

## **Guidance on Drug & Alcohol Policies: Breath Testing**



**The International Marine Contractors Association (IMCA) is the international trade association representing offshore, marine and underwater engineering companies.**

IMCA promotes improvements in quality, health, safety, environmental and technical standards through the publication of information notes, codes of practice and by other appropriate means.

Members are self-regulating through the adoption of IMCA guidelines as appropriate. They commit to act as responsible members by following relevant guidelines and being willing to be audited against compliance with them by their clients.

There are two core activities that relate to all members:

- ◆ Competence & Training
- ◆ Safety, Environment & Legislation

The Association is organised through four distinct divisions, each covering a specific area of members' interests: Diving, Marine, Offshore Survey, Remote Systems & ROV.

There are also five regional sections which facilitate work on issues affecting members in their local geographic area – Asia-Pacific, Central & North America, Europe & Africa, Middle East & India and South America.

## **IMCA SEL 011**

This guidance has been prepared for IMCA under the direction of its Safety, Environment & Legislation (SEL) Core Committee. It is intended as a companion volume to earlier guidance document IMCA SEL 008, which dealt with the collection of samples.

**[www.imca-int.com/sel](http://www.imca-int.com/sel)**

*The information contained herein is given for guidance only and endeavours to reflect best industry practice. For the avoidance of doubt no legal liability shall attach to any guidance and/or recommendation and/or statement herein contained.*

# Guidance on Drug & Alcohol Policies: Breath Testing

IMCA SEL 011 – February 2004

<b>1</b>	<b>Introduction .....</b>	<b>1</b>
1.1	Rights of the Individual.....	1
1.2	Testing or Sample Collection.....	1
1.3	Tampering .....	1
<b>2</b>	<b>Reasons for Testing .....</b>	<b>2</b>
2.1	Pre-Employment Testing.....	2
2.2	Routine Testing.....	2
2.3	Testing following Incidents and Accidents.....	2
<b>3</b>	<b>Breath Testing .....</b>	<b>6</b>
<b>4</b>	<b>Testing Following a Positive Test Result .....</b>	<b>7</b>
4.1	Return-to-Duty Testing.....	7
4.2	Follow-up Testing.....	7
<b>5</b>	<b>Record Keeping.....</b>	<b>8</b>
5.1	Documents.....	8
5.2	Record Keeping Procedures.....	8
5.3	Retention of Records .....	8
5.4	Confidentiality and Release of Information .....	9
<b>6</b>	<b>Other Tests, for Drug and Alcohol Abuse.....</b>	<b>10</b>
6.1	Urine Testing.....	10
6.2	Blood Testing .....	10
6.3	Saliva testing.....	10
6.4	Hair Testing .....	10
6.5	Sweat Testing .....	10
<b>7</b>	<b>Cut-Off Levels .....</b>	<b>11</b>
<b>8</b>	<b>References and Further Information.....</b>	<b>12</b>



## I Introduction

The following introduction and some of the supporting text is generally common to that contained in IMCA SEL 008 – *Guidance on Drug and Alcohol Policies: The Collection of Samples* – which deals with the taking of urine samples. Although this guidance deals with the taking of breath samples, a lot of the comments and suggestions are necessarily quite similar. Breath testing can only be of use in testing for alcohol intake. When taking other than breath samples however, the reader should refer to the appropriate guidance. In addition to this guidance on breath testing, the opportunity is taken, in sections 6 and 7, to briefly summarise other types of tests for drugs, while section 8 provides some helpful references.

The taking of samples, whether they are breath, urine, blood or saliva, has to be done with the utmost care and rigid attention to procedure. The procedures must, therefore, be carefully drafted. This guidance is intended to aid that process; but has not been prepared by medically qualified personnel. **Wherever medical guidance is required, the reader is directed to consult an appropriate medical adviser.** This guidance contains outline suggestions for a breath testing procedure. In formulating their procedures, each company might need to examine the cultural and legal backgrounds everywhere in the world in which it may work and adapt their local company testing processes accordingly.

