40:40-1-1. Purpose

The rules in this Chapter concern analysis of blood and other specimens for "other intoxicating substances" (i.e., substances and drugs, other than ethyl alcohol) under the provisions of Title 47 O.S., Section 751-761 and Title 3 O.S., Section 303 and Title 63 O.S., Section 4210A, Oklahoma Statutes. They include standards, requirements, and conditions for performance of such tests, and prescribe specimens, parameters for initial and confirmatory analyses, quality assurance practices, and reporting practices. All forensic laboratories and facilities that are ISO/IEC (International Organization of Standards/International Electrotechnical Commission) 17025 accredited, or as defined in 74 O.S. § 150.37 (Forensic Laboratory Accreditation Act) are exempt from these rules.

40:40-1-2. Analysis of other intoxicating substances in blood

(a) **General conditions.**

(1) The term "other intoxicating substance" shall mean any controlled dangerous substance as defined in Title 63 of the Oklahoma Statutes, and any other substance, other than alcohol, which is capable of being ingested, inhaled, injected, or absorbed into the human body and is capable of adversely affecting the central nervous system, vision, hearing or other sensory or motor functions.

(2) Analysis of blood specimens for identification and/or quantitation of other intoxicating substances contained therein shall be performed in substantial compliance with the provisions of this Section.

(3) Forensic Drug Laboratories and Forensic Drug Analysts performing analysis of other intoxicating substances in specimens of blood shall comply substantially with applicable generally recognized standards of good laboratory practice.

(4) In the analysis of other intoxicating substances in specimens of blood, the laboratory and analyst(s) shall comply with generally recognized procedures and safeguards for forensic analytical toxicology. Appropriate measures shall be taken to safeguard the identity, integrity, and composition of all specimens and to exclude tampering with and unauthorized access to or exchange or loss of specimens, and to provide the requisite security for evidentiary purposes.

(5) Analysis of State's or retained blood specimens for other intoxicating substances may be carried out by any method or procedure approved by authority of the Board of Tests for Alcohol and Drug Influence.

(6) Analysis of blood or blood components for other intoxicating substances shall be performed in compliance with applicable Analysis Protocol(s) and Procedure(s) generally-recognized by competent authorities in forensic toxicology. Such Analysis Protocol(s) and Procedure(s) shall conform, to the extent applicable, to the criteria and specifications set forth hereinafter in this Section. Methods and tests for the analysis of other intoxicating substances set forth in such applicable Analysis Protocol(s) and Procedure(s) shall be deemed to be approved by the Board of Tests for Alcohol and Drug Influence.

(b) **Facilities and analysts.**

(1) Analysis of a State's or retained blood specimen shall be carried out only and in its entirety in a Forensic Drug Laboratory approved by the Board of Tests for Alcohol and Drug Influence.

(2) Such analysis shall be performed by qualified personnel employed by the laboratory.~~a person holding a currently valid Forensic Drug Analysis Permit issued by authority of the Board of Tests for Alcohol and Drug Influence.~~

(c) **Specimens.**

(1) Analysis of other intoxicating substances may be carried out upon specimens of whole blood or any of its components, including plasma and serum. A homogenized mixture of clotted blood and serum may also be used as a specimen.

(2) Blood specimens may contain adequate and appropriate anticoagulant(s) and preservative(s), but no other additives.

(d) **Methods and procedures.** Methods and procedures shall be carried out in compliance with ISO/IEC (International Organization of Standards/International Electrotechnical Commission) 17025 accreditation.

~~(1) Analysis of blood for other intoxicating substances may be carried out, to the extent feasible, by the combination of one or more initial (qualitative) tests and one or more confirmatory quantitative analyses; or entirely by means of suitable confirmatory quantitative analysis methods for any given analyte.~~

~~(2) Initial (qualitative) tests shall employ methods based on one or more of the following analysis principles:~~

~~(A) Chromatography; including gas chromatography, liquid chromatography, thin-layer chromatography~~

~~(B) Fluorometry~~

~~(C) Immunochemical assays; including homogeneous enzyme immunoassay, radioimmunoassay, and fluorescence polarization immunoassay~~

~~(D) Spectrophotometry; including infrared, ultraviolet, and visible light spectrophotometry~~

~~(E) Other analysis principles generally-recognized by competent authorities in forensic toxicology.~~

~~(3) Confirmatory (quantitative) analysis methods shall be based on one or more of the following analysis principles:~~

~~(A) Gas chromatography; including capillary and packed column gas chromatography~~

