

ARKANSAS RULES FOR ALCOHOL TESTING

Sixth Revision

**ARKANSAS DEPARTMENT OF HEALTH
OFFICE OF ALCOHOL TESTING
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AUTHORITY

The following Rules for alcohol testing are duly adopted and promulgated by the Arkansas Department of Health as approved by the Arkansas State Board of Health pursuant to the authority expressly conferred by the laws of the State of Arkansas, Act 106 of 1969 as amended and Act 346 of 1957 as amended, the same being Arkansas Code, Title 5, Chapter 65, and Act 518 of 1995 as amended.

ADDENDUMS

Revisions necessary after the printing of these Rules may be attached inside the front cover. They will bear the signature of the Secretary of the Arkansas State Board of Health.

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DEFINITIONS

Alcohol - ethyl alcohol except where reference is made to alcoholic skin antiseptics where it means any hydroxyl derivative of a hydrocarbon.

Alcohol Analyses or Chemical Tests - (also, Breath Testing, Method of Analysis, Test) the total of all manipulations required to achieve a result which shows the alcohol concentration of an individual's blood or breath. Urine or other bodily substances may be used for determining the concentration of alcohol in the blood.

Alveolar Air (Deep Lung Air) - air in the smallest air sacs of the lungs; the air which is in equilibrium, with respect to alcohol, with the immediately adjacent pulmonary arterial blood.

Ampoule - a bulbous glass vessel hermetically sealed and containing a liquid. Ampoules contain the stock solution for certified breath simulator standards, except when a premixed solution is used.

Approved - recognized, endorsed, authorized, sanctioned, or provided by the Office.

Blood - whole blood which consists of the cellular components and the serum or plasma of blood, preferably peripheral venous blood.

Blood Alcohol Concentration - the percentage of alcohol in the blood. % w/v (percent weight per volume), that is, grams of alcohol per 100 milliliters of blood expressed as a percent. May also be shown as % BA or % BAC.

Breath - that portion of exhaled air that is considered to be substantially alveolar (deep lung) unless otherwise specified.

Breath Alcohol Concentration - the amount of alcohol in the breath, that is, grams of alcohol per 210 liters of breath. May be shown or expressed as g/210L.

Breath Simulator - see Simulator.

Breath-Testing Instrument - see Testing Device.

Calibration Device - see Simulator or Dry-gas Cylinder.

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Calibration Test - a test, using a simulator, dry-gas cylinder, or other calibration device containing a known concentration of ethyl alcohol to check or verify the accuracy of an alcohol-testing instrument.

Certificate - a document issued by the Office certifying that an installation, individual, or instrument has met the requirements and may be used in the determination of alcohol content, subject to the restrictions and requirements contained in these Rules and Office procedures. Certificates are not issued for calibration devices.

Office - the Office of Alcohol Testing.

Dry-gas Cylinder - a cylinder containing a known concentration of ethyl alcohol mixed with nitrogen gas used to calibrate and check the calibration of a testing device.

Employ - paying the salary of, as authorized by that organization, agency, institution, or political subdivision and in a position to hold the employed individual responsible for the specified performance of duties.

Individual - any human being.

Installation - any agency, partnership, association, public or private institution, or political subdivision that analyzes breath or other bodily substances for alcohol content for the purpose of supporting or defending legal actions which may arise out of Arkansas Code, Title 5, Chapter 65 as amended, or Act 518 of 1995 as amended.

Instrument - see Testing Device.

Law-Enforcement Agency - any police force or organization of a city, county, or this state or other government agency within this state whose primary duty as prescribed by law or ordinance is enforcing the criminal, traffic, or highway laws of this state.

Operator - an individual who has met the requirements to test subjects on a specified type of breath-testing instrument or instruments and to perform related tasks in accordance with Office procedures and these Rules.

Other Bodily Substances - any bodily substance other than blood, breath, or urine which can be used to determine alcohol content of the blood.

Refrigerate(d) - to make or keep cold or cool.

