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## **Forensic Chemical Testing Under an Act Concerning Boating Safety**

### **Sec. 15-140r-1. Definitions**

As used in sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies:

- (1) “Alveolar” means air expired from the deepest part of the lungs;
- (2) “Analyst” means an individual trained and certified in toxicological laboratory procedures;
- (3) “Blood alcohol content” means the grams of alcohol per one hundred (100) milliliters of blood expressed as percentage, or grams of alcohol per 210 liters of breath;
- (4) “Commissioner” means the Commissioner of Public Safety or such commissioner’s designee;
- (5) “Department” means the Department of Public Safety, Division of Scientific Services;
- (6) “Device or instrument” means any apparatus and associated accessories of which alcohol or drug content in a sample is qualitatively and quantitatively determined and reported. Such apparatus may indicate an equivalent blood alcohol content;
- (7) “Direct breath alcohol test” or “direct breath alcohol testing” means the test of a sample of an individual’s expired breath using an instrument designed for this purpose in order to determine the concentration of ethyl alcohol in the individual’s blood;
- (8) “Instructor” means an individual trained and certified to make an analysis with a direct breath alcohol test device or instrument certified or approved by the commissioner and to train operators in the conduct of such tests;
- (9) “Laboratory” means any place or area in which any sample of blood, breath or urine is subjected to a forensic chemical or instrumental analysis. Such definition shall not include a place or area under the jurisdiction of, or controlled by, a law enforcement agency or the Department of Environmental Protection in which direct breath alcohol tests are performed;
- (10) “Operator” means an individual trained and certified to make an analysis with a direct breath alcohol test device or instrument certified or approved by the commissioner; and
- (11) “Person” shall have the meaning ascribed to it in subsection (k) of section 1-1 of the Connecticut General Statutes, except that it is not intended to include any hospital or clinical laboratory.

(Adopted effective August 30, 2005)

### **Sec. 15-140r-2. General requirements and exemptions**

Sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies, shall apply to the forensic chemical testing of blood, breath and urine when the results thereof may be offered as evidence in a court of law or in an administrative proceeding affecting persons suspected of operating a vessel while under the influence of intoxicating liquor or drug or both. Sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies, shall not apply to samples collected and analyzed for other purposes, such as medical diagnostic testing.

(Adopted effective August 30, 2005)

**Sec. 15-140r-3. Approval and certification required**

(a) No person shall operate a laboratory for the performance of forensic chemical analysis within the scope of sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies, until the commissioner approves the methods of conducting the analyses and certifies each analyst who will be performing such chemical analysis.

(b) To be eligible for approval, a method shall be based upon one or more of the following quantitative techniques:

- (1) titration with potassium dichromate;
- (2) use of alcohol dehydrogenase;
- (3) gas chromatography;
- (4) infrared analysis;
- (5) fuel cell analysis;
- (6) gas chromatography/mass spectrometry;
- (7) enzyme immunoassay; or
- (8) high performance liquid chromatography.

(c) The commissioner may approve a method not based on the techniques listed in subsection (b) of this section, provided that such alternative method produces a comparable degree of precision and accuracy.

(d) Results shall not be reported until the requirements of subsection (a) of this section are met. Failure to obtain such approvals or certifications may result in the suspension or revocation of any approvals or certifications subsequently obtained.

(Adopted effective August 30, 2005)

**Sec. 15-140r-4. Application for approval of methods and equipment**

Application for approval of the methods to be used in conducting analyses shall be made to the commissioner by the person seeking to operate the laboratory where such analyses are to be performed. The application shall be in writing, shall be accompanied by a complete description of the proposed method or methods, including specifications for laboratory sampling equipment and associated accessories, and shall include any additional information that the commissioner may require in evaluating the application. Citation to any publication wherein such proposed method or methods have been described may be substituted in whole or in part for a written description. The commissioner may consider design, susceptibility to environmental influences or other limitations and any other factors relevant to a determination of whether the device or instrument should be approved for use, even in instances where the initial analysis results are accurate.

(Adopted effective August 30, 2005)

**Sec. 15-140r-5. Application for certification of analysts to perform tests**

An individual or his or her employer may apply for certification to allow the individual to perform alcohol or drug analyses. Such application for certification as an analyst shall be in writing, shall be accompanied by a statement of the training and experience of the applicant and shall include any additional information that the commissioner may require in evaluating the application.

(Adopted effective August 30, 2005)

**Sec. 15-140r-6. Granting of approvals and certifications**

(a) An approval or certification shall be made subject to such conditions as the commissioner determines are necessary to protect the health and safety of persons who submit to chemical analyses and to insure reasonable accuracy of results.