### I.1 Rights of the Individual

Different countries and cultures have diverse approaches to testing. Although breath testing is generally accepted as being less intrusive than other kinds of testing, there are differing legal issues in various coastal states in which operations are being carried out, and/or in the states in which a company is based. Individual companies also have their own contractual relationships with their workforces. Lack of care could result in legal action against the company and/or personnel carrying out such tests. Even if this does not happen, unnecessary disputes or bad feeling could result between employers and their workforce if this issue is not treated with utmost caution.

Although the term 'employee' is used throughout this guidance (and indeed in IMCA SEL 008), it is not intended to be a restrictive term and can apply to all workers in a workforce, irrespective of their contractual relationship to the company.

### I.2 Testing or Sample Collection

It is essential for proper procedures to ensure that whenever any tests are taken or samples are collected, the process is carried out efficiently and in a medically safe and hygienic manner.

### I.3 Tampering

A test of the effectiveness of the security of forensic issues surrounding a breath test, as with a sample collection, is that it has to be impregnable to litigant attack. The smallest gap in the defence of this procedure could make the whole process worthless in any subsequent litigation.

There is a small industry existing to provide ways of subverting the validity of tests. Awareness of what is available and how it may be detected is important. Constant vigilance on site is needed to maintain the integrity and effectiveness of testing procedures.

All of the above issues need to be included in those addressed when establishing procedures for breath testing.

## **2 Reasons for Testing**

Each company is likely to have its own policy and/or jurisdictional requirements as to which personnel are subject to drug and alcohol testing. This could be dependent to some extent on the reasons for testing and will differ from company to company. The following gives some indication of the types of test that could be considered.

### **2.1 Pre-Employment Testing**

Dependent upon company policy and jurisdictional requirements, pre-employment breath testing could be required, but breath tests are unlikely to be used under this heading; a urine test being more usual (see IMCA SEL 008). Vessel masters however, might on occasion, for example, require breath testing of personnel joining a vessel for the first time, or on returning to duty from leave.

### **2.2 Routine Testing**

#### **2.2.1 Routine Testing**

Although it would be more usual for urine samples (see IMCA SEL 008) to be required for routine testing purposes, companies might require breath testing for routine regular checks of personnel. Company procedure could define:

- ◆ If and when such tests could be deferred when the other types of tests have been satisfactorily taken by employees;
- ◆ A period for testing to be calculated from an employment date or regularly on a particular day for a particular work site;
- ◆ Provisions for testing if an employee is absent from the work site at the required time;
- ◆ Policy regarding a failure to test, or a refusal to submit to routine testing.

#### **2.2.2 Periodic Testing**

Periodic testing can be a supplement to the other tests. For example, periodic testing could be useful when an employee is required to have a physical examination, perhaps as a routine medical or as part of a procedure toward obtaining or updating a required work certification, license or other type of professional qualification. It is more likely that urine samples would be suitable for this purpose (see IMCA SEL 008).

#### **2.2.3 Random Testing**

Different companies and jurisdictions will have different views on the definition and use of random testing and, if carried out, on the amount of such testing they believe should be carried out. Some companies might wish to cover a certain percentage of their workforce over the course of a year and/or a certain number of tests over a prescribed time. Again urine sampling is more commonly used for this purpose (see IMCA SEL 008, also about the concept of random testing).

### **2.3 Testing following Incidents and Accidents**

#### **2.3.1 Post-Accident Testing**

Company definitions of 'accident' and 'serious marine incident' might need to be included in an appropriate part of the procedures.

Difficulties arise from the wide range of post accident situations that can develop and company procedures would need to have enough flexibility to allow personnel to cope with likely situations. Some points that could be important are listed as follows:

- ◆ Care needs to be taken that injured personnel are treated for their injuries first;
- ◆ Treatment might affect the validity of a test;
- ◆ Testing might not be possible or might affect the proper care of the injured person;
- ◆ The injured person might or might not have contributed to the accident;
- ◆ There could be an interval of time from the accident to when a test is possible that would make it unlikely that any test would reveal whether the subject's performance was affected by drugs or alcohol.

