</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<> | 45 | Styrene | 100-42-5 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 8 | n-Hexane | 110-54-3 | <l00< td=""><td><l00< td=""><td>46.</td><td>Tolsene</td><td>108-88-3</td><td><l00< td=""><td>6</td></l00<></td></l00<></td></l00<> | <l00< td=""><td>46.</td><td>Tolsene</td><td>108-88-3</td><td><l00< td=""><td>6</td></l00<></td></l00<> | 46. | Tolsene | 108-88-3 | <l00< td=""><td>6</td></l00<> | 6 |
| 9 | 3-Methylhexane | 589-34-4 | <1.0Q | <loq< td=""><td>47</td><td>p-Xylene &/or m-Xylene</td><td>180-07.73</td><td><1.0Q</td><td><l00< td=""></l00<></td></loq<> | 47 | p-Xylene &/or m-Xylene | 180-07.73 | <1.0Q | <l00< td=""></l00<> |
| 0 | Cyclohevane | 210-82-7 | <1.0Q | <l0q< td=""><td>48</td><td>o-Xylene</td><td>95-47-6</td><td><1.0Q</td><td><1.00</td></l0q<> | 48 | o-Xylene | 95-47-6 | <1.0Q | <1.00 |
| 11 | Methylcyclohexane | 108-87-2 | <1.0Q | <l0q< td=""><td></td><td>Ketones (LOQ -tµg/ch; LOQ</td><td>145, 153 -10µg/c</td><td>is; 650, 651 -</td><td>50µg(c/s)</td></l0q<> | | Ketones (LOQ -tµg/ch; LOQ | 145, 153 -10µg/c | is; 650, 651 - | 50µg(c/s) |
| 2 | 2,2,4-Trimethylpentane | 540-84-1 | <1.0Q | <l0q< td=""><td>49</td><td>Acetone</td><td>67-64-1</td><td><1.0Q</td><td><l00< td=""></l00<></td></l0q<> | 49 | Acetone | 67-64-1 | <1.0Q | <l00< td=""></l00<> |
| 3 | n-Heptane | 142-82-5 | <loq< td=""><td><l0q< td=""><td>50</td><td>Acetoin</td><td>513-86-0</td><td><1.0Q</td><td><1.00</td></l0q<></td></loq<> | <l0q< td=""><td>50</td><td>Acetoin</td><td>513-86-0</td><td><1.0Q</td><td><1.00</td></l0q<> | 50 | Acetoin | 513-86-0 | <1.0Q | <1.00 |
| 4 | n-Octane | 111-65-9 | <1.0Q | <l00< td=""><td>51</td><td>Discetone alcohol</td><td>123-42-2</td><td><1.0Q</td><td><1.00</td></l00<> | 51 | Discetone alcohol | 123-42-2 | <1.0Q | <1.00 |
| 5 | n-Nonane | 111-84-2 | <1.0Q | <1.0Q | 52 | Cyclohexanone | 108-94-1 | <l0q< td=""><td><l00< td=""></l00<></td></l0q<> | <l00< td=""></l00<> |
| 6 | n-Decane | 124-18-5 | <1.0Q | 4.00 | 53 | Isophorone | 78-59-1 | <1.0Q | <l00< td=""></l00<> |
| 7 | n-Undecane | 1120-21-4 | <l0q< td=""><td><l0q< td=""><td>54</td><td>Methyl ethyl ketone (MEK)</td><td>78-93-3</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<></td></l0q<> | <l0q< td=""><td>54</td><td>Methyl ethyl ketone (MEK)</td><td>78-93-3</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<> | 54 | Methyl ethyl ketone (MEK) | 78-93-3 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 8 | n-Dodecane | 112-40-3 | <1.00 | <1.0Q | 55 | Methyl isobutyl ketone (MIBK) | 108-10-1 | <1.0Q | <1.00 |
| 9 | n-Tridecane | 629-50-5 | <l00< td=""><td><1.0Q</td><td></td><td colspan="4">Alcohols (LOQ -tugicis; 855, 827, 828, 860 -10µgic/o)</td></l00<> | <1.0Q | | Alcohols (LOQ -tugicis; 855, 827, 828, 860 -10µgic/o) | | | |
| 0 | n-Tetradocane | 629-59-4 | <1.0Q | <l00< td=""><td>56</td><td>Ethyl alcohol</td><td>64-17-5</td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 56 | Ethyl alcohol | 64-17-5 | <1.00 | <l00< td=""></l00<> |
| 11 | α-Pinene | 89-56-8 | <l00< td=""><td><1.0Q</td><td>57</td><td>n-Butyl alcohol</td><td>71-36-3</td><td><1.00</td><td><1.00</td></l00<> | <1.0Q | 57 | n-Butyl alcohol | 71-36-3 | <1.00 | <1.00 |
| 2 | β-Ріпепе | 127-91-3 | <l0q< td=""><td><1.0Q</td><td>58</td><td>Isobutyf alcohol</td><td>78-83-1</td><td><l00< td=""><td><1.00</td></l00<></td></l0q<> | <1.0Q | 58 | Isobutyf alcohol | 78-83-1 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 3 | D-Limonene | 138-86-3 | <l0q< td=""><td><1.0Q</td><td>59</td><td>Isopropyl alcohol</td><td>67-63-0</td><td><l00< td=""><td><1.00</td></l00<></td></l0q<> | <1.0Q | 59 | Isopropyl alcohol | 67-63-0 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| T | Chlorinated hydrocar | bons (Log-1) | g/compound | (sample) | 60 | 2-Ethyl hexanol | 104-76-7 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 4 | Dichloromethane | 75-09-2 | 712 | <1.0Q | 61 | Cyclohexanol | 708-93-0 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 5 | 1,1-Dichloroethane | 75-34-3 | <l00< td=""><td><l00< td=""><td></td><td>Acetates (LOQ=tpgfeh; #62</td><td></td><td></td><td></td></l00<></td></l00<> | <l00< td=""><td></td><td>Acetates (LOQ=tpgfeh; #62</td><td></td><td></td><td></td></l00<> | | Acetates (LOQ=tpgfeh; #62 | | | |