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Revocation - an act of calling back or rescinding or discontinuation.

Rules (these) - all sections of Arkansas Rules for Alcohol Testing, unless otherwise specified.

Sample - blood, breath, urine, or other bodily substances as specified to be analyzed for alcohol content.

Sampling Device - any instrument or mechanism used to capture or collect a sample (see Testing Device).

Senior Operator - an individual who has met the requirements to test subjects on a specified type of breath-testing instrument or instruments and to perform other required tasks related to alcohol testing in accordance with Office procedures and these Rules.

Simulator - a device that enables the operator to reproduce, under test conditions, phenomena likely to occur in actual performance; a device used to simulate or imitate a breath sample at a specific alcohol concentration; an accessory to a testing device.

Simulator Standard Solution - a solution that may be prepared from an ampoule of stock solution or purchased in a premixed form, when used in a simulator, produces a vapor sample that simulates a breath sample of a specified alcohol concentration.

Standard - anything set up and established by authority as a rule for the measure of quantity, weight, or value.

Standard of Accuracy - a standard for the performance of alcohol analyses as specified in these Rules; that standard being $\pm 0.01\%$ w/v for blood analyses and $\pm 0.01\text{g}/210\text{L}$ for breath analyses.

Subject - any individual.

Suspension - an act to make temporarily inoperative.

Testing Device - any instrument or mechanism used in determining or estimating the alcohol content of breath, blood, urine, or other bodily substance pursuant to these Rules (see Section IV). A testing device may include a sampling device. Testing devices are categorized as follows:

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Type A - Evidentiary Device

A1 - An evidentiary device which is designed to collect and analyze a sample within the limits of accuracy prescribed in 4.12. All certification requirements apply to Type A1 devices except when used by a facility which qualifies under 1.20.

A2 - An evidentiary device which is used in a mobile unit which collects and analyses a sample within the limits of accuracy prescribed in 4.12. All certification requirements apply to Type A2 devices as well as any additional requirements the Office may find necessary to assure compliance with the intent of the applicable Arkansas Code and these Rules.

Type B - Non-evidentiary Device - a device which by design is for screening only and the accuracy thereof is not required to be within ± 0.01 of actual value, or any device which is, by application, a screening device only. Both the device and the operating personnel are excluded from certification requirements. Test results obtained on a Type B device are not to be used as evidence in a court of law for the purpose of establishing that the subject was under the influence of alcohol but may be used to establish probable cause for further testing on a Type A or Type C device.

Type C - Other Laboratory Instruments - devices or instruments which may be used in a facility which qualifies for exclusion (1.20). That exclusion extends to the equipment and the operating personnel.

I. CERTIFICATION

PART A. GENERAL

1.10 Requirement for Certification.

Every individual, installation, or instrument not exempted or excluded by these Rules and involved in performing alcohol analysis in accordance with these Rules is to have a valid certificate as prescribed herein. For exemptions and exclusions, see Section I, Part B.

1.11 Certification Implications.

Certification shall not imply approval of anything carried out by an installation or individual other than what is specified on the certificate. Certification of an individual to operate a particular approved testing device authorizes that individual to perform tests on any unit of that type if the owner of the unit has no objection.

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1.12 Installation Certification.

To qualify for certification, an installation must meet the set of conditions in a. or b. of this section.

a. Local Installation.

- (1) Employ at least one Senior Operator for each different model of instrument to be certified. However, one person may serve as Senior Operator on more than one instrument at any one installation.
- (2) Own, lease or otherwise be in control of an approved alcohol-testing device and the required related accessories.
- (3) Pass on-site inspections by the Office (Part D of this Section).
- (4) Show the ability and willingness to meet the requirements set forth in these Rules.

b. State Level Installation.