The person given the responsibility for such tests (who for ease of reference only is referred to herein as the 'officer in charge' or OIC) would need guidance as to how the company wished to proceed in these circumstances. It might for example require the OIC to use the best information available to him or her at the relevant time to judge whether a test is practicable.

If a test is practicable, the following points could be included in considerations when drafting procedures. The relevant procedure could begin by stating that the overall policy would be to ensure all persons involved in an accident are to be tested within a certain time frame (medical advice would need to be taken as to how long that should be), with provisos that could then be set out for the guidance of the personnel required to do the tests, which could include:

- ◆ Treatment of injuries, which would be expected to be paramount;
- ◆ If a subject is conscious but hospitalised, the hospital could be requested to obtain a sample under company and/or jurisdictional requirements. In circumstances of injury other types of testing might be appropriate (e.g. of blood, saliva or urine);
- ◆ If a subject is unconscious or otherwise unable to give evidence of consent to a test then the OIC would need guidance as to how to proceed; for example by taking all reasonable steps to ensure a urine sample is taken as and when possible;
- ◆ If the subject can communicate and can give evidence of consent then medical advice needs to be taken to establish whether a breath test may be taken, or whether another process is possible, such as a urine sample (see IMCA SEL 008);
- ◆ Consider what action needs to be taken if a subject is able to give consent as above, but will not do so despite medical advice that it is possible to provide a breath test. This might constitute a refusal to submit to a test under company procedures, with disciplinary action as a consequence;
- ◆ Consider whether other parties in any way involved with the accident need to be tested, whether injured or not.

### **2.3.2 Serious Marine Incident Testing**

A company's requirements for testing following a serious marine incident depend in some part upon its definition of a serious marine incident. A company might require that all persons directly involved in a serious marine incident, as defined by the company, are tested within company procedural guidelines for evidence of dangerous drugs and alcohol. Breath testing will only be of use in testing for alcohol intake, urine tests being more common for combined drug and alcohol testing. One advantage of establishing such a procedure would be that this evidence would then be automatically and readily available to the company in any investigation of the incident.

The following points are worth considering when drafting procedure in this instance. It is assumed that where the subject is injured, then the guidance set out under 'Post-Accident Testing' (section 2.3.1 above) also applies.

- ◆ Can the OIC establish whether the subject's actions or performance contributed to the incident?
- ◆ What evidence does the OIC have to support his or her view and how reliable is it?
- ◆ Does the OIC need to obtain permission from a subject's work group leader or some other person before proceeding with testing?

- ◆ It might be necessary to set out guidance to the OIC in respect of explaining to the subject why a test procedure is being undertaken. The way in which this is done will depend to an extent upon the workforce culture and contractual conditions of work. Phrases such as 'reason to believe (the subject's) performance contributed to the accident, or cannot be completely discounted as a contributing factor' might be perfectly acceptable in one workplace, but, especially with misinterpretation or bad translation, be inflammatory in another. A request for a breath test is only a part of an investigation and reflects a need for additional data, but to the subject it could seem like an accusation, which could trigger differing responses. Evidence collected in a breath test could establish 'innocence' and, as such, can be shown to be a positive step. One view might be that the more rigid the established company procedure (and perhaps contractual terms with sub-contractors) in this respect, the easier the OIC's task could be;
- ◆ Is it possible to isolate and remove the subject from the work site?
- ◆ If so, the subject will need to be accompanied, for safety purposes;
- ◆ Consider the litigant trail at all times and the need to document all the events. For example, the reasons for carrying out the test, the times when events happened, perhaps what is said by the OIC and the subject relating to the test;
- ◆ The procedure could set down a requirement for signature of documents by a senior officer within a certain time;
- ◆ The OIC might have a difficult task to perform. He could need guidance in dealing correctly with possible test subjects. For example, in how he will phrase what to say to them, as indicated above, and in taking decisions about who should be tested. Appropriate wording of the company procedure might be of assistance;
- ◆ It could be necessary to set down procedures relating to when a subject is to be allowed back in the same work position or into a safety sensitive area, pending the results of the test.

