


# Schedule of Accreditation

issued by

## United Kingdom Accreditation Service

2 Pine Trees, Chertsey Lane, Staines-upon-Thames, TW18 3HR, UK

|   |  |   |
|---|--|---|
| <br><b>1901</b><br>Accredited to<br>ISO/IEC 17025:2017 | <b>Chivas Brothers Ltd</b>   |   |
|   | Issue No: 025 Issue date: 02 August 2021   |   |
|   | <b>Station Road</b><br><b>Keith</b><br><b>Banffshire</b><br><b>Scotland</b><br><b>AB55 5BU</b> | <b>Contact: Mr Alan Rettie</b><br><b>Tel: +44 (0) 1542 783100</b><br><b>E-Mail: alan.rettie@pernod-ricard.com</b> |
| Testing performed by the Organisation at the locations specified  |  |   |

### Locations covered by the organisation and their relevant activities

#### Laboratory locations:

| Location details   | Activity   | Location code  |
|--|--|--|
| <b>Address</b><br>Brands Technical Centre-North<br>Station Road<br>Keith<br>Banffshire<br>Scotland<br>AB55 5BU   | <b>Local contact</b><br>Contact: Mr Alan Rettie<br>Tel: +44 (0) 1542 783100<br>E-Mail: alan.rettie@pernod-ricard.com | <u>Testing</u><br>Chemical<br><br><u>Support Functions</u><br>Quality Management |
| <b>Address</b><br>Brands Technical Centre-South<br>Kilmalid<br>Stirling Road<br>Dumbarton<br>Scotland<br>G82 2SS | <b>Local contact</b><br>Contact: Mr Alan Rettie<br>Tel: +44 (0) 1542 783100<br>E-Mail: alan.rettie@pernod-ricard.com | <u>Testing</u><br>Chemical   |



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#### DETAIL OF ACCREDITATION

| Materials/Products tested   | Type of test/Properties measured/Range of measurement  | Standard specifications/ Equipment/Techniques used                 | Location Code |
|---|--|--|---------------|
| ALCOHOLIC BEVERAGES   | <u>Chemical Tests</u>  | Documented In-House Methods identified by procedure number         |               |
| Liqueurs, Spirits, Spirit Drinks and intermediate production process samples. | Alcoholic strength (apparent)  | BTCP-4003 by densitometry  | A, B          |
|   | Alcoholic strength (actual)  | BTCP-4003 by distillation followed by densitometry                 | A, B          |
| Liqueurs, Spirits, Spirit Drinks and intermediate production process samples. | Colour (Tint)  | BTCP-4012 by Spectrophotometer absorbance at 525nm                 | A, B          |
|   | Determination of Ethyl carbamate:<br>CAS No.<br>51-79-6  | BTCP-4004 by Gas Chromatography-Mass Spectrometry (GC/MS)          | A, B          |
|   | Determination of Higher Alcohols, Esters and Aldehydes:<br><br>CAS No.<br>Acetaldehyde 75-07-0<br>Methanol 67-56-1<br>Acetal 105-57-7<br>Ethyl acetate 141-78-6<br>n-Propanol 71-23-8<br>iso-Butanol 78-83-1<br>iso- Amyl Acetate 123-92-2<br>2-Methyl butanol 1565-80-6<br>3-Methyl butanol 123-51-3<br>Ethyl Caproate 123-66-0<br>Ethyl lactate 687-47-8<br>Furfural 98-01-1 | BTCP-4006 by Gas Chromatography Flame Ionisation Detector (GC-FID) | A, B          |