- (1) Be a state level or other major subdivision of government that has an inadequate number of facilities, or no facilities of its own, appropriate for the installation of breath testing equipment.
- (2) Have access to many certified instruments at various agencies.
- (3) Have an established internal line of communication and records control which distributes the Office issued documents and other communications to all certified employees of that agency in a timely and accurate manner.
- (4) Local installations within the organizational structure of a state level installation must comply with 1.12a.

1.13 Senior Operator Certification.

To qualify as a Senior Operator of a specific testing device and maintain that certification, an individual must meet the following requirements:

- a. Successfully complete training approved by the Office as described in 2.12 on the operation of the testing device to be used.

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- b. Apply through the appropriate agency for certification to the Office. When the individual changes places of employment, a new application must be submitted through the new agency.
- c. Be able to exhibit, through examination and demonstration to the Office, sufficient skill in the operation of the testing device and related accessories used.
- d. Demonstrate the ability and willingness to adhere to the provisions of these Rules which may include running a reasonable number of tests on the testing device.
- e. Successfully complete any additional training or evaluation as required by the Office.

1.14 Operator Certification.

To qualify as an Operator of a specific testing device and maintain that certification, an individual must meet the following requirements:

- a. Successfully complete the training approved by the Office as described in 2.13.
- b. Apply through the appropriate agency for certification to the Office. When the individual changes places of employment, a new application must be submitted through the new agency.
- c. Be evaluated by the Office as required and demonstrate sufficient skills in the operation of the testing device used.
- d. Demonstrate the ability and willingness to adhere to the provisions of these Rules which may include running a reasonable number of tests on the testing device.
- e. Successfully complete any additional training or evaluation as required by the Office.

1.15 Instrument Certification.

Each Type A1 and A2 testing device is to be tested by the Office for the purpose of certifying its accuracy.

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Any test on such device for which a valid, current certificate cannot be produced will be considered invalid. Certificates are subject to recall by the Office since they are issued for a period of three (3) months in advance.

PART B. EXCLUSIONS

1.20 Exclusions from Certification.

- a. It is not required that the Office be certified. The Office shall not be limited by these Rules.
- b. It is not required that the state medical examiner, his staff, or the State Crime Laboratory be certified, nor shall they be limited by these Rules.
- c. It is not required that Type B testing devices or the operators thereof be certified.
- d. It is not required that accessories to testing devices be certified.

PART C. PROCEDURES FOR CERTIFICATION

1.30 Initial Certification.

Any individual or installation not currently certified by the Office and requiring certification may apply for certification at any time by contacting the Office for application forms.

1.31 Renewal of Certification.

- a. Installations. An Installation Certificate is valid when the conditions stated on the face of the Certificate are met. Therefore, an expiration date is not required on the Installation Certificate, nor is it necessary to reissue an Installation Certificate except when the identity changes or to replace one destroyed or lost.
- b. Senior Operators and Operators. Every individual certified in accordance with these Rules shall renew such certification with the Office every two (2) years and at such other times as the Office deems necessary. The validity of such certificates may be verified by contacting the Office.
- c. Instruments. Instrument certificates will be renewed quarterly unless otherwise defined by Arkansas law. Certification is to be based upon accuracy in the continued analysis of proficiency test samples and upon compliance with

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related policies and procedures specified by the Office. For details of procedures, contact the Office.

1.32 Report of Change or Discontinuance.

The certified installation shall report within thirty (30) days any change of address or discontinuance of an installation, change of employment, or loss of certified personnel.

1.33 Transfer of Certification.

Procedures for transferring certification are detailed in 1.44. Additional information may be obtained by contacting the Office.

1.34 Certification Records.

Certificates shall become part of the records available to the courts for legal proceedings, open to public inspection, and reclaimable by the Office.

PART D. INSPECTIONS AND ADDITIONAL REQUIREMENTS FOR CERTIFICATION

1.40 Access to Premises.

The Office or its authorized representative shall have, for reasonable cause, the authority to enter, at all reasonable times, upon any private or public property for the purpose of determining whether there is compliance with the provisions of these Rules, except that entry into areas under the jurisdiction of the federal government shall be affected only with the concurrence of the federal government or its authorized representative.