### 2.3.3 Reasonable Cause Testing

Reasonable cause testing provides management with a means to identify those who might be affected by drugs or alcohol, who might be a danger to themselves or others in the workplace. Points to consider are as follows:

- ◆ It might be difficult to establish a procedure that sets out when such testing should take place, because it could be in the judgement of someone without medical training observing the performance of another individual who may or may not be known to the observer. Thus it could be advisable to involve someone with relevant training in the detection of probable drug or alcohol misuse, who could be brought in to substantiate or refute the reasonable suspicions of the first observer;
- ◆ In any event, it would be advisable to establish procedures that ensured provision of pertinent information. For example, literature/posters that alerted relevant personnel to the sort of signs indicating that it could be prudent to have a particular employee tested;
- ◆ A guide could be provided to allow crew to check behavioural traits against a check list. Such a guide could be obtained from an appropriate government agency;
- ◆ The OIC might be presented with hearsay evidence or anonymous tips, which are unlikely to be a reasonable cause. But the information might form a basis for further investigation. For example, the OIC might need to ask actual witnesses precisely what they saw. How far away were they? How long did they observe the person? What caused them to believe that the incident was substance or alcohol related? The OIC might also have to obtain permission from the subject's work group leader before proceeding;
- ◆ The procedure could include guidance to the OIC on how to isolate the employee, and how to remove him from the work area and explain that there is a reasonable cause to believe that the employee's performance is affected by a substance or alcohol. The employee could then be asked to explain the reason for the suspect behaviour. The OIC would then need to make a decision, based on the scope of his company's

procedure, as to whether to request a reasonable cause test or not and what type of test to carry out, testing breath samples only being an indicator of alcohol and not misuse of other substances;

- ◆ The company procedure could set out a provision whereby perhaps two officers or supervisors have to agree to a reasonable cause test. This would create a stronger defence for the determination that such a test is indeed reasonable. One of those officers or supervisors could be the person specifically trained for this task as noted in the first bullet point above;
- ◆ The procedure could then set out the way in which a request was made and how the subject would be accompanied by the appropriate officer or supervisor to the collection site. The subject could be advised of the company procedure and the consequences of a refusal to submit to testing;
- ◆ During the conversation with the subject, the OIC could be instructed to note the subject's response and manner and to record those impressions, noting the subject's general state. For example, indication could be given in the guidance literature mentioned above of the indications to look for, such as shown by the subject's eyes, general demeanour and other physical and mental signs;
- ◆ The procedure could highlight that the litigant trail will have started at the first indication that a test might be required and that a record of all relevant activities and conversations could be advisable;
- ◆ It could be advisable to stipulate that a written record is drawn up and signed by the witnesses within a prescribed time, say 24 hours of the observed behaviour;
- ◆ As suggested above it could be advisable for the subject, when leaving the work area, to be accompanied by the appropriate officer or supervisor; for safety purposes;
- ◆ Procedure could then set out the control over when the subject returns to the work site. For example the company might well stipulate that the subject should not return to duty until a negative test is confirmed. The subject's safety in the interim might also be covered.

### 3 Breath Testing

Breath tests can generally be made quickly, relatively easily and in virtually any situation. Breath tests are currently only used for the determination of whether alcohol has been taken. The following are suggested procedural guidelines that could be considered when drafting company procedures.