| 6 | 1,2-Dichloroethane | 107-06-2 | <l0q< td=""><td><loq< td=""><td>62</td><td>Ethyl acetate</td><td>141-78-6</td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></loq<></td></l0q<> | <loq< td=""><td>62</td><td>Ethyl acetate</td><td>141-78-6</td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></loq<> | 62 | Ethyl acetate | 141-78-6 | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> |
| 7 | Chloroform | 67-66-3 | <1.00 | <1.0Q | 63 | n-Propyl acetate | 109-60-4 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 8 | 1,1,1-Trichloroethane | 71-55-6 | <1.00 | <l0q< td=""><td>64</td><td>n-Butyl acetate</td><td>123-86-4</td><td><1.00</td><td><l00< td=""></l00<></td></l0q<> | 64 | n-Butyl acetate | 123-86-4 | <1.00 | <l00< td=""></l00<> |
| 9 | 1,1,2-Trichloroethane | 79-00-5 | <1.0Q | <loq< td=""><td>65</td><td>Isobutyl apetate</td><td>110-19-0</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | 65 | Isobutyl apetate | 110-19-0 | <1.00 | <l00< td=""></l00<> |
| 0 | Trichloroethylene | 79-01-6 | <1.00 | <l00< td=""><td></td><td>Ethers (LOQ =1,eg/cli) 866 =16</td><td></td><td></td><td>-</td></l00<> | | Ethers (LOQ =1,eg/cli) 866 =16 | | | - |
| 1 | Carbon tetrachloride | 36-23-5 | <1.0Q | <l0q< td=""><td>66</td><td>Ethyl ether</td><td>60-29-7</td><td><1.00</td><td><l00< td=""></l00<></td></l0q<> | 66 | Ethyl ether | 60-29-7 | <1.00 | <l00< td=""></l00<> |
| 2 | Perchloroethylene | 127-18-4 | <l0q< td=""><td><l00< td=""><td>67</td><td>text-Butyl methyl ether acres</td><td>1634-04-4</td><td><1.00</td><td><l00< td=""></l00<></td></l00<></td></l0q<> | <l00< td=""><td>67</td><td>text-Butyl methyl ether acres</td><td>1634-04-4</td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 67 | text-Butyl methyl ether acres | 1634-04-4 | <1.00 | <l00< td=""></l00<> |
| 3 | 1,1,2,2-Tetrachloroethane | 79.34.5 | <loq< td=""><td><l00< td=""><td>68</td><td>Tetrahydrofigan (THF)</td><td>109.99.9</td><td><1.00</td><td><l00< td=""></l00<></td></l00<></td></loq<> | <l00< td=""><td>68</td><td>Tetrahydrofigan (THF)</td><td>109.99.9</td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 68 | Tetrahydrofigan (THF) | 109.99.9 | <1.00 | <l00< td=""></l00<> |
| 4 | Chlorobenzene | 108-90-7 | <loq< td=""><td><l0q< td=""><td></td><td>Glycols (LOQ-Lug/cls; NOX, N</td><td></td><td></td><td></td></l0q<></td></loq<> | <l0q< td=""><td></td><td>Glycols (LOQ-Lug/cls; NOX, N</td><td></td><td></td><td></td></l0q<> | | Glycols (LOQ-Lug/cls; NOX, N | | | |
| 5 | 1,2-Dichlorobenzene | 95-50-1 | <loq< td=""><td><1.00</td><td>69</td><td>PGME</td><td>107-98-2</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | <1.00 | 69 | PGME | 107-98-2 | <1.00 | <l00< td=""></l00<> |
| 6 | 1,4-Dichlorobenzene | 106-46-7 | <loq< td=""><td><1.00</td><td>70</td><td>Ethylene glycol diethyl ether</td><td>629-14-1</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | <1.00 | 70 | Ethylene glycol diethyl ether | 629-14-1 | <1.00 | <l00< td=""></l00<> |
| 1 | Miscellaneous (LOQ 137 | | | - | 71 | PGMEA | 108-65-6 | <1.00 | <l00< td=""></l00<> |
| 7 | Acetonitrile | 75.05.8 | <loq< td=""><td><l00< td=""><td>72</td><td>Cellosolve acetate</td><td>111-15-9</td><td><1.00</td><td><l00< td=""></l00<></td></l00<></td></loq<> | <l00< td=""><td>72</td><td>Cellosolve acetate</td><td>111-15-9</td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 72 | Cellosolve acetate | 111-15-9 | <1.00 | <l00< td=""></l00<> |
| 8 | n-Vinyt-2-pyrrolidinone | 88-12-0 | <loq< td=""><td><1.0Q</td><td>73</td><td>DGMEA</td><td>112-15-2</td><td><1.00</td><td>4.00</td></loq<> | <1.0Q | 73 | DGMEA | 112-15-2 | <1.00 | 4.00 |
| 1 | Extra compound 0.00 | | 37.1 | | | Extra compound (1.00- | | | 1 |
| 4 | Bromopropane * | 706-94-5 | <l0q< td=""><td><1.00</td><td>75</td><td>Naphthalene *</td><td>91-20-3</td><td><1.0Q</td><td><1.0Q</td></l0q<> | <1.00 | 75 | Naphthalene * | 91-20-3 | <1.0Q | <1.0Q |
| | Total VOCs (LOQ -50µg/core | pound/section) | 712 | <1.0Q | | Worksheet check | | 20 | 22/42254 |