1.41 Tests and Evaluations.

Each applicant for certification or certified individual shall perform such reasonable tests as the Office deems necessary in administration of these Rules; these may include, but are not limited to, tests to evaluate the following:

- a. Instruments and related devices used in accordance with these Rules.
- b. Facilities where testing devices are used.
- c. Personnel training levels and competence.

1.42 Responsibilities of Installations.

Installations certified under 1.12a. shall assign a Senior Operator to be responsible for record keeping and ensuring that the installation adheres to these Rules as determined by the Office.

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Installations certified under 1.12b shall provide a contact person at the state level for receiving and distributing Office documents and communications and forwarding or distributing them appropriately. This person shall maintain accurate records of personnel of that agency certified by the Office and shall communicate with the Office as necessary concerning them.

1.43 Suspension or Revocation.

The Office may at its discretion revoke, suspend, or modify the certificate of any individual, instrument, or installation if any one or more of the following conditions exist.

- a. Certification was obtained falsely or deceitfully.
- b. Conditions are revealed through any report, record or other means which would cause the Office to refuse certification on an original application.
- c. There is found to be violation of or failure to observe any of the terms and conditions of the certificate, or any applicable Rules and regulations, policies and procedures, or order of the Office.
- d. There is a failure to meet the standard of accuracy.
- e. A request for termination of certification is submitted by the certificate holder to the Office.

1.44 Reinstatement of Certification.

In the event a certified individual changes their place of employment, the individual's certification is no longer valid until application for certification at the new place of employment is received and approved by the Office.

In the event certification is revoked, it may be reinstated by the submission of a new application and compliance with the original requirements for certification.

If an individual has not been certified by the Office for 1 (one) year, then they will have to go back through the appropriate class to be recertified.

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II. TRAINING

PART A. GENERAL

2.10 Approval of Training Course.

In the event of major limitations in training course availability, special temporary approvals of training programs may be issued by the Office provided the Office maintains close oversight of the training and continues to provide the evaluations.

2.11 Changes in Training Requirements.

At the discretion of the Office, any phase or portion of the training program is subject to alteration.

2.12 Senior Operators.

To qualify for certification as a Senior Operator of a Type A1 or A2 testing device, an individual shall show evidence of successful completion of a course of instruction which includes, at a minimum, the following:

- a. Instruction on the effects of alcohol on the human body.
- b. Instruction on the operational principles of the selected breath-testing instrument which is to include:
 - (1) a functional description of the testing method, and
 - (2) a detailed operational description of the method with the appropriate demonstrations
- c. Instruction on the legal aspects of chemical tests and of the method to be employed.
- d. Instruction on supplemental information which is to include nomenclature appropriate to the field of chemical tests for alcohol.
- e. Laboratory participation using the appropriate equipment. Laboratory practice will include the use of reference alcohol samples to run practice tests.
- f. Instruction for properly conducting a breath test.

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- g. Instruction on forms, records, and reporting.
- h. A formal examination and performance evaluation for purposes of determining competency and qualifications.

2.13 Operators.

To qualify for certification as an Operator of a Type A1 or A2 testing device, an individual shall show evidence of successful completion of a course of instruction, which includes, at a minimum, the following:

- a. Instruction for properly conducting a breath test.
- b. Instruction on the operation of the breath test instrument.
- c. Instruction on supplemental information which is to include nomenclature appropriate to the field of chemical tests for alcohol.
- d. Instruction on forms, records, and reporting.
- e. A formal examination and performance evaluation for purposes of determining competency and qualifications.

2.14 Special Training Courses.

Should the need arise for approved training on special devices (Type B) such as preliminary breath-test devices, the necessary training may be approved or provided by the Office for purposes of establishing a standard operational procedure in the use of such devices.

III. SAMPLE COLLECTION AND HANDLING

PART A. GENERAL

3.10 Sampling Requirements.

This section outlines the criteria for the collection of samples in accordance with these Rules.