- ◆ The subject would be advised that the master or a company representative is conducting a test for alcohol and that co-operation was requested by providing a breath test;
- ◆ The subject being tested could nominate an independent witness to observe the test and any complaint stated to the tester, who could be required by the procedure to restart the test;
- ◆ If the subject has been consuming alcohol prior to the test, consider what period of time should elapse before a test takes place;
- ◆ Subject should be asked whether they have consumed, taken or inhaled any substance such as alcohol, mouth spray, mouthwash, medication, during (for example) the previous twenty minutes, that could affect the result of a test. If so, company procedure would need to set out what period of time should apply and what time should elapse before taking the test, for example 30 minutes might be appropriate;
- ◆ Breath testing instruments are fitted with interchangeable mouthpieces and it would be necessary to ensure that a new, sterile, unused mouthpiece is provided for each subject;
- ◆ The subject would need to be shown that the instrument was clean and ready to receive a fresh sample;
- ◆ The usual procedure is for the subject to take a deep breath and exhale into the mouthpiece, such that they completely empty their lungs;
- ◆ The person submitting the subject to the test would usually retain hold of the unit and, depending on the type of instrument, watch for example, "breath sampling lights" or perhaps colours of crystals;
- ◆ Manufacturer's instructions would then need to be followed;
- ◆ For example, on one type of unit, an orange light should come on to indicate that the subject is blowing hard enough; and a green light when the subject has blown long enough to give an accurate reading. Clearly failure to produce these indicators would mean a repeat of the test;
- ◆ On the same type of unit, instructions might require a 'READ' button to be pressed during exhalation and the reading studied until it stabilises, which could take about 30 seconds. This reading will be a breath alcohol calibration (BAC). The BAC would then be noted;
- ◆ The reading could then be entered into a breath test logbook which all parties could sign, time and date;
- ◆ (The type of instrument described above could then need to be cleared by use of a 'SET' button together with the 'READ' button until a zero reading appears. We understand that if a reading over 005 was taken then it could require about three minutes for the instrument to be completely clear of all residual impurities. The procedure would need to identify the particular characteristics of the equipment the company expects to use);
- ◆ Different types of unit might vary in application, but all will give a reading which can be defined by the company as within or without their prescribed limits;
- ◆ Procedure should state the number of breath tests to be taken; for example it might be prudent to take two tests and select the lowest reading as the result;
- ◆ It is common for procedure then to stipulate the company policy and the resultant procedure if any subject is deemed to be under the influence of alcohol;
- ◆ One result of taking a breath test which is found to be positive could be a requirement to test urine, especially if further confirmation is required by local legislation, contracting company rules or company policy. If so, guidance for drafting an appropriate procedure can be found in IMCA SEL 008;
- ◆ It would be useful (and could foreseeably be advisable) for at least two persons to be formally trained in the use of the testing apparatus. For example, the ship's medic and its safety officer could be utilised for this purpose.

## **4 Testing Following a Positive Test Result**

### **4.1 Return-to-Duty Testing**

If there is a positive test result, or a subject has refused to submit to a test, the company could consider whether it requires its procedures to set out parameters governing how a subject might be able to return to duty. These are likely to involve:

- ◆ A specific return-to-duty process. Such process could ensure that the subject has since undergone and complied with an appropriate course and/or passed relevant tests which assist the employer in determining whether to re-employ the subject.
- ◆ The relevant jurisdictional requirements being observed.
- ◆ Follow-up testing (see below), which could be a tool for observing the subject, after a return to duty.

### **4.2 Follow-up Testing**

Follow-up testing is a management tool for observation of personnel who have returned to operations following 'return to duty' testing as set out immediately above. It is more likely that urine testing would be used for this purpose (see IMCA SEL 008).

When a follow-up test subject tests positive, the procedure needs to clearly set out what action should result.

## **5 Record Keeping**

### **5.1 Documents**

It is necessary to bear in mind that any litigation that might arise could be active a long time after the test, maybe years. The following points could be useful.

The reason for the test could need to be recorded; perhaps provision could be made for that in the breath test logbook. There could be a standard range of reasons for tests included in company policy that could be referred to, see for example those listed under section 2.

This written record may be all that remains when any follow up action is taken, thus it needs to include all relevant detail and be able to stand alone as evidence in any litigation. It might therefore be useful to include a short declaration by a suitably authorised person in charge of the test that it is an exact and truthful record of the test procedure that took place.