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| Materials/Products tested  | Type of test/Properties measured/Range of measurement  | Standard specifications/ Equipment/Techniques used                               | Location Code |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
|--|--|--|---------------|-----------------|-----------|-------------|---------|----------------|---------|-----------------|---------|---------------|----------|---|----------|----------------------|----------|---------------|----------|--------------|----------|------------------|---------|-----------------|----------|---------------|----------|-----------------|----------|-----------------|----------|-------------|----------|--------------------|------------|---------------|------------|----------------|----------|--------------|----------|-------------|----------|-----------------|----------|------------------|-----------|--|------|
| ALCOHOLIC BEVERAGES  | <u>Chemical Tests</u>  | Documented In-House Methods identified by procedure number                       |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Liqueurs, Spirits, Spirit Drinks and intermediate production process samples. (cont'd) | Determination of Esters, Acids and Alcohols:<br><br><table border="0"> <tr> <td></td> <td>CAS No.</td> </tr> <tr> <td>Ethyl caprylate</td> <td>106-32-1</td> </tr> <tr> <td>Acetic acid</td> <td>64-19-7</td> </tr> <tr> <td>Propionic acid</td> <td>79-09-4</td> </tr> <tr> <td>Isobutyric acid</td> <td>79-31-2</td> </tr> <tr> <td>Ethyl caprate</td> <td>110-38-3</td> </tr> <tr> <td>Isovaleric acid</td> <td>503-74-2</td> </tr> <tr> <td>Phenyl ethyl acetate</td> <td>103-45-7</td> </tr> <tr> <td>Ethyl laurate</td> <td>106-33-2</td> </tr> <tr> <td>Caproic acid</td> <td>142-62-1</td> </tr> <tr> <td>2-phenyl ethanol</td> <td>60-12-8</td> </tr> <tr> <td>Ethyl myristate</td> <td>124-06-1</td> </tr> <tr> <td>Caprylic acid</td> <td>124-07-2</td> </tr> <tr> <td>Pelargonic acid</td> <td>112-05-0</td> </tr> <tr> <td>Ethyl palmitate</td> <td>628-97-7</td> </tr> <tr> <td>Capric acid</td> <td>334-48-5</td> </tr> <tr> <td>Ethyl palmitoleate</td> <td>54546-22-4</td> </tr> <tr> <td>Cetyl Alcohol</td> <td>36653-82-4</td> </tr> <tr> <td>Ethyl Stearate</td> <td>111-61-5</td> </tr> <tr> <td>Ethyl Oleate</td> <td>111-62-6</td> </tr> <tr> <td>Lauric Acid</td> <td>143-07-7</td> </tr> <tr> <td>Ethyl linoleate</td> <td>544-35-4</td> </tr> <tr> <td>Ethyl linolenate</td> <td>1191-41-9</td> </tr> </table> |  | CAS No.       | Ethyl caprylate | 106-32-1  | Acetic acid | 64-19-7 | Propionic acid | 79-09-4 | Isobutyric acid | 79-31-2 | Ethyl caprate | 110-38-3 | Isovaleric acid   | 503-74-2 | Phenyl ethyl acetate | 103-45-7 | Ethyl laurate | 106-33-2 | Caproic acid | 142-62-1 | 2-phenyl ethanol | 60-12-8 | Ethyl myristate | 124-06-1 | Caprylic acid | 124-07-2 | Pelargonic acid | 112-05-0 | Ethyl palmitate | 628-97-7 | Capric acid | 334-48-5 | Ethyl palmitoleate | 54546-22-4 | Cetyl Alcohol | 36653-82-4 | Ethyl Stearate | 111-61-5 | Ethyl Oleate | 111-62-6 | Lauric Acid | 143-07-7 | Ethyl linoleate | 544-35-4 | Ethyl linolenate | 1191-41-9 | BTCP-4015 by Gas<br><br>Chromatography Mass Spectrometry (GC-MS) | A, B |
|  | CAS No.  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl caprylate  | 106-32-1   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Acetic acid  | 64-19-7  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Propionic acid   | 79-09-4  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Isobutyric acid  | 79-31-2  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl caprate  | 110-38-3   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Isovaleric acid  | 503-74-2   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Phenyl ethyl acetate   | 103-45-7   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl laurate  | 106-33-2   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Caproic acid   | 142-62-1   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| 2-phenyl ethanol   | 60-12-8  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl myristate  | 124-06-1   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Caprylic acid  | 124-07-2   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Pelargonic acid  | 112-05-0   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl palmitate  | 628-97-7   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Capric acid  | 334-48-5   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl palmitoleate   | 54546-22-4   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Cetyl Alcohol  | 36653-82-4   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl Stearate   | 111-61-5   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl Oleate   | 111-62-6   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Lauric Acid  | 143-07-7   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl linoleate  | 544-35-4   |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Ethyl linolenate   | 1191-41-9  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
|  | Determination of N-Nitrosodimethylamine: CAS No.62-75-9  | BTCP-4005 by Gas<br>Chromatography Nitrogen Chemiluminescence Detection (GC-NCD) | A, B          |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
|  | Determination of Sugars:<br><br><table border="0"> <tr> <td></td> <td>CAS No.</td> </tr> <tr> <td>Arabinose</td> <td>5328-37-0</td> </tr> <tr> <td>Fructose</td> <td>57-48-7</td> </tr> <tr> <td>Glucose</td> <td>50-99-7</td> </tr> <tr> <td>Lactose</td> <td>63-42-3</td> </tr> <tr> <td>Sucrose</td> <td>57-50-1</td> </tr> </table>  |  | CAS No.       | Arabinose       | 5328-37-0 | Fructose    | 57-48-7 | Glucose        | 50-99-7 | Lactose         | 63-42-3 | Sucrose       | 57-50-1  | BTCP-4009 by Ion<br>Chromatography Pulsed Amperometric Detection (IC-PAD) | A        |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
|  | CAS No.  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Arabinose  | 5328-37-0  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Fructose   | 57-48-7  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Glucose  | 50-99-7  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Lactose  | 63-42-3  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |
| Sucrose  | 57-50-1  |  |               |                 |           |             |         |                |         |                 |         |               |          |   |          |                      |          |               |          |              |          |                  |         |                 |          |               |          |                 |          |                 |          |             |          |                    |            |               |            |                |          |              |          |             |          |                 |          |                  |           |  |      |