3.11 Collection of Samples.

Refer to current Ark. Code Ann. §§5-65-202 and 5-65-203. Samples shall be collected as soon as feasible after an alleged offense.

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3.12 How to Collect and Handle Samples.

(See details under appropriate type of sample in this section.)

- a. Careful sampling, preservation, and handling are fundamental to accuracy. The identity and integrity of the sample shall be maintained from the time of collection through analysis.
- b. The Office form shall accompany each sample of blood, urine, or other bodily fluid collected in accordance with these Rules. Copies of the report will then be distributed as required and as provided by law once analysis is completed.

3.13 Who May Analyze Samples.

Samples of bodily fluid may be analyzed for alcohol content by the following:

- a. Office of Alcohol Testing, Arkansas Department of Health.
- b. Any agency excluded from certification (see Section I, Part B.).

3.14 Samples to be Analyzed by the Office.

Samples to be analyzed by the Office should be delivered or mailed to the appropriate address.

PART B. BLOOD SAMPLING

3.20 Sample Collection.

Blood samples may be collected from living individuals only by persons authorized by law and by means of a sterile, dry syringe and hypodermic needle or other sterile equipment. The skin at the area of puncture shall be thoroughly cleansed and disinfected with a nonvolatile antiseptic. Alcohol or other volatile organic disinfectant solutions shall not be used as a skin antiseptic or to clean hypodermic needles, syringes, or containers.

3.21 Postmortem Sample Collection.

Postmortem samples may be collected by anyone authorized by law. The following precautions must be employed to insure a representative, uncontaminated sample.

- a. Samples must be taken prior to the start of embalming procedures. Blood shall not be obtained by forcing blood from vessels by use of embalming fluids.
- b. Blood is to be withdrawn by syringe from peripheral vessels.

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- c. If necessary, heart blood may be used. Great care must be exercised to prevent dilution of the blood sample by fluids outside the heart (pleural or pericardial). Heart blood should be used only if the heart is intact.

3.22 Sample Size.

A good sample is five milliliters (cc). Smaller samples may be analyzed if necessary.

3.23 Sample Container.

The blood sample shall be deposited into a tightly stoppered, clean, dry container containing a solid anticoagulant and sodium fluoride or an approved equal as a preservative (see 3.24). Alcohol or other volatile organic solvents shall not be used to clean the container. The container shall be clearly identified with the following:

- a. Name of the subject.
- b. Date, and time of collection.
- c. Name or initials of person collecting and/or sealing sample.

3.24 Sample Preservation.

While not in transit or under examination, all blood samples shall be refrigerated. If the sample is to be analyzed at the Office, sodium fluoride (between 2.0 and 3.0 milligrams per milliliter of blood) or its solid form equivalent shall be used as a preservative, and sodium citrate or potassium oxalate or equivalent, in final concentration of 0.3% to 0.5%, is recommended as an anticoagulant.

Postmortem blood samples to be analyzed by the Office shall be deposited into a tightly stoppered, clean dry container containing sodium fluoride as a preservative, in a concentration of 1% or more, (10.0 milligrams per milliliter of blood) or an approved equal. A solid anticoagulant such as sodium citrate or potassium oxalate, or equivalent, is also recommended.

3.25 Sample Witness.

The officer requesting the blood sample should observe the collection of the sample so that he may attest to the authenticity of the sample. He should then initial or mark the sample for future identification. The sample should then be secured in a tamperproof manner.

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PART C. URINE SAMPLING

3.30 Sample Collection.

To collect a urine sample, the subject must first be instructed to void the bladder. Approximately one-half hour later (time not critical), the subject should again be requested to void the bladder and that specimen should be collected for analysis.

NOTE: Urine is not to be collected as a postmortem sample.

3.31 Sample Size.

Ten to thirty milliliters (cc) of urine shall be considered sufficient for analysis.