It would also be advisable to keep records showing details of training of relevant employees and any relevant qualifications they may have.

It is possible that correspondence and documentation might have come into existence in connection with decisions to administer tests. This might be as a result of an accident or because there is reasonable suspicion that the subject has taken alcohol. Any correspondence and documentation relevant to the testing could be helpful at a later stage.

The above gives an indication of the documentation that needs to be kept. It can be assumed that almost any paperwork generated by such a possibly litigious issue should be carefully stored.

### **5.2 Record Keeping Procedures**

The administration of documentation needs to be considered, for example secure control of filing and storage, perhaps with specific personnel designated to the task. It could be advisable to evolve a system whereby privacy of the information is secured and restricted to selected persons. Information concerning any individual's details in an alcohol test might not be expected to appear outside of that designated control. Consider, for example, whether information from a test would be precluded from being referenced in any other file, such as a personnel file.

### **5.3 Retention of Records**

Some governments, or indeed companies, will require retention of records for a certain period of time. The requirements could be extensive and establish different needs in respect of records of tests generally and of records of specific results.

For practical purposes, a company might wish to establish a length of time for the keeping of records. Again legal advice would be helpful, as different jurisdictions could have different time limitations on actions.

Different types of records would also be subject to different periods of retention. For example, one company might wish to retain documents relating to a test for three years, but to retain test results showing positive for five years or longer. It will depend upon individual companies and the jurisdictional areas involved.

Types of records that could be affected could include:

- ◆ Records from previous employers;
- ◆ Positive test results;
- ◆ Negative test results;
- ◆ Documentation of refusals to take tests;
- ◆ Reports from professional assessors of alcohol abusers;
- ◆ Reports of follow up tests;

- ◆ Records of tests of all types of alcohol testing equipment;
- ◆ Records of training undertaken by testing personnel;
- ◆ Records of numbers and times of employees tested;
- ◆ Documents demonstrating history and results of testing generally .

#### **5.4 Confidentiality and Release of Information**

It could be worthwhile for a company to draw up a policy for confidentiality and release of information so that employees have relevant guidance.

This would enforce the controls set out by the company for security of the information retained, with respect for the test subject's privacy and reliant upon the subject's consent to release of information under most circumstances.

There could for example be cases in which the company might wish to divulge information from the file, without consent of the individual concerned, for example during an accident investigation, other litigation or similar administrative proceeding. The company will need to consider legal advice, taking into account all of the operational and administrative areas of jurisdiction that could be relevant. With these factors in mind, the company could then draw up procedures to deal with confidentiality and release of information.

## **6 Other Tests, for Drug and Alcohol Abuse**

Other methods of testing for alcohol or drugs are by taking specimens of urine, blood, oral fluid, hair or sweat. Urine testing is dealt with in IMCA SEL 008 and is the most frequently used sample type in workplace drug and alcohol testing. The following notes are taken from fuller information available from the LGC (Laboratory of the Government Chemist) – see reference in section 8, a source for workplace drug and alcohol testing.

### **6.1 Urine Testing**

Laboratory detection of drugs in urine samples is possible for several days after ingestion. Appropriately controlled collection facilities and laboratory validity testing can identify almost all attempts at sample interference.

### **6.2 Blood Testing**

Blood is not traditionally used in workplace testing for a number of reasons. It is a much more invasive procedure than other methods, requiring expert medical collection facilities and personnel, posing a number of health and safety issues during handling and disposal. It requires sophisticated analysis, and drugs may only be detectable for a limited period of time.

### **6.3 Saliva testing**

A number of fluids are secreted into the mouth, so that the most appropriate term for them is oral fluids rather than just saliva. There are no internationally recognised or accepted guidelines for the collection or analysis of oral fluid and the legal basis of oral fluid testing has yet to be fully challenged in the Court. Testing is reported to consist of inserting a cotton swab stick in the mouth, which is moistened and the swab tested on site using a kit provided.