2022-4225

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TestSafe Australia - Chemical Analysis Branch

ABN 81 913 830 179 Level 2, Building 1, 9–15 Chilvers Road, Thomleigh, NSW 2120, Australia Telephone +61 2 9473 4000 Email lab@safework.nsw.gov.au Website testsafe.com.au

Accreditation No. 3726

Accredited for compliance with ISO/IEC 17025 - Testing

SW08061 0817





Client: Stephenson Sample ID: 728359 Date Sampled: 12/10/2022 Date Analysed: 18/10/2022 Reference Number: 2022-4225-2

| No | Compounds | Compounds CAS No | Front | Back | No | Compounds | CAS No | Front | Back |
|----|--|------------------|---|---|--------|--|---------------------------|---|---------------------|
| | *2001*2000/*1011 | | μg/se | ection | | 3000004.000 | 960,0000555 | µg/section | |
| 1 | Aliphatic hydrocarbor | 18 (LOQ =1µg/cla | ; #18 - #23 =5 | Spig(cla) | | Aromatic hydrocarbon | 8 (LOQ = Ippico | enpowed/sect | en) |
| 1 | 2-Methylbutane | 78-78-4 | <loq< th=""><th><f00< th=""><th>39</th><th>Benzene</th><th>71-43-2</th><th><1.0Q</th><th><1.0Q</th></f00<></th></loq<> | <f00< th=""><th>39</th><th>Benzene</th><th>71-43-2</th><th><1.0Q</th><th><1.0Q</th></f00<> | 39 | Benzene | 71-43-2 | <1.0Q | <1.0Q |
| 2 | n-Pentane | /09-66-0 | <l0q< td=""><td><1.0Q</td><td>40</td><td>Ethylbenzeae</td><td>100-41-4</td><td><l0q< td=""><td><l00< td=""></l00<></td></l0q<></td></l0q<> | <1.0Q | 40 | Ethylbenzeae | 100-41-4 | <l0q< td=""><td><l00< td=""></l00<></td></l0q<> | <l00< td=""></l00<> |
| 3 | 2-Methylpentane | 107-83-5 | <l0q< td=""><td><l00< td=""><td>41</td><td>Isopropy/benzene</td><td>98-82-8</td><td><1.0Q</td><td><1.0Q</td></l00<></td></l0q<> | <l00< td=""><td>41</td><td>Isopropy/benzene</td><td>98-82-8</td><td><1.0Q</td><td><1.0Q</td></l00<> | 41 | Isopropy/benzene | 98-82-8 | <1.0Q | <1.0Q |
| 4 | 3-Methylpentane | 96-14-0 | <loq< td=""><td><l00< td=""><td>42</td><td>1,2,3-Trimethythenzene</td><td>526-73-8</td><td><l00< td=""><td><1.00</td></l00<></td></l00<></td></loq<> | <l00< td=""><td>42</td><td>1,2,3-Trimethythenzene</td><td>526-73-8</td><td><l00< td=""><td><1.00</td></l00<></td></l00<> | 42 | 1,2,3-Trimethythenzene | 526-73-8 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 5 | Cyclopentane | 287-92-3 | <l0q< td=""><td><1.00</td><td>43</td><td>1,2,4-Trimethylbenzene</td><td>95-63-6</td><td><l0q< td=""><td><1.00</td></l0q<></td></l0q<> | <1.00 | 43 | 1,2,4-Trimethylbenzene | 95-63-6 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 6 | Methylcyclopentane | 96-37-7 | <loq< td=""><td><loq< td=""><td>44</td><td>1,3,5-Trimethy/benzone</td><td>108-67-8</td><td><1.0Q</td><td><1.0Q</td></loq<></td></loq<> | <loq< td=""><td>44</td><td>1,3,5-Trimethy/benzone</td><td>108-67-8</td><td><1.0Q</td><td><1.0Q</td></loq<> | 44 | 1,3,5-Trimethy/benzone | 108-67-8 | <1.0Q | <1.0Q |
| 7 | 2,3-Dimethylpentane | 565-59-3 | <loq< td=""><td><loq< td=""><td>45</td><td>Styrene</td><td>100-42-5</td><td><l0q< td=""><td><1.00</td></l0q<></td></loq<></td></loq<> | <loq< td=""><td>45</td><td>Styrene</td><td>100-42-5</td><td><l0q< td=""><td><1.00</td></l0q<></td></loq<> | 45 | Styrene | 100-42-5 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 8 | n-Hexane | 110-54-3 | <1.0Q | <1.00 | 46 | Toluene: | 108-88-3 | 3 | 7 |
| 9 | 3-Methythexane | 589-34-4 | <l0q< td=""><td><l0q< td=""><td>47</td><td>p-Xylene &/or m-Xylene</td><td>365-25-3 at 368-38-3</td><td><l00< td=""><td><1.00</td></l00<></td></l0q<></td></l0q<> | <l0q< td=""><td>47</td><td>p-Xylene &/or m-Xylene</td><td>365-25-3 at 368-38-3</td><td><l00< td=""><td><1.00</td></l00<></td></l0q<> | 47 | p-Xylene &/or m-Xylene | 365-25-3 at 368-38-3 | <l00< td=""><td><1.00</td></l00<> | <1.00 |
| 10 | Cyclohexane | 710-82-7 | <l0q< td=""><td><loq< td=""><td>48</td><td>n-Xylene</td><td>93-47-6</td><td><loq.< td=""><td><1.00</td></loq.<></td></loq<></td></l0q<> | <loq< td=""><td>48</td><td>n-Xylene</td><td>93-47-6</td><td><loq.< td=""><td><1.00</td></loq.<></td></loq<> | 48 | n-Xylene | 93-47-6 | <loq.< td=""><td><1.00</td></loq.<> | <1.00 |
| П | Methylcyclohexane | 108-87-2 | <1.0Q | <loq< td=""><td></td><td>Ketones (LOQ -lagiels; LOQ</td><td>#49, #53 =18ag/c</td><td>/s; #50, #51 =</td><td>Stag (c/s)</td></loq<> | | Ketones (LOQ -lagiels; LOQ | #49, #53 =18ag/c | /s; #50, #51 = | Stag (c/s) |
| 12 | 2,2,4-Trimethylpentane | 540-84-1 | <loq< td=""><td><loq< td=""><td>49</td><td>Acetone</td><td>67-64-1</td><td><loq< td=""><td><1.00</td></loq<></td></loq<></td></loq<> | <loq< td=""><td>49</td><td>Acetone</td><td>67-64-1</td><td><loq< td=""><td><1.00</td></loq<></td></loq<> | 49 | Acetone | 67-64-1 | <loq< td=""><td><1.00</td></loq<> | <1.00 |
| 13 | n-Heptane | 142-82-5 | <1.0Q | <loq< td=""><td>50</td><td>Acetoin</td><td>513-86-0</td><td><1.0Q</td><td>4.00</td></loq<> | 50 | Acetoin | 513-86-0 | <1.0Q | 4.00 |
| 14 | n-Octane | 111-63-9 | <1.0Q | <loq< td=""><td>51</td><td>Diacetone alcohol</td><td>123-42-2</td><td><1.0Q</td><td><1.00</td></loq<> | 51 | Diacetone alcohol | 123-42-2 | <1.0Q | <1.00 |
| 15 | n-Nonane | 111-84-2 | <1.0Q | <1.0Q | 52 | Cyclohexanone | 108-94-1 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 16 | n-Decane | 124-18-5 | <1.00 | <1.0Q | 53 | Isophorene | 78-59-1 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 |
| 17 | n-Undecane | 1120-21-4 | <1.00 | <loq< td=""><td>54</td><td>Methyl ethyl ketone (NEK)</td><td>78-93-3</td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></loq<> | 54 | Methyl ethyl ketone (NEK) | 78-93-3 | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> |
| 8 | n-Dodecane | 112-40-3 | <1.0Q | <l00< td=""><td>55</td><td>Methyl isobutyl ketone (MBK)</td><td></td><td><1.00</td><td><1.00</td></l00<> | 55 | Methyl isobutyl ketone (MBK) | | <1.00 | <1.00 |
| 19 | n-Tridecone | 629-50-5 | <1.00 | <l00< td=""><td>\Box</td><td colspan="4">Alcohols (LOQ =1,000/s), 856, 857, 858, 860 =10,000/s)</td></l00<> | \Box | Alcohols (LOQ =1,000/s), 856, 857, 858, 860 =10,000/s) | | | |