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| Materials/Products tested   | Type of test/Properties measured/Range of measurement   | Standard specifications/ Equipment/Techniques used         | Location Code |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
|---|---|--|---------------|-----------------|-----------|-------------|-----------|-------------------------|-----------|------------|-----------|---------------|-----------|---------------|-----------|-------------------|-----------|---------------|-----------|----------|-----------|---|-----------|---------|-----------|-----------|-----------|-----------|-----------|------------|-----------|--------|-----------|--------|-----------|------|-----------|----------|-----------|-----|-----------|-----------|-----------|----------|-----------|----------|-----------|------|-----------|---|---|
| ALCOHOLIC BEVERAGES   | <u>Chemical Tests</u>   | Documented In-House Methods identified by procedure number |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Liqueurs, Spirits, Spirit Drinks and intermediate production process samples. (cont'd)              | Determination of Phenolic Aldehydes / Acids derived from wood (Cask Extractives):<br><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: right;">CAS No.</td> </tr> <tr> <td>Coniferaldehyde</td> <td style="text-align: right;">458-36-6</td> </tr> <tr> <td>Gallic acid</td> <td style="text-align: right;">149-91-7</td> </tr> <tr> <td>5-Hydroxymethylfurfural</td> <td style="text-align: right;">67-47-0</td> </tr> <tr> <td>Scopoletin</td> <td style="text-align: right;">92-61-5</td> </tr> <tr> <td>Sinapaldehyde</td> <td style="text-align: right;">4206-58-0</td> </tr> <tr> <td>Syringic acid</td> <td style="text-align: right;">530-57-4</td> </tr> <tr> <td>Syringic aldehyde</td> <td style="text-align: right;">134-96-3</td> </tr> <tr> <td>Vanillic acid</td> <td style="text-align: right;">121-34-6</td> </tr> <tr> <td>Vanillin</td> <td style="text-align: right;">121-33-5</td> </tr> </table>  |  | CAS No.       | Coniferaldehyde | 458-36-6  | Gallic acid | 149-91-7  | 5-Hydroxymethylfurfural | 67-47-0   | Scopoletin | 92-61-5   | Sinapaldehyde | 4206-58-0 | Syringic acid | 530-57-4  | Syringic aldehyde | 134-96-3  | Vanillic acid | 121-34-6  | Vanillin | 121-33-5  | BTCP-4501 by High Performance Liquid Chromatography Multi-Wavelength Detection (HPLC-MWD) | A         |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
|   | CAS No.   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Coniferaldehyde   | 458-36-6  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Gallic acid   | 149-91-7  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| 5-Hydroxymethylfurfural   | 67-47-0   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Scopoletin  | 92-61-5   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Sinapaldehyde   | 4206-58-0   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Syringic acid   | 530-57-4  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Syringic aldehyde   | 134-96-3  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Vanillic acid   | 121-34-6  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Vanillin  | 121-33-5  |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Liqueurs, Spirits, Spirit Drinks, intermediate production process, samples and ethanolic simulants. | Determination of Metals:<br><br><table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: right;">CAS No.</td> </tr> <tr> <td>Aluminium</td> <td style="text-align: right;">7429-90-5</td> </tr> <tr> <td>Arsenic</td> <td style="text-align: right;">7440-38-2</td> </tr> <tr> <td>Beryllium</td> <td style="text-align: right;">7440-41-7</td> </tr> <tr> <td>Calcium</td> <td style="text-align: right;">7440-70-2</td> </tr> <tr> <td>Cadmium</td> <td style="text-align: right;">7440-43-9</td> </tr> <tr> <td>Cobalt</td> <td style="text-align: right;">7440-48-4</td> </tr> <tr> <td>Chromium</td> <td style="text-align: right;">7440-47-3</td> </tr> <tr> <td>Copper</td> <td style="text-align: right;">7440-50-8</td> </tr> <tr> <td>Iron</td> <td style="text-align: right;">7439-89-6</td> </tr> <tr> <td>Potassium</td> <td style="text-align: right;">7440-09-7</td> </tr> <tr> <td>Lithium</td> <td style="text-align: right;">7439-93-2</td> </tr> <tr> <td>Magnesium</td> <td style="text-align: right;">7440-95-4</td> </tr> <tr> <td>Manganese</td> <td style="text-align: right;">7440-96-5</td> </tr> <tr> <td>Molybdenum</td> <td style="text-align: right;">7439-98-7</td> </tr> <tr> <td>Sodium</td> <td style="text-align: right;">7440-23-5</td> </tr> <tr> <td>Nickel</td> <td style="text-align: right;">7440-02-0</td> </tr> <tr> <td>Lead</td> <td style="text-align: right;">7439-92-1</td> </tr> <tr> <td>Antimony</td> <td style="text-align: right;">7440-36-0</td> </tr> <tr> <td>Tin</td> <td style="text-align: right;">7440-31-5</td> </tr> <tr> <td>Strontium</td> <td style="text-align: right;">7440-24-6</td> </tr> <tr> <td>Titanium</td> <td style="text-align: right;">7440-32-6</td> </tr> <tr> <td>Vanadium</td> <td style="text-align: right;">7440-62-2</td> </tr> <tr> <td>Zinc</td> <td style="text-align: right;">7440-66-6</td> </tr> </table> |  | CAS No.       | Aluminium       | 7429-90-5 | Arsenic     | 7440-38-2 | Beryllium               | 7440-41-7 | Calcium    | 7440-70-2 | Cadmium       | 7440-43-9 | Cobalt        | 7440-48-4 | Chromium          | 7440-47-3 | Copper        | 7440-50-8 | Iron     | 7439-89-6 | Potassium   | 7440-09-7 | Lithium | 7439-93-2 | Magnesium | 7440-95-4 | Manganese | 7440-96-5 | Molybdenum | 7439-98-7 | Sodium | 7440-23-5 | Nickel | 7440-02-0 | Lead | 7439-92-1 | Antimony | 7440-36-0 | Tin | 7440-31-5 | Strontium | 7440-24-6 | Titanium | 7440-32-6 | Vanadium | 7440-62-2 | Zinc | 7440-66-6 | BTCP-4301 by Inductively Coupled Plasma Optical Emission Spectroscopy (ICP-OES) | A |
|   | CAS No.   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Aluminium   | 7429-90-5   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Arsenic   | 7440-38-2   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Beryllium   | 7440-41-7   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Calcium   | 7440-70-2   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Cadmium   | 7440-43-9   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Cobalt  | 7440-48-4   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Chromium  | 7440-47-3   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Copper  | 7440-50-8   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Iron  | 7439-89-6   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Potassium   | 7440-09-7   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Lithium   | 7439-93-2   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Magnesium   | 7440-95-4   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Manganese   | 7440-96-5   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Molybdenum  | 7439-98-7   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Sodium  | 7440-23-5   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Nickel  | 7440-02-0   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Lead  | 7439-92-1   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Antimony  | 7440-36-0   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Tin   | 7440-31-5   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Strontium   | 7440-24-6   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Titanium  | 7440-32-6   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Vanadium  | 7440-62-2   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |
| Zinc  | 7440-66-6   |  |               |                 |           |             |           |                         |           |            |           |               |           |               |           |                   |           |               |           |          |           |   |           |         |           |           |           |           |           |            |           |        |           |        |           |      |           |          |           |     |           |           |           |          |           |          |           |      |           |   |   |