3.32 Sample Container.

When urine collection is necessary, the specimen shall be deposited into a clean, dry, non-porous container and tightly capped or stoppered. Alcohol or other volatile organic solvents shall not be used to clean the container. The container shall be clearly identified with the following information.

- a. Name of subject.
- b. Date and time of first voiding and of the collection.
- c. Name or initials of person witnessing collection and sealing the sample.

3.33 Sample Preservation.

While not in transit or under examination, urine samples shall be refrigerated. If preservatives are used, a comment stating the type and amount should accompany the sample.

3.34 Sample Witness.

The collection of the sample must be witnessed in order that its authenticity may be proven. It is to be properly marked for future identification and secured in a tamperproof manner.

PART D. BREATH SAMPLING

3.40 Sample Collection.

A breath sample to be analyzed at a certified installation shall be collected only by certified personnel. The sample shall be collected only after the subject has been under observation for an uninterrupted period of no less than 20 minutes immediately prior to collection. The type of device and the procedures or

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techniques shall be Office approved and only certified personnel may operate the device.

3.41 Sample Size.

The quantity of breath shall be established by direct volumetric measurement or by collection of a fixed breath volume at a constant temperature.

PART E. SAMPLING OF OTHER BODILY SUBSTANCES

3.50 Sample Collection.

Sampling of bodily substances other than blood, breath, or urine shall be considered valid only in postmortem cases. All postmortem bodily materials shall be obtained prior to the start of any embalming procedure and the sample must be taken by or under the direction of the state medical examiner or a physician. The sample is to be analyzed by any laboratory excluded from certification in 1.20. The results of such analyses must be interpreted by qualified personnel with respect to the alcohol content of the blood.

IV. METHODS OF ANALYSIS

PART A. GENERAL

4.10 Methodology and Instrumentation Requirements.

Analysis of blood, breath, urine, or other bodily substances to determine alcohol content in accordance with these Rules shall be by a method approved by the Office (see 4.11 and Part B of this Section). All breath-testing instruments and accessories utilized in accordance with these Rules shall have the approval of the Office (see 4.12 and Part C of this Section). The operation of approved breath-testing instruments will be according to manufacturer's recommendations unless otherwise approved in writing by the Office (see 4.15).

4.11 Approval of Methods.

Any method not listed in Part B of this Section will be considered for approval upon receipt of a detailed description of the method.

4.12 Approval of Type A and C Testing Devices and Accessories.

- a. If application is made by the manufacturer for approval of a Type A device not on the approved list (4.30), the Office will examine and evaluate the device as soon as practicable to determine if it meets the following criteria.

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- (1) Breath specimens collected and presented for analysis shall be essentially alveolar (deep lung) in composition.
 - (2) The device shall be capable of alcohol analysis which results in a concentration less than 0.01g/210L breath on an alcohol-free sample. It shall be capable of analyzing a suitable reference sample such as air equilibrated with a solution of known alcohol content at a constant temperature with accuracy of $\pm 0.01\text{g}/210\text{L}$ applied in accordance with the Office current evaluation procedure.
 - (3) The specificity of the procedure shall be adequate and appropriate for the analysis of breath specimens for the determination of alcohol concentration in traffic law enforcement.
 - (4) The instrument shall be constructed and designed to be operated in a manner appropriate to the environment in which it will be used.
 - (5) Any breath-testing device submitted to the Office for approval shall be accompanied by an application form supplied by the Office and by all accessories and supplies necessary for the evaluation of the device and a detailed set of instructions which shall include information pertinent to operation, calibration, maintenance, and interpretation of results.
- b. If application is made by a manufacturer for approval of a calibration device not on the approved list (4.31), the Office shall examine and evaluate the device to determine its suitability, accuracy, and reliability.
 - c. The Office shall report the results of any evaluation to the manufacturer and shall have rights of publication of the results.
 - d. The Office shall not accept for evaluation any instrument or accessory for which the information, data, and documents submitted fail to support a judgment by the Office that the instrument or accessory is in apparent compliance with the requirements of these Rules when operated according to the manufacturer's directions.
 - e. The Office may at any time reevaluate an approved device or accessory to determine that compliance with the criteria in 4.12 is being maintained. Failure to continue to meet the criteria may result in interdiction of usage of such equipment, or suspension, or cancellation of approval. Upon formal request from the manufacturer, further evaluation or investigation may be conducted and the interdiction or suspension lifted. A cancellation of approval will require an evaluation of the device or accessory.