| 20 | a-Tetradecane | 629-59-4 | <l00< td=""><td><l00< td=""><td>56</td><td>Ethyl alcohol</td><td>64-17-5</td><td><1.00</td><td><l00< td=""></l00<></td></l00<></td></l00<> | <l00< td=""><td>56</td><td>Ethyl alcohol</td><td>64-17-5</td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 56 | Ethyl alcohol | 64-17-5 | <1.00 | <l00< td=""></l00<> |
| 21 | a-Pinene | 80-36-8 | <1.0Q | <l00< td=""><td>57</td><td>n-Butyl alcohol</td><td>71-36-3</td><td><l0q< td=""><td><l00< td=""></l00<></td></l0q<></td></l00<> | 57 | n-Butyl alcohol | 71-36-3 | <l0q< td=""><td><l00< td=""></l00<></td></l0q<> | <l00< td=""></l00<> |
| 12 | ß-Pinene | 127-91-3 | <1.00 | <1.00 | 58 | Isobutyl alcohol | 78-83-1 | <1.00 | <l00< td=""></l00<> |
| 13 | D-Limonene | 138-86-3 | <l00< td=""><td><l00< td=""><td>59</td><td>Isopropyl alcohol</td><td>67-63-0</td><td><000</td><td><l00< td=""></l00<></td></l00<></td></l00<> | <l00< td=""><td>59</td><td>Isopropyl alcohol</td><td>67-63-0</td><td><000</td><td><l00< td=""></l00<></td></l00<> | 59 | Isopropyl alcohol | 67-63-0 | <000 | <l00< td=""></l00<> |
| 1 | Chlorinated hydrocarbons (LOQ-180/carposed/sample) | | | | | 2-Ethyl hexanol | 104-76-7 | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> |
| 24 | Dichloromethane | 73-09-2 | 1306 | <1.00 | 61 | Cyclohexanol | 108-93-0 | <1.00 | <l00< td=""></l00<> |
| 15 | 1.1-Dichloroethane | 75-34-3 | <1.00 | <l00< td=""><td>-</td><td>Acetates (1.00-tag/da 862</td><td></td><td>200</td><td>Loc</td></l00<> | - | Acetates (1.00-tag/da 862 | | 200 | Loc |
| 26 | 1.2-Dichlomethane | 107-06-2 | <l00< td=""><td><l00< td=""><td>62</td><td>Ethyl acetate</td><td>141-78-6</td><td><1.00</td><td><1.00</td></l00<></td></l00<> | <l00< td=""><td>62</td><td>Ethyl acetate</td><td>141-78-6</td><td><1.00</td><td><1.00</td></l00<> | 62 | Ethyl acetate | 141-78-6 | <1.00 | <1.00 |
| 27 | Chloroform | 67-66-3 | <l00< td=""><td><l00< td=""><td>63</td><td>n-Propyl acetate</td><td>109-60-4</td><td><1.00</td><td><0.00</td></l00<></td></l00<> | <l00< td=""><td>63</td><td>n-Propyl acetate</td><td>109-60-4</td><td><1.00</td><td><0.00</td></l00<> | 63 | n-Propyl acetate | 109-60-4 | <1.00 | <0.00 |
| 18 | L.L.I-Trichtoroethane | 71-55-6 | <l00< td=""><td><l00< td=""><td>64</td><td>n-Butyl acetate</td><td>123-86-4</td><td>4.00</td><td><l00< td=""></l00<></td></l00<></td></l00<> | <l00< td=""><td>64</td><td>n-Butyl acetate</td><td>123-86-4</td><td>4.00</td><td><l00< td=""></l00<></td></l00<> | 64 | n-Butyl acetate | 123-86-4 | 4.00 | <l00< td=""></l00<> |
| 29 | 1,1,2-Trichloroethane | 79-00-1 | <l00< td=""><td><l00< td=""><td>65</td><td>Isobutyl acetate</td><td></td><td><1.00</td><td><l00< td=""></l00<></td></l00<></td></l00<> | <l00< td=""><td>65</td><td>Isobutyl acetate</td><td></td><td><1.00</td><td><l00< td=""></l00<></td></l00<> | 65 | Isobutyl acetate | | <1.00 | <l00< td=""></l00<> |
| 10 | Trichloroethylene | 79-01-6 | <l00< td=""><td><l00< td=""><td>-</td><td>Ethers (LOQ-tag/o/; #66-1)</td><td>110-19-0</td><td>-100</td><td>-200</td></l00<></td></l00<> | <l00< td=""><td>-</td><td>Ethers (LOQ-tag/o/; #66-1)</td><td>110-19-0</td><td>-100</td><td>-200</td></l00<> | - | Ethers (LOQ-tag/o/; #66-1) | 110-19-0 | -100 | -200 |
| 31 | Carbon tetrachloride | 56-23-5 | <l00< td=""><td><1.00</td><td>66</td><td>Ethyl other</td><td></td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></l00<> | <1.00 | 66 | Ethyl other | | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> |
| 12 | Perchloroethylene | - | <l00< td=""><td><1.00</td><td>67</td><td>terr-Butyl methyl ether same</td><td>60-29-7</td><td><1.00</td><td><t00< td=""></t00<></td></l00<> | <1.00 | 67 | terr-Butyl methyl ether same | 60-29-7 | <1.00 | <t00< td=""></t00<> |
| 33 | 1,1,2,2-Tetrachloroethane | 127-18-4 | <l0q< td=""><td><1.00</td><td>68</td><td></td><td>1634-04-4</td><td>_</td><td><1.00</td></l0q<> | <1.00 | 68 | | 1634-04-4 | _ | <1.00 |
| 34 | Chlorohenzene | 79-34-5 | <l00< td=""><td>4.00</td><td>00</td><td>Tetrahydroforan (THF)</td><td>109-99-9</td><td><l00< td=""><td><luq< td=""></luq<></td></l00<></td></l00<> | 4.00 | 00 | Tetrahydroforan (THF) | 109-99-9 | <l00< td=""><td><luq< td=""></luq<></td></l00<> | <luq< td=""></luq<> |
| 15 | | | | - | 69 | Glycols (LOQ=lag(ch: #69, # | - | 400 | 4.00 |
| 16 | 1,2-Dichlorobenzene | 95-50-7 | <l00< td=""><td><l00< td=""><td>70</td><td>PGME</td><td>107-98-2</td><td><1.00</td><td>4.00</td></l00<></td></l00<> | <l00< td=""><td>70</td><td>PGME</td><td>107-98-2</td><td><1.00</td><td>4.00</td></l00<> | 70 | PGME | 107-98-2 | <1.00 | 4.00 |
| 10 | | 106-46-7 | <loq< td=""><td><1.0Q</td><td>-</td><td>Ethylene glycol diethyl ether</td><td>629-14-1</td><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<> | <1.0Q | - | Ethylene glycol diethyl ether | 629-14-1 | <l0q< td=""><td><l0q< td=""></l0q<></td></l0q<> | <l0q< td=""></l0q<> |
| - | Miscellaneous (1.00 soz- | - | and the same of | - | 71 | POMEA | 108-65-6 | <1.00 | 4.00 |
| 37 | Acetonitrile | 75-05-8 | <loq< td=""><td><loq< td=""><td>72</td><td>Cellosolve acetate</td><td>111-15-9</td><td><loq< td=""><td><1.0Q</td></loq<></td></loq<></td></loq<> | <loq< td=""><td>72</td><td>Cellosolve acetate</td><td>111-15-9</td><td><loq< td=""><td><1.0Q</td></loq<></td></loq<> | 72 | Cellosolve acetate | 111-15-9 | <loq< td=""><td><1.0Q</td></loq<> | <1.0Q |
| 38 | n-Vinyt-2-pyrrolidinone | 88-12-0 | <loq< td=""><td><l0q< td=""><td>73</td><td>DGMEA</td><td>112-15-2</td><td><loq< td=""><td><1.00</td></loq<></td></l0q<></td></loq<> | <l0q< td=""><td>73</td><td>DGMEA</td><td>112-15-2</td><td><loq< td=""><td><1.00</td></loq<></td></l0q<> | 73 | DGMEA | 112-15-2 | <loq< td=""><td><1.00</td></loq<> | <1.00 |
| 74 | Extra compound 0.00 - | | | | 75 | Extra compound (1.00 = Naphthalene * | 50aa/compound/ 91-20-3 | <loo< td=""><td>4.00</td></loo<> | 4.00 |
| + | Total VOCs (LOQ =50µg/com | - | 1309 | <l00< td=""><td>72</td><td>Worksheet check</td><td>71-20-3</td><td>_</td><td>384929</td></l00<> | 72 | Worksheet check | 71-20-3 | _ | 384929 |

