

# BAPS

## Brewing Analytes Scheme

Issue: 3

Issue Date: February 2019

### Instructions for Handling Test Materials and Recording Results

#### Receipt and Storage

- On receipt of the test material, record the date and store as appropriate

Storage temperature	Sample(s)
Room temperature (20±5°C)	1L, 2L, 1B, 3, 5, 7, 8
Refrigerated (2 to 8°C)	4

The test material should be analysed in accordance with the deadlines shown on the website:

[www.lgcpt.com/portal](http://www.lgcpt.com/portal)

#### Sample Details (Chemistry)

- Chemistry test materials are presented in a ready-to-use format.
- Samples should be treated as routine samples and analysed using your routine methods of analysis.
- Samples should be measured at 20°C, which is standard according to IOB/EBC methods.

A suggested testing routine is:

#### Level 1 – routine brewing analytes

- Generally three cans should be sufficient to complete all of the tests for Level 1 using typical analytical instruments, although highly automated systems may be able to complete a number of different tests on a single can
- One can for CO<sub>2</sub>  
*Many systems require that CO<sub>2</sub> is performed on a the separate can, prior to any other analysis being carried out*
- One can for the determination of Haze at 0°C
- One can for the determination of Haze at 20°C  
*Haze analysis should be carried out directly from the can and poured into the haze cuvette for testing. For some equipment a degassing step may be required.*
- The remainder of the can (after the haze at 20°C analysis has been carried out) is degassed, either by filtration through a standard laboratory filter paper, by stirring or by another appropriate procedure, prior to the other tests.
- The filtrate is collected and analysed for:-  
Density and Alcohol  
Colour  
pH  
Bitterness etc.

**Note 1: SO<sub>2</sub> analysis should be performed as soon as possible after opening of a can to minimise loss of this potentially volatile analyte. Recovery of the SO<sub>2</sub> may also be improved if a chilled (approx. 4°C), non-degassed sample is prepared.**

**Note 2: Excessive foaming should be avoided during the degassing of the sample for bitterness analysis, this should be controlled using 1-octanol (EBC method).**

- Remaining cans may be used for testing by additional operators/analysts, retained for performance checks, as QC/Standard samples or used for re-tests in the event of out of tolerance results.

### **Level 2 – advanced brewing analytes**

- The samples for the determination of volatile analytes should be stored at 4°C and analysed immediately after opening of the bottle/can, without sample degassing.
- All of the remaining tests, with the exception of the foam test (HRV), for Level 2 analysis are carried out on degassed samples (either overnight, stirring or filtration).
- During analysis of iso-alpha-acids, the sample should be protected from light to prevent the decomposition of these compounds.

### **Safety Precautions**

- Test materials may contain chemical contaminants and are supplied on the understanding that the purchaser has suitably competent and qualified personnel to handle them safely. Test materials must only be opened in a laboratory by qualified personnel.
- Refer to the Safety Data Sheet for information on the safe handling and disposal of the test materials.

### **Sample Details (Microbiology)**

- When reconstituted, the test material represents a 'real' beer sample, which may or may not contain the target organism(s) at a range of inoculum levels. Background flora may also be present.
- The low-level sample is intended for membrane filtration (or forcing if membrane filtration is not carried out routinely). One sample vial is provided and once reconstituted should provide 1000ml of test material.
- The high-level sample is intended for spread plate or pour plate analysis. One sample vial is provided and once reconstituted should provide 100ml of test material.
- Test materials may contain high numbers of micro-organisms that may only be enumerated by performing dilutions.

### **Resuscitation details for low-level sample 4L**

1. Prepare 1000ml of suitable sterile diluent e.g. Phosphate Buffered Saline.
2. Aseptically remove the cap and rubber stopper from the vial and add a small volume (around 2mls) of diluent taken from the 1000mls. Replace the rubber stopper and mix the culture briefly by shaking or vortexing.
3. Add the reconstituted sample to the 1000mls diluent. It may be necessary to repeat step 2 a couple of times to ensure all material is transferred from the vial. Leave the test material to stand for a minimum of 60 minutes but not longer than 90 minutes.

This now represents the final sample for testing. Immediately before testing, mix the sample thoroughly and then test for the target organism(s) using your routine laboratory method. Report results as cfu per 100ml.

### **Resuscitation details for high-level sample 4H**

1. Prepare 100ml of suitable sterile diluent e.g. Phosphate Buffered Saline.
2. Aseptically remove the cap and rubber stopper from the vial and add a small volume (around 2mls) of diluent taken from the 100mls. Replace the rubber stopper and mix the culture briefly by shaking or vortexing.
3. Add the reconstituted sample to the 100mls diluent. It may be necessary to repeat step 2 a couple of times to ensure all material is transferred from the vial. Leave the test material to stand for a minimum of 60 minutes but not longer than 90 minutes.

This now represents the final sample for testing. Immediately before testing, mix the sample thoroughly and then test for the target organism(s) using your routine laboratory method. Report results as cfu per ml.

### **Safety Precautions**

- Test materials contain viable micro-organisms or chemical contaminants and are supplied on the understanding that the purchaser has suitably competent and qualified personnel to handle them safely. Test materials must only be opened in a laboratory by qualified personnel.

- Refer to the Safety Data Sheet for information on the safe handling and disposal of the test materials.

### Sample Details (Sensory)

You will have received four cans of beer for Sensory Profiling.

Please temperate the cans at 12°C +/- 1°C for at least 6 hours. Please profile the samples with your tasting panel using the profile form enclosed, each panellist should have his or her own individual profile forms which should be returned. **However when returning your panel results please only report the panel average score for each attribute, to one decimal place.**

For scoring we have provided a 0 to 9 scale where 0 = absent and 9 = intense. Please score for each attribute using this 0 – 9 scale. Also please ensure that the contents of the four cans of beer are mixed together before tasting.

Included with your sample will be the report from the BRI assessment panel for your information after you have reported your panel's results.

### Reporting Results

- All results should be submitted in the format specified using PORTAL  
Please go to [www.lgcpt.com/portal](http://www.lgcpt.com/portal)
- Login using your Lab ID, username and password.
- A PORTAL user guide can be downloaded from the help section.
- Recently changes have been made to the reporting criteria for the VDK, diacetyl and 2,3-pentanedione measurands, the new format is shown below:

Analyte	Sample	Instruction
Total VDK	<b>Level 2 and Level 3</b>	Report the result for Total VDK, using either the distillation or GC methods. Each method assessed individually. Unit = µg/l
Free diacetyl	<b>Level 2 and Level 3</b>	Report the result for free diacetyl by the GC method. Unit = µg/l
Free 2,3-pentanedione	<b>Level 2 and Level 3</b>	Report the result for free diacetyl by the GC method. Unit = µg/l

For further information and advice regarding the samples, please refer to the BAPS Scheme Description or contact us at [ptcustomerservices@lgcgroup.com](mailto:ptcustomerservices@lgcgroup.com)

If you need any help at all please do not hesitate to contact our support team using the details below or your local LGC representative.

Tel: +44(0)161 762 2500

Email: [pt.support@lgcgroup.com](mailto:pt.support@lgcgroup.com)

An LGC/BRI Joint PT Scheme

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