(b) An applicant for certification as an analyst shall be required to demonstrate the ability to perform and control such alcohol or drug analyses or to operate and control analytical devices or instruments before certification is granted.

(c) An approval or certification shall be subject to periodic review by the commissioner. Such review shall include performance evaluations.

(d) Approval of an analytic method shall include the device or instrument and associated accessories specified in the application for approval, provided that such device or instrument is, in the opinion of the commissioner, properly maintained.

(Adopted effective August 30, 2005)

### **Sec. 15-140r-7. Suspension or revocation of approval or certification**

The commissioner may suspend or revoke an approval or certification in instances where such commissioner determines that fraudulent or inaccurate results are being reported or where it is proven that the performance or practices of a laboratory or analyst or operator are otherwise unethical or unsatisfactory. For the purposes of this section, the term “unsatisfactory” may include, but its definition shall not be limited to, any violation of the provisions of sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies.

(Adopted effective August 30, 2005)

### **Sec. 15-140r-8. Operation and use of test devices**

(a) No device or instrument may be used to conduct analyses in accordance with the provisions of sections 15-140r-1 to 15-140r-10, inclusive, of the Regulations of Connecticut State Agencies, until the commissioner inspects such device or instrument and determines that it is capable of providing accurate results.

(b) Only an analyst or operator may operate a device or instrument.

(c) Each time a sample is analyzed by a device or instrument other than a direct breath alcohol test device or instrument, the analyst shall analyze duplicate samples.

(d) An analyst shall check each device or instrument for accuracy immediately before and after each analysis. An operator shall verify the accuracy of a direct breath alcohol testing device or instrument immediately before and after each test.

(Adopted effective August 30, 2005)

### **Sec. 15-140r-9. Requirements for the conduct of the analysis of blood and urine**

#### **(a) Requirements for blood collection**

(1) Blood shall be withdrawn as provided in section 15-140r(a)(3) of the Connecticut General Statutes.

(2) Blood samples shall be collected using a sterile syringe and hypodermic needle or other equipment of equivalent sterility. The skin at the area of puncture shall be thoroughly cleansed and disinfected, provided that any solution containing ethyl alcohol shall not be used as a skin antiseptic.

(3) Containers and other equipment for sample collection shall be of a type that will preserve the integrity and suitability of the sample from the time of collection until analysis. Following collection, the container for each sample shall be sealed and labeled. Only those samples that have been properly sealed shall be analyzed.

#### **(b) Requirements for urine collection**

(1) The peace officer collecting the sample shall monitor the collection of the sample to ensure that adulteration or misidentification does not occur. Collections shall be monitored by a peace officer of the same gender as the individual from whom the sample is obtained.

(2) Containers and other equipment for sample collection shall be of a type that will preserve the integrity and suitability of the sample from the time of collection until it is analyzed. Following collection, the container for each sample shall be sealed and labeled. Only those samples that have been properly sealed shall be analyzed.

**(c) Requirements for blood and urine tests**

(1) No analysis may be reported or used for the purposes specified in section 15-140r-2 of the Regulations of Connecticut State Agencies, unless the method or methods used to conduct the analysis have been approved by the commissioner and such analysis is performed by an analyst.

(2) In conducting the analysis, the analyst shall use standards and controls approved by the commissioner.

(3) All analyses shall be performed in duplicate. Alcohol test results shall be reported to the requesting agency only when the duplicate results correspond to each other within 5 percent of the mean value. Drug test results shall be reported to the requesting agency only when the duplicate results correspond to each other within 20 percent of the mean value.

(4) All reports, written and oral, shall indicate the determined or equivalent blood alcohol content in terms of hundredths of a percent. When determinations are made to the nearest thousandth of a percent, results shall be truncated to the first two digits after the decimal point. For example, a determination of 0.149 percent shall be reported as 0.14 percent.

(Adopted effective August 30, 2005)

**Sec. 15-140r-10. Direct breath alcohol test**

(a) No person shall operate a direct breath alcohol testing device or instrument unless such person has been certified by the commissioner and is employed by a law enforcement agency, the Department of Environmental Protection or the department. Such operator shall conduct tests according to methods and with such devices and instruments approved by the commissioner and shall verify the accuracy of the device or instrument immediately before and after each test.