2022-4225

TestSafe Australia - Chemical Analysis Branch

ABN 81 913 830 179 Level 2, Building 1, 9–15 Chilvers Road, Thornleigh, NSW 2120, Australia Telephone +61 2 9473 4000 Email lab@safework.nsw.gov.au Website testsafe.com.au

Accreditation No. 3726

Accredited for compliance with ISO/IEC 17025 - Testing

SW08061 0817





Client: Stephenson Sample ID: 728360 Date Sampled: 12/10/2022
Date Analysed: 18/10/2022
Reference Number: 2022-4225-3

| No | Compounds | CAS No | Front | Back | No | Compounds | CAS No | Front | Back | |
|----|--|----------------|--|---|----|---|------------------|---|---------------------|--|
| | | Cristin | μg/section | | | | C.A.S . NO | µg/s | ection | |
| | Aliphatic hydrocarbons (LOQ = µg o/s; 468 - 423 = 5µg o/s) | | | | | Aromatic hydrocarbon | S (LOQ = lag/o | mound'section) | | |
| 1 | 2-Methylbutane | 78-78-4 | <1.0Q | <l0q< td=""><td>39</td><td>Benzene</td><td>71-43-2</td><td><1.0Q</td><td><loq< td=""></loq<></td></l0q<> | 39 | Benzene | 71-43-2 | <1.0Q | <loq< td=""></loq<> | |
| 2 | n-Pentane | 109-66-0 | <1.0Q | <l0q< td=""><td>40</td><td>Ethylbenzene</td><td>100-41-4</td><td><1.0Q</td><td><l00< td=""></l00<></td></l0q<> | 40 | Ethylbenzene | 100-41-4 | <1.0Q | <l00< td=""></l00<> | |
| 3 | 2-Methylpentane | 107-83-5 | <loq< td=""><td><l0q< td=""><td>41</td><td>Isopropylbenzene</td><td>98-82-8</td><td><l0q< td=""><td><l00< td=""></l00<></td></l0q<></td></l0q<></td></loq<> | <l0q< td=""><td>41</td><td>Isopropylbenzene</td><td>98-82-8</td><td><l0q< td=""><td><l00< td=""></l00<></td></l0q<></td></l0q<> | 41 | Isopropylbenzene | 98-82-8 | <l0q< td=""><td><l00< td=""></l00<></td></l0q<> | <l00< td=""></l00<> | |
| 4 | 3-Methylpentane | 96-14-0 | <l0q< td=""><td><l0q< td=""><td>42</td><td>1,2,3-Trimethylbenzene</td><td>526-73-8</td><td><1.0Q</td><td><l00< td=""></l00<></td></l0q<></td></l0q<> | <l0q< td=""><td>42</td><td>1,2,3-Trimethylbenzene</td><td>526-73-8</td><td><1.0Q</td><td><l00< td=""></l00<></td></l0q<> | 42 | 1,2,3-Trimethylbenzene | 526-73-8 | <1.0Q | <l00< td=""></l00<> | |
| 5 | Cyclopentane | 287-92-3 | <l00< td=""><td><1.0Q</td><td>43</td><td>1,2,4-Trimethylbenzene</td><td>95-63-6</td><td><loq< td=""><td><l00< td=""></l00<></td></loq<></td></l00<> | <1.0Q | 43 | 1,2,4-Trimethylbenzene | 95-63-6 | <loq< td=""><td><l00< td=""></l00<></td></loq<> | <l00< td=""></l00<> | |
| 6 | Methylcyclopentane | 96-37-7 | <loq< td=""><td><1.0Q</td><td>44</td><td>1,3,5-Trimethythenzene</td><td>108-67-8</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<> | <1.0Q | 44 | 1,3,5-Trimethythenzene | 108-67-8 | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> | |
| 7 | 2,3-Dimethylpentane | 565-59-3 | <l0q< td=""><td><loq< td=""><td>45</td><td>Styrene</td><td>100-12-5</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<></td></l0q<> | <loq< td=""><td>45</td><td>Styrene</td><td>100-12-5</td><td><loq< td=""><td><loq< td=""></loq<></td></loq<></td></loq<> | 45 | Styrene | 100-12-5 | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> | |
| 8 | n-Hexane | 110-54-3 | <loq< td=""><td><l0q< td=""><td>46</td><td>Toluene</td><td>108-88-3</td><td>4</td><td>3</td></l0q<></td></loq<> | <l0q< td=""><td>46</td><td>Toluene</td><td>108-88-3</td><td>4</td><td>3</td></l0q<> | 46 | Toluene | 108-88-3 | 4 | 3 | |
| 9 | 3-Methylhexane | 589-34-4 | <1.0Q | <l0q< td=""><td>47</td><td>p-Xylene &/or m-Xylene</td><td>181-0-1</td><td><1.0Q</td><td><1.0Q</td></l0q<> | 47 | p-Xylene &/or m-Xylene | 181-0-1 | <1.0Q | <1.0Q | |
| 10 | Cyclohexane | 110-82-7 | <l0q< td=""><td><loq< td=""><td>48</td><td>o-Xylene</td><td>95-47-6</td><td><loq< td=""><td><l0q< td=""></l0q<></td></loq<></td></loq<></td></l0q<> | <loq< td=""><td>48</td><td>o-Xylene</td><td>95-47-6</td><td><loq< td=""><td><l0q< td=""></l0q<></td></loq<></td></loq<> | 48 | o-Xylene | 95-47-6 | <loq< td=""><td><l0q< td=""></l0q<></td></loq<> | <l0q< td=""></l0q<> | |
| 11 | Methylcyclohexane | 108-87-2 | <loq< td=""><td><1.0Q</td><td></td><td>Ketones (LOQ =tag/cir; LOQ</td><td>A49, 853 =10µg/c</td><td>s; #50, #51 =</td><td>Stag(c/s)</td></loq<> | <1.0Q | | Ketones (LOQ =tag/cir; LOQ | A49, 853 =10µg/c | s; #50, #51 = | Stag(c/s) | |