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- f. This Office may remove from the approved list any testing device for which adequate maintenance and repair are no longer available, or for which the manufacturer's specifications no longer comply with the original specification.

4.13 Modified Versions of Approved Instruments and Accessories.

The Office may authorize modified versions of approved instruments and accessories when, in the judgment of the Office, the modifications do not alter the abilities of such instruments or accessories to meet the standards of performance set forth in 4.12 in as much as the modified versions are equivalent in performance to the approved version.

4.14 Approval of Ampoules, Dry-gas Cylinders, or Other Prepackaged Chemical.

Any prepackaged chemical to be used in conjunction with an approved testing device shall be approved by the Office. The Office shall examine and evaluate each lot or batch. Additional quantities may be required at the Office discretion.

4.15 Approval of Chemical Test Procedures.

Approved test procedures are supplied by the Office on all approved instruments and may be updated periodically. For a test to be considered valid under the provisions of these Rules, the prescribed test procedure must be followed. The approved method may be characterized via computer programming which is provided and monitored by the Office.

PART B. METHODS OF ALCOHOL ANALYSIS

4.20 Approved Methods.

At the time of this printing, the methods listed in this Part are approved for the determination of alcohol concentration in blood, urine, breath, or other bodily substances in accordance with these Rules. Methods approved hereafter may be obtained upon request from the Office. Only brief descriptions are printed here.

- a. Gas Chromatography. This method consists of separating volatile components of a sample by passing the sample through a column within the gas chromatograph, then passing the components through a detector system. The detector sends signals to a recording device which provides the results or sufficient information for the analyst to compute the quantity of the component of interest.
- b. Infrared Absorption. This method consists of measuring the absorption of infrared energy by molecules of alcohol in a sample.
- c. Electrochemical Fuel Cell. This method consists of measuring the current produced during the oxidation of alcohol in a sample.

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PART C. TESTING DEVICES AND CALIBRATION DEVICES

4.30 Approved Breath Testing Devices - Type A.

At the time of this writing, the instruments listed in this paragraph are approved for the determination of alcohol in accordance with these Rules. Instruments approved hereafter will be placed on an updated list available upon request from the Office.

Intoximeter: EC/IR II, EC/IR II (with IEM), and EC/IR II.t

Manufacturer – Intoximeters, Inc.
2081 Craig Road
St. Louis, MO 63146

4.31 Approved Calibration Devices.

The following devices are approved for the purpose of calibrating and for checking the calibration of the approved breath-testing instruments. Calibration devices approved hereafter will be placed on an updated list available on request from the Office.

a. Guth Simulator Models: 34C, 10-4D, 2100, and 12V500

Manufacturer - Guth Laboratories
590 N. 67th Street
Harrisburg, PA 17111

b. RepCo Simulator Model 3402C

Manufacturer – RepCo Marketing, Inc.
3101-188 Stonybrook Drive
Raleigh, NC 27604

c. Ethanol Breath Standard, Dry-gas Cylinder

Manufacturers – Intoximeters, Inc.
2081 Craig Road
St. Louis, MO 63146

Airgas Mid America Laboratory
3500 Bernard Street
St. Louis, MO 63103

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PART D. EXPRESSION OF RESULTS

4.40 Blood Alcohol Concentration.

The results of an analysis of blood, urine, or other bodily fluid shall be expressed in terms of percent weight/volume (% w/v) defined as grams of alcohol per 100 milliliters of blood and reported to the second decimal place only. For example, 0.239% w/v shall be reported as 0.23% w/v. Test results are not to be rounded off; the third decimal place is to be dropped. Percent weight/volume is obtained by dividing the weight of alcohol in a sample expressed in grams by the volume of the sample expressed in milliliters and multiplying by 100. This result represents the concentration of alcohol in the blood (% BA, % BAC, % w/v).