~~(B) Gas chromatography combined with mass spectrometry (GC/MS)~~

~~(C) Liquid chromatography~~

~~(D) Liquid chromatography combined with mass spectrometry (LC/MS)~~

~~(E) Spectrophotometry; including infrared, ultraviolet, and visible light spectrophotometry~~

~~(F) Spectrophotofluorometry~~

~~(G) Other analysis principles generally-recognized by competent authorities in forensic toxicology.~~

~~(4) If initial (qualitative) test(s) are employed and yield positive result(s), the subsequent confirmation and quantitation of target analyte(s) shall be performed by confirmatory quantitative methods based on different principle(s) from those on which the initial test(s) are based. Specimens of blood or its components which yield negative results for specified target analyte(s) in one or more appropriate initial (qualitative) tests need not be subjected to further analysis for those analyte(s).~~

~~(5) In performing quantitative analyses, one or more appropriate internal standard(s) shall be added to all unknown specimen(s) and to all control specimens, when appropriate.~~

~~(6) Any specimen which has been analyzed directly by confirmatory quantitative methods [i.e., without a preceding initial (qualitative) test] should be subjected to an additional confirmatory analysis employing different analytical principle(s), when feasible.~~

~~(7) Separation of target analytes from the blood or blood component matrix, if required, may be carried out by methods based on one or more of the following principles:~~

~~(A) Liquid-phase extraction; including liquid/liquid extraction~~

~~(B) Solid-phase extraction, including column chromatography~~

~~(C) Combined liquid and solid-phase extraction~~

~~(D) Vapor-phase separation~~

~~(E) Other separation principles generally-recognized by competent authorities in forensic toxicology.~~

(e) **Quality assurance.** Quality assurance shall be carried out in compliance with ISO/IEC (International Organization of Standards/International Electrotechnical Commission) 17025 accreditation.

~~(1) Analysis of other intoxicating substances in blood shall be carried out in conjunction with adequate and appropriate quality assurance procedures.~~

~~(2) Quality assurance procedures shall include documentation of the specificity, sensitivity, detection limits, linearity limits, precision and accuracy of all methods employed for initial (qualitative) or confirmatory quantitative analysis.~~

~~(3) Every analysis, whether of a single blood specimen or a group of specimens analyzed together, shall include at least the following quality assurance specimens for each target analyte:~~

~~(A) Reagent blank(s)~~

~~(B) At least two (2) calibrators of concentrations within the linearity limits of the instant~~

~~method (for confirmatory quantitative methods only)~~

~~(C) One or more "negative" controls consisting of the same biological specimen matrix as that of the unknown specimen(s), and devoid of the target analyte(s)~~

~~(D) One or more "positive" controls consisting of the same kind of biological specimen matrix as that of the unknown specimen(s), and containing the target analyte(s) at appropriate concentration(s).~~

(f) **Records and reports.** Record keeping and reporting shall be carried out in compliance with ISO/IEC (International Organization of Standards/International Electrotechnical Commission) 17025 accreditation.

~~(1) The Forensic Drug Laboratory shall, for each specimen analyzed for other intoxicating substances, maintain in its files a record of all analysts observations, all "raw" analytical data produced by instrumental analysis or otherwise, and all data reduction and data treatment leading to the reported results; together with documentation of the analyte(s) sought, identification of all method(s) of analysis employed, the ultimate findings and results, and a copy of any laboratory report rendered.~~

~~(2) Reports of analyses for other intoxicating substances shall contain substantially the following information:~~

~~(A) Customary information concerning the identity of the person from whom the specimen was obtained; and the date and time of specimen collection, if known~~

~~(B) Nature of the specimen (whole blood, blood serum, blood plasma, etc.)~~

~~(C) The identity of each other intoxicating substance found present in the specimen, expressed in correct chemical terminology~~

~~(D) The qualitative results or concentration of each other intoxicating substance found, expressed in micrograms per milliliter (mcg/mL) or nanograms per milliliter (ng/mL) of blood (or other specimen), as appropriate for the intoxicating substance concerned. The units of concentration employed shall be clearly stated in every analysis report for every analyte~~

~~(E) The date of completion of the analysis and the date of rendering of the report~~

~~(F) Identifying information concerning the Forensic Drug Laboratory, including its name and location~~

~~(G) Identification of the Forensic Drug Analyst(s) who analyzed the specimen(s) and obtained the findings reported~~

~~(H) The name, title, and signature of the person rendering the report.~~