| 12 | 2,2,4-Trimethylpentane | 540-84-1 | <l0q< td=""><td><loq< td=""><td>49</td><td>Acctone</td><td>67-64-1</td><td><l0q< td=""><td><1.0Q</td></l0q<></td></loq<></td></l0q<> | <loq< td=""><td>49</td><td>Acctone</td><td>67-64-1</td><td><l0q< td=""><td><1.0Q</td></l0q<></td></loq<> | 49 | Acctone | 67-64-1 | <l0q< td=""><td><1.0Q</td></l0q<> | <1.0Q | |
| 13 | n-Heptane | 142-82-5 | <l0q< td=""><td><loq< td=""><td>50</td><td>Acetoin</td><td>513-86-0</td><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<></td></l0q<> | <loq< td=""><td>50</td><td>Acetoin</td><td>513-86-0</td><td><l0q< td=""><td><l0q< td=""></l0q<></td></l0q<></td></loq<> | 50 | Acetoin | 513-86-0 | <l0q< td=""><td><l0q< td=""></l0q<></td></l0q<> | <l0q< td=""></l0q<> | |
| 14 | n-Octane | 111-65-9 | <1.0Q | <loq< td=""><td>51</td><td>Discetone alcohol</td><td>123-42-2</td><td><loq< td=""><td><1.0Q</td></loq<></td></loq<> | 51 | Discetone alcohol | 123-42-2 | <loq< td=""><td><1.0Q</td></loq<> | <1.0Q | |
| 15 | n-Nonane | 111-84-2 | <l0q< td=""><td><loq< td=""><td>52</td><td>Cyclohexanone</td><td>108-9+1</td><td><loq< td=""><td><1.0Q</td></loq<></td></loq<></td></l0q<> | <loq< td=""><td>52</td><td>Cyclohexanone</td><td>108-9+1</td><td><loq< td=""><td><1.0Q</td></loq<></td></loq<> | 52 | Cyclohexanone | 108-9+1 | <loq< td=""><td><1.0Q</td></loq<> | <1.0Q | |
| 16 | n-Decane | 124-18-5 | <loq< td=""><td><loq< td=""><td>53</td><td>Esophorone</td><td>78-59-1</td><td><l0q< td=""><td><1.0Q</td></l0q<></td></loq<></td></loq<> | <loq< td=""><td>53</td><td>Esophorone</td><td>78-59-1</td><td><l0q< td=""><td><1.0Q</td></l0q<></td></loq<> | 53 | Esophorone | 78-59-1 | <l0q< td=""><td><1.0Q</td></l0q<> | <1.0Q | |
| 17 | n-Undecane | 1120-21-4 | <loq< td=""><td><l0q< td=""><td>54</td><td>Methyl ethyl ketone (MEK)</td><td>78-93-3</td><td><loq< td=""><td><1.0Q</td></loq<></td></l0q<></td></loq<> | <l0q< td=""><td>54</td><td>Methyl ethyl ketone (MEK)</td><td>78-93-3</td><td><loq< td=""><td><1.0Q</td></loq<></td></l0q<> | 54 | Methyl ethyl ketone (MEK) | 78-93-3 | <loq< td=""><td><1.0Q</td></loq<> | <1.0Q | |
| 18 | n-Dodecane | 112-40-3 | <1.0Q | <loq< td=""><td>55</td><td>Methyl isobutyl ketone (MISK)</td><td></td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></loq<> | 55 | Methyl isobutyl ketone (MISK) | | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> | |
| 19 | n-Tridecane | 629-50-5 | <l0q< td=""><td><loq< td=""><td></td><td colspan="5">Alcohols (LOQ=1µg/ch; #86, #87, #88, #80=10µg/ch)</td></loq<></td></l0q<> | <loq< td=""><td></td><td colspan="5">Alcohols (LOQ=1µg/ch; #86, #87, #88, #80=10µg/ch)</td></loq<> | | Alcohols (LOQ=1µg/ch; #86, #87, #88, #80=10µg/ch) | | | | |
| 20 | n-Tetradecane | 629-59-4 | <1.0Q | <loq< td=""><td>56</td><td>Ethyl alcohol</td><td>64-17-5</td><td><l00< td=""><td><l00< td=""></l00<></td></l00<></td></loq<> | 56 | Ethyl alcohol | 64-17-5 | <l00< td=""><td><l00< td=""></l00<></td></l00<> | <l00< td=""></l00<> | |
| 21 | a-Pinese | 80-56-8 | <1.0Q | <loq< td=""><td>57</td><td>n-Butyl alcohol</td><td>71-36-3</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | 57 | n-Butyl alcohol | 71-36-3 | <1.00 | <l00< td=""></l00<> | |
| 22 | β-Pinene | 127-91-3 | <loq< td=""><td><loq< td=""><td>58</td><td>Isobutyl alcohol</td><td>78-83-1</td><td><1.0Q</td><td><loq< td=""></loq<></td></loq<></td></loq<> | <loq< td=""><td>58</td><td>Isobutyl alcohol</td><td>78-83-1</td><td><1.0Q</td><td><loq< td=""></loq<></td></loq<> | 58 | Isobutyl alcohol | 78-83-1 | <1.0Q | <loq< td=""></loq<> | |
| 23 | D-Limonene | 138-86-3 | <1.0Q | <l00< td=""><td>59</td><td>(sopropy) alcohol</td><td>67-63-0</td><td><1.00</td><td><1.00</td></l00<> | 59 | (sopropy) alcohol | 67-63-0 | <1.00 | <1.00 | |
| | Chlorinated hydrocar | bons (Log=1) | g/comprosed | (sample) | 60 | 2-Ethyl hexanol | 104-76-7 | <l0q< td=""><td><l00< td=""></l00<></td></l0q<> | <l00< td=""></l00<> | |
| 24 | Dichloromethane | 75-09-2 | 1807 | <loq< td=""><td>61</td><td>Cyclohexanol</td><td>108-93-0</td><td><1.0Q</td><td><loq< td=""></loq<></td></loq<> | 61 | Cyclohexanol | 108-93-0 | <1.0Q | <loq< td=""></loq<> | |
| 25 | 1,1-Dichloroethane | 75-34-3 | <loq< td=""><td><loq< td=""><td></td><td>Acetates (LOQ=1µg cls; #62</td><td>-10 µg/c/s)</td><td></td><td></td></loq<></td></loq<> | <loq< td=""><td></td><td>Acetates (LOQ=1µg cls; #62</td><td>-10 µg/c/s)</td><td></td><td></td></loq<> | | Acetates (LOQ=1µg cls; #62 | -10 µg/c/s) | | | |