4.41 Urine Analysis.

For these Rules, the alcohol in a urine sample shall be treated as equivalent to 1.3 times the concentration in whole blood. Given a urine test result of 0.15% w/v:

$$1.3x = 0.15\% \quad \text{where } x = \% \text{ blood alcohol}$$

$$x = \frac{0.15\%}{1.3}$$

$$x = 0.115\% \quad (\text{report as } 0.11\% \text{ blood alcohol})$$

4.42 Serum or Plasma Analysis.

For these Rules, the alcohol in a serum or plasma sample shall be treated as 1.15 times the concentration in whole blood.

Given a serum or plasma test result of 0.12% w/v:

$$1.15x = 0.12\% \quad \text{where } x = \% \text{ blood alcohol}$$

$$x = \frac{0.12\%}{1.15}$$

$$x = 0.104\% \quad (\text{report as } 0.10\% \text{ blood alcohol})$$

4.43 Breath Alcohol Concentration.

Breath test results are to be reported as grams of alcohol per 210 liters of breath. Breath test instruments approved and certified for use by the Office report results in these units.

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PART E. CALIBRATION AND CALCULATION OF RESULTS

4.50 Procedures on Approved Instruments - Type A1 and Type A2.

A calibration test shall be performed to determine if an instrument produces results within the standard of accuracy (± 0.01).

Intoximeter EC/IR II. A calibration test is automatically performed with each subject test and is recorded by the instrument as part of the test record. There is no requirement to record this calibration test as a special entry in the logbook.

4.51 Instruments Subsequently Approved.

Instruments which may be subsequently approved are to be calibrated in a manner approved by the Office as appropriate to the instrument and to meet the standard of accuracy of $\pm 0.01\%$ w/v for blood or $\pm 0.01\text{g}/210\text{L}$ for breath.

V. RECORDS AND REPORTING

PART A. GENERAL

5.10 Records and Reporting Requirements.

Records which reflect the facts pertinent to all tests performed on the certified equipment shall be kept and maintained by each installation certified under 1.12a. The records shall be open to inspection by the Office and shall be periodically submitted to the Office as outlined in this section. Records are to be kept for a period of two (2) years or until all possibility of court action is past, whichever is longer.

Installations certified under 1.12b. are not required to maintain records of tests or records related to equipment used in testing.

5.11 Installation Records Required.

The following records (as applicable) are to be kept by a certified installation:

- a. Records of certification of the instrument, the installation, and persons using the instrument. Persons using the instrument who are certified through a State Level installation, as defined in Section 1.12b., are required to have their original certificate on file at the State Level installation's headquarters.
- b. Records of tests performed on each instrument shall be kept in chronological order in a logbook, and individual test records, as produced by the instrument shall be kept in a retrievable manner.

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c. Records reflecting training levels of certified personnel.

5.12 Installation Reporting to the Office.

Records of tests performed on a certified breath testing instrument shall be made accessible as required by the Office. All other paperwork shall be submitted as required by the Office.

SEVERABILITY

If any provision of these Rules or the application thereof to any person or circumstances is held invalid, such invalidity shall not affect other provisions or applications of the Rules which can be given effect without the invalid provision or application and to this end the provisions of these Rules are declared to be severable.

REPEAL

All Rules and parts of Rules in conflict herewith are hereby repealed.

CERTIFICATION

This will certify that the Rules for Alcohol Testing were adopted by the State Board of Health of Arkansas at a regular session of said Board held at Little Rock, Arkansas, on the 28th Day of October, 2021.



Jennifer Dillaha, MD
Secretary of Arkansas State Board of Health
Director of the Arkansas Department of Health