**(b) Approval of device or instrument**

**(1) Standard of performance**

Approval of a particular type and model of device or instrument shall be based on a laboratory evaluation of each device or instrument and its accessories to meet the following standard of performance:

(A) The device or instrument shall be capable of collecting and analyzing breath samples that are alveolar in composition;

(B) The device or instrument shall be capable of accurately analyzing a blank sample and suitable reference samples, such as air equilibrated with reference solutions of known alcohol concentration at known temperature; and

(C) The device or instrument shall be capable of alcohol analyses that result in a concentration less than 0.01 gram per 210 liters of air, i.e. 0.01 percent, when alcohol-free subjects are tested.

**(2) Evaluation and approval**

(A) The applicant shall provide the commissioner with each device or instrument and all related accessories for which approval is sought, complete operating instructions, and such other materials or technical assistance as the commissioner may require to conduct an evaluation of the application.

(B) The commissioner may also approve modified versions of such devices or instruments and accessories when the modifications do not alter the capabilities of

the devices or instruments and their associated accessories to meet the standards of performance as provided in subdivision (1) of this subsection.

(3) Certification of specific devices or instruments

(A) Each device or instrument shall be examined and certified prior to being placed in operation and after repairs that affect or alter its calibration. Repairs to printers shall not be subject to the requirements of this subdivision.

(B) Annual certification shall not be required.

(c) **Methods for conducting direct breath alcohol tests**

All direct breath alcohol testing shall be conducted in accordance with the following procedures:

(1) Sample collection

(A) The expired breath sample shall be air that is alveolar in composition. The breath sample shall be collected only after the subject has been monitored for at least 15 minutes prior to the collection of each sample. During this period, the test subject shall not have ingested alcoholic beverages or food, regurgitated or smoked.

(B) Samples of the test subject's breath shall be collected with a device or instrument approved in accordance with subsection (b) of this section.

(2) Operation of device or instrument

(A) Operators shall follow the manufacturer's operating instructions for the device or instrument, unless the commissioner has accepted a modification of such instructions. If the instructions have been so modified, then the instructions as modified shall be followed. The operating instructions applicable to the device or instrument shall be available at each location where a device or instrument is used.

(B) All agencies using a device or instrument shall make available for inspection by the commissioner all devices or instruments used by them, together with the current logbook associated with each such device or instrument. Such logbook shall include the identity of each operator using the device or instrument, the frequency with which the device or instrument has been checked for accuracy, and the results of each subject's analysis and calibration.

(d) **Certification of operators and instructors**

(1) Certification of operators

(A) General requirements

An operator of a direct breath alcohol testing device or instrument shall meet the following requirements:

(i) Employment by a law enforcement agency, the Department of Environmental Protection or the department;

(ii) Successful completion of at least four hours of training in the operation of the device or instrument to be used. Such training may be acquired by attending training courses offered by the department or by certified instructors; and

(iii) Demonstration to the commissioner of the proper use and application of such device or instrument.

(B) Proficiency instruction and review

(i) At any time after certification, the commissioner may require an operator to satisfactorily demonstrate proficiency in the use of such device or instrument.

(ii) Each operator shall demonstrate to a certified instructor competence in the operation of a device or instrument at least once during the 12-month period following the last such demonstration. The results of each such review shall be reported to the commissioner.

(2) Certification of instructors

In order to be certified as an instructor in the use of a direct breath alcohol testing device or instrument, the following requirements shall be met:

(A) Employment by a law enforcement agency, the Department of Environmental Protection or the department;

(B) Successful completion of at least seven hours of instruction approved by the commissioner on a designated device or instrument. Such instruction shall include the following:

(i) The theory of the devices or instruments used in the analytical process that measures the alcohol content of the blood;

(ii) Practical application and experience in the use of such devices or instruments; and

(iii) Presentations and discussions of the pharmacological and physiological effects of alcohol on the human body.

(C) Proficiency instruction and review

Each instructor shall attend an annual course of instruction conducted by the commissioner.

**(e) Revocation of certification of operators and instructors**

(1) The commissioner may revoke a certification issued to an operator for the following reasons:

(A) Failure to remain employed by a law enforcement agency, the Department of Environmental Protection or the department;

(B) Misuse of the device or instrument or incompetence in the performance of tests; or

(C) Failure to participate in proficiency review and testing or failure to properly perform tests during proficiency review and testing.

(2) The commissioner may revoke a certification issued to an instructor for the following reasons:

(A) Failure to remain employed by a law enforcement agency, the Department of Environmental Protection or the department;

(B) Failure to demonstrate knowledge of the device or instrument or testing procedures to the extent necessary to instruct operators; or

(C) Failure to attend an annual course of instruction conducted by the commissioner.

(Adopted effective August 30, 2005)