| 26 | 1,2-Dichloroethane | 107-06-2 | <1.0Q | <l0q< td=""><td>62</td><td>Ethyl acetate</td><td>141-78-6</td><td><1.0Q</td><td><loq< td=""></loq<></td></l0q<> | 62 | Ethyl acetate | 141-78-6 | <1.0Q | <loq< td=""></loq<> | |
| 27 | Chloroform | 67-66-3 | <loq< td=""><td><l00< td=""><td>63</td><td>n-Propyl acetate</td><td>109-60-4</td><td><loq< td=""><td><l00< td=""></l00<></td></loq<></td></l00<></td></loq<> | <l00< td=""><td>63</td><td>n-Propyl acetate</td><td>109-60-4</td><td><loq< td=""><td><l00< td=""></l00<></td></loq<></td></l00<> | 63 | n-Propyl acetate | 109-60-4 | <loq< td=""><td><l00< td=""></l00<></td></loq<> | <l00< td=""></l00<> | |
| 28 | 1,1,1-Trichloroethane | 71-55-6 | <loq< td=""><td><1.0Q</td><td>64</td><td>n-Butyl acetate</td><td>123-86-4</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | <1.0Q | 64 | n-Butyl acetate | 123-86-4 | <1.00 | <l00< td=""></l00<> | |
| 29 | 1,1,2-Trichloroethane | 79-00-5 | <loq< td=""><td><1.00</td><td>65</td><td>Isobutyl acetate</td><td>110-19-0</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | <1.00 | 65 | Isobutyl acetate | 110-19-0 | <1.00 | <l00< td=""></l00<> | |
| 10 | Trichloroethylene | 79-01-6 | <l00< td=""><td><l00< td=""><td></td><td>Ethers (LOQ= µg/c/s: #66=10</td><td></td><td></td><td></td></l00<></td></l00<> | <l00< td=""><td></td><td>Ethers (LOQ= µg/c/s: #66=10</td><td></td><td></td><td></td></l00<> | | Ethers (LOQ= µg/c/s: #66=10 | | | | |
| 1 | Carbon tetrachloride | 56-23-5 | <loq< td=""><td><1.0Q</td><td>66</td><td>Ethyl ether</td><td>60-29-7</td><td><l00< td=""><td><1.00</td></l00<></td></loq<> | <1.0Q | 66 | Ethyl ether | 60-29-7 | <l00< td=""><td><1.00</td></l00<> | <1.00 | |
| 12 | Perchloroethylene | 127-18-4 | <loq< td=""><td><1.0Q</td><td>67</td><td>Aert-Butyl methyl ether senso.</td><td>1634-04-4</td><td><1.00</td><td><l00< td=""></l00<></td></loq<> | <1.0Q | 67 | Aert-Butyl methyl ether senso. | 1634-04-4 | <1.00 | <l00< td=""></l00<> | |
| 33 | 1,1,2,2-Tetrachloroethane | 79-34-5 | <loq< td=""><td><loq< td=""><td>68</td><td>Tetrahydrofuran (1911)</td><td>/09-99-9</td><td><1.00</td><td>4.00</td></loq<></td></loq<> | <loq< td=""><td>68</td><td>Tetrahydrofuran (1911)</td><td>/09-99-9</td><td><1.00</td><td>4.00</td></loq<> | 68 | Tetrahydrofuran (1911) | /09-99-9 | <1.00 | 4.00 | |
| 14 | Chlorobenzene | 708-90-7 | <loq< td=""><td><1.0Q</td><td></td><td>Glycols (LOQ =1µg/c/c; 669, #</td><td>-</td><td></td><td></td></loq<> | <1.0Q | | Glycols (LOQ =1µg/c/c; 669, # | - | | | |
| 35 | 1,2-Dichlorobenzene | 95-50-7 | <l00< td=""><td><1.00</td><td>69</td><td>PGME</td><td>107-98-2</td><td><l00< td=""><td><1.00</td></l00<></td></l00<> | <1.00 | 69 | PGME | 107-98-2 | <l00< td=""><td><1.00</td></l00<> | <1.00 | |
| 36 | 1,4-Dichlorobenzene | 106-46-7 | <loq< td=""><td><loq< td=""><td>70</td><td>Ethylene glycol diethyl ether</td><td>629-14-1</td><td><l00< td=""><td>4.00</td></l00<></td></loq<></td></loq<> | <loq< td=""><td>70</td><td>Ethylene glycol diethyl ether</td><td>629-14-1</td><td><l00< td=""><td>4.00</td></l00<></td></loq<> | 70 | Ethylene glycol diethyl ether | 629-14-1 | <l00< td=""><td>4.00</td></l00<> | 4.00 | |
| | Miscellaneous (LOQ #37) | | | amole) | 71 | PGMEA | 108-65-6 | <l00< td=""><td><1.00</td></l00<> | <1.00 | |
| 7 | Acetonitrile | 75-05-8 | <l00< td=""><td><1.00</td><td>72</td><td>Cellosolve acetate</td><td>111-15-9</td><td><l00< td=""><td><1.00</td></l00<></td></l00<> | <1.00 | 72 | Cellosolve acetate | 111-15-9 | <l00< td=""><td><1.00</td></l00<> | <1.00 | |
| 8 | n-Vinyl-2-pyrrolidinone | 88-12-0 | <l00< td=""><td><l00< td=""><td>73</td><td>DGMEA</td><td>112-15-2</td><td><l0q< td=""><td><1.00</td></l0q<></td></l00<></td></l00<> | <l00< td=""><td>73</td><td>DGMEA</td><td>112-15-2</td><td><l0q< td=""><td><1.00</td></l0q<></td></l00<> | 73 | DGMEA | 112-15-2 | <l0q< td=""><td><1.00</td></l0q<> | <1.00 | |
| 1 | Extra compound (1.00 | | | | | Extra compound 11.00- | | | 200 | |
| 74 | Bromopropane * | 106-94-5 | <loq< td=""><td><l0q< td=""><td>75</td><td>Naphthalene *</td><td>91-20-3</td><td><1.0Q</td><td><1.0Q</td></l0q<></td></loq<> | <l0q< td=""><td>75</td><td>Naphthalene *</td><td>91-20-3</td><td><1.0Q</td><td><1.0Q</td></l0q<> | 75 | Naphthalene * | 91-20-3 | <1.0Q | <1.0Q | |
| | Total VOCs (1.0Q-50pg/com | psend/section) | 1811 | <1.0Q | | Worksheet check | J8 | 20 | dalessa i | |