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### Chivas Brothers Limited

Issue No: 025 Issue date: 02 August 2021

Testing performed by the Organisation at the locations specified

| Materials/Products tested   | Type of test/Properties measured/Range of measurement  | Standard specifications/ Equipment/Techniques used  | Location Code |
|---|--|---|---------------|
| ALCOHOLIC BEVERAGES and ETHANOLIC SIMULANTS   | <u>Chemical Tests</u> (cont'd)   | Documented In-House Methods identified by procedure number  |               |
| Liqueurs, Spirits, Spirit Drinks  | Analysis and related opinions and interpretations for the purpose of assessment of authenticity and adulteration | Standard operating procedure BTCP-4014 and related industry, Statutory Instruments and EC Regulations, own brand specification and comparison samples.  | A             |
| Liqueurs, Spirits, Spirit Drinks, intermediate production process samples, waters, environmental samples, process aids and ethanolic simulants. | Process Contaminants and adulterants   | Flexible scope in accordance with procedures and protocols detailed in Quality Manual BTCS0001 Sections 20 and 21 and Validation Protocol BTCP-3009 using the following techniques: Gas Chromatography (GC), High Performance Liquid, Chromatography (HPLC), Ion Chromatography (IC) Gas Chromatography Mass Spectrometry (GCMS), Inductively Coupled Plasma Optical Emission Spectroscopy (ICPOES) | A             |
| WATER:<br>Process and Waste Water   | Dissolved Copper (CAS No. 7440-50-8)   | BTCP-4013 by Inductively Coupled Plasma Optical Emission Spectroscopy (ICPOES)  | A             |
| Effluent  | Settled chemical oxygen demand Range 10 – 20,000 mg/l  | STLP008 using Hach Lange kits   | B             |
| END   |  |   |               |