### **6.4 Hair Testing**

Hair testing requires highly sensitive laboratory technology to determine a drug's presence. Thus it is a more expensive method than urine testing and it cannot determine if a subject is under the influence of a drug at a specific time, only that an individual has taken a drug at some time during the period covered by the hair sample.

### **6.5 Sweat Testing**

Sweat samples can provide detectable levels of drugs, but there are problems with contamination of the sweat collection device, particularly if the sample is collected in an environment where there is a background contaminant level. Additionally, as with oral fluids, there are no internationally recognised standards for the determination of drugs in sweat and the legal basis of sweat testing has yet to be fully challenged in court.

## 7 Cut-Off Levels

The following information describes the limits that companies might consider in respect of alcohol and certain substances.

In respect of alcohol, some stipulate a zero level at all times for personnel in safety sensitive positions. Alternatively, a company might stipulate say 0.02% BAC (Breath Alcohol Calibration) for persons holding safety sensitive positions when on duty, or on call, and 0.04% BAC for other personnel. Other companies might express it in mg/100ml.

When applying a zero alcohol policy it should be noted that there are several medical conditions that can cause a test to show a small BAC. For practical purposes a figure close to zero could thus be used as a cut-off point.

When a laboratory analyses a urine sample, identifying a drug does not necessarily result in a positive report. There has to be sufficient drug present to indicate recent use, rather than inadvertent exposure. As a result of research, for example, it has been internationally agreed that 15 nanogrammes per millilitre has been set as the legally defensible confirmatory cut-off level for cannabis metabolite in urine samples.

When a sample is received at a laboratory, a portion is screened to check for the presence of drugs. Only if the presence of a drug is above a defined cut-off level will there be a confirmation test on another portion of the sample.

Cut-off levels for screening and confirmatory testing of different drug groups have been set at national and international levels. **Companies will need to liaise with their chosen laboratories/medical advisers as to what the most appropriate cut-off levels should be.**

Some typical cut-off levels are shown below. These have been kindly provided by three IMCA member companies and also taken from the LGC web site (see reference in section 8). They are shown only for general guidance and are not specified as being necessarily correct or appropriate for any specific area. Ng/ml means nanogrammes per millilitre.

	Screen cut-off (Ng/ml)				Confirmation cut-off (Ng/ml)			
	<i>Company/Organisation</i>				<i>Company/Organisation</i>			
<b>Substance</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>	<b>1</b>	<b>2</b>	<b>3</b>	<b>4</b>
Amphetamine	500	1000	1000	1000	200	500	500	500
Cannabis	50	50	50	50	15	15	15	15
Cocaine	300	300	300	300	150	150	150	150
Codeine	300	300	2000		300	300	2000	
LSD or metabolites	1				1			
Morphine	300	300	2000		300	300	2000	
Phencyclidine	25	25	25	25	25	25	25	25

## 8 References and Further Information

Ref. 1 *Guidance on Drug and Alcohol Policies: The Taking of Samples* (IMCA SEL 008 – April 2003)

Suggested websites for further information are:

<a href="http://www.lgc.co.uk">www.lgc.co.uk</a>	Laboratory of the Government Chemist Bioanalytical and Toxicology Team (UK) (LGC)
<a href="http://www.ewdts.org/guidelines.html">www.ewdts.org/guidelines.html</a>	European Laboratory Guidelines for legally defensible workplace drug testing.
<a href="http://www.drugfreevessel.com/public_regulations/regsummary.html">www.drugfreevessel.com/public_regulations/regsummary.html</a>	Useful quick guide to US Coast Guard regulations on drug testing regulations
<a href="http://www.uscg.mil">www.uscg.mil</a>	Use search facility for drug testing information
<a href="http://www.uscg.mil/STCWCG719P.pdf">www.uscg.mil/STCWCG719P.pdf</a>	USCG drug testing form
<a href="http://www.maritimesafety.org">www.maritimesafety.org</a>	USCG drug regulations summary