2022-4225

TestSafe Australia - Chemical Analysis Branch

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IC MRA NATA

Accreditation No. 3726

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SW08061 0817





All compounds (numbered 1-73) that are reported in the analysis are covered within the scope of NATA accreditation. Any additional compounds denoted with * are not covered by NATA accreditation.

Method: WCA 207 Analysis of Volatile Organic Compounds in Workplace Air by Gas Chromatography/Mass Spectrometry

Limit of Quantitation (LOQ): 1 µg/sample except n-Dodecane, n-Tridocane, n-Totradecane, a-Pinene, b-Pinene and Limonene at 5 µg/sample; 10 µg/sample for Acetonitrile, Acetone, Isophorone, Ethanol, n-Butyl alcohol, Isobutyl alcohol, 2-Ethyl hexanol, Ethyl acetate, Ethyl ether and Bromopropane; 50 µg/sample for n-Vinyl-2-pyrrolidione, Aceton, Diacetone alcohol, PGME, DGMEA and Naphthalene.

Method Description: Volatile organic compounds were trapped from the workplace air onto charcoal tubes by the use of a personal air monitoring pump. The volatile organic compounds were described from the charcoal in the laboratory with CS₂. An aliquot of the desorbant was analysed by gas chromatography with mass spectrometry detection.

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

Measurement Uncertainty: The measurement uncertainty is an estimate that characterises the range of values within which the true 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 based on in-house method validation and quality control data. The measurement uncertainty relates to the analysis of the sampling of each does not take into consideration the sampling parameters such as pump flowrate, time, temperature and pressure. The measurement of uncertainty estimates are available upon request.

2022-4225

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2022-4226

Peter Stephenson Stephenson Environmental Management Australia PO Box 6398 SILVERWATER NSW 1811

SAMPLE ORIGIN: Project No: 7252

DATE OF INVESTIGATION: 12/10/2022 DATE RECEIVED: 14/10/22

ANALYSIS REQUIRED: Isocyanates in air

AMENDED REPORT OF ANALYSIS OFFICIAL: Sensitive - Personal

Lab. Reference:

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.

THis amended report replaces the report previously sent dated 21/10/2022.

The results are reported for the NCO groups of TDI monomers specifically.

Martin Mazereeuw

Manager

Date: 25/11/22

U

TestSafe Australia – Chemical Analysis Branch Level 2, Building 1, 9-15 Chilvers Road, Thornleigh, NSW 2120, Australia T: +61 2 9473 4000 E: lab@safework.nsw.gov.au W: testsafe.com.au ABN 81 913 830 179



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<u>Analysis of Total Isocyanates in Air by HPLC</u> (Amended)

Client: Peter Stephenson

Date Sampled:

12/10/2022

Company: SEMA

Date Analysed:

20/10/2022

Client Reference: 7252

| Laboratory Reference Number | Sample ID | Sample Type | 2,4-TDI (µg NCO/Sample) | 2,6-TDI (μg NCO/Sample) |
|--------------------------------|-----------|----------------|---|----------------------------|
| 2022-4226-1 | 728353 | Impinger | 0.13 | 0.57 |
| 2022-4226-1 | 728353 | Filter | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-2 | 728354 | Impinger | <loq< td=""><td>0.14</td></loq<> | 0.14 |
| 2022-4226-2 | 728354 | Filter | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-3 | 728355 | Impinger | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-3 | 728355 | Filter | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-4 | 728356 | Impinger | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-4 | 728356 | Filter | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-5 | 728357 | Impinger | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |
| 2022-4226-5 | 728357 | Filter | <loq< td=""><td><loq< td=""></loq<></td></loq<> | <loq< td=""></loq<> |

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TestSafe Australia - Chemical Analysis Branch

2022-4226 - Amended

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Accreditation No. 3726

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SW08051 0817





Analysis of Total Isocyanates in Air by HPLC (Amended)

Client: Peter Stephenson

Date Sampled:

12/10/2022

Company: SEMA

Date Analysed:

20/10/2022

Client Reference: 7252

Method No: WCA.110 Analysis of Total Isocyanates in Air by High Pressure Liquid Chromatography

Limit of Quantitation (LOQ): 0.1 µg/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 trap 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.

Measurement Uncertainty: The measurement uncertainty is an estimate that characterises the range of values within which the true 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 based on in-house method validation and quality control data. The measurement uncertainty relates to the analysis of the analyte on the sampling device and does not take into consideration the sampling parameters such as pump flowrate, time, temperature and pressure. The measurement of uncertainty estimates are available upon request.

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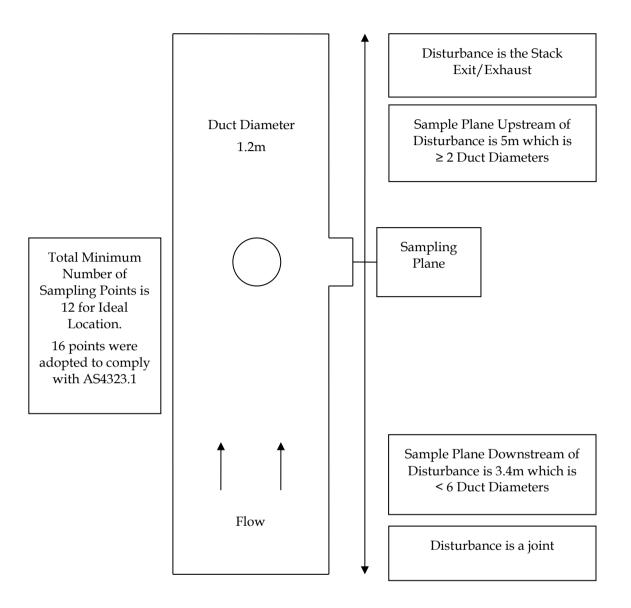
lac-mra NATA

Accreditation No. 3726

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SW08051 0617

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

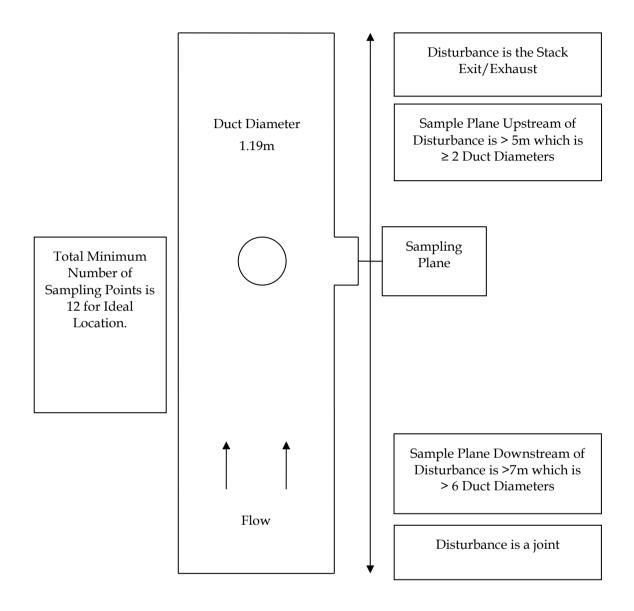


In the absence of cyclonic flow activity ideal sampling plane conditions will be found to exist at 6-8 duct diameters downstream and 2-3 duct diameters upstream from a flow disturbance. The sampling plane does not meet this criterion. Additional sample points were used in compliance with AS4323.1 as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