

## Chapter 448-14 WAC

### STATE TOXICOLOGIST STANDARDS FOR ANALYSIS OF BLOOD SAMPLES FOR ALCOHOL

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#### WAC

448-14-010 Criteria for approved methods of quantitative analysis of blood samples for alcohol.  
448-14-020 Operational discipline of blood samples for alcohol.  
448-14-030 Qualifications for a blood alcohol analyst.

**WAC 448-14-010 Criteria for approved methods of quantitative analysis of blood samples for alcohol.** Any quantitative blood alcohol analysis method which meets the following criteria is approved by the state toxicologist and may be used in the state of Washington. Analysis of urine for estimation of blood alcohol concentrations is not approved by the state toxicologist in the state of Washington.

The blood analysis procedure should have the following capabilities:

(1) Precision and accuracy.

(a) The method will be capable of replicate analyses by an analyst under identical test conditions so that consecutive test results on the same date agree with a difference which is not more than 3% of the mean value of the tests. This criterion is to be applied to blood alcohol levels of 0.08 grams of alcohol per 100 mL and higher.

(b) Except for gas chromatography, the method should be calibrated with water solutions of ethyl alcohol, the strength of which should be determined by an oxidimetric method which employs a primary standard, such as United States National Bureau of Standards potassium dichromate.

(c) The method will give a test result which is always less than 0.005 grams of alcohol per 100 mL when alcohol-free living subjects are tested.

(2) Specificity.

(a) On living subjects, the method should be free from interferences native to the sample, such as therapeutics and preservatives; or the oxidizable material which is being measured by the reaction should be identified by qualitative test.

(b) Blood alcohol results on post-mortem samples should not be reported unless the oxidizable substance is identified as ethanol by qualitative test.

[Statutory Authority: RCW 46.61.506. WSR 10-24-067, § 448-14-010, filed 11/30/10, effective 12/31/10; Order 4, § 448-14-010, filed 7/9/70; Emergency and Permanent Order 3, § 448-14-010, filed 9/23/69.]

**WAC 448-14-020 Operational discipline of blood samples for alcohol.** (1) Analytical procedure.

(a) The analytical procedure should include:

(i) A control test

(ii) A blank test

(iii) Duplicate analyses that agree to within plus or minus ten percent of their mean.

(b) All sample remaining after analysis should be retained for at least three months under suitable storage conditions for further analysis if required.

(c) Each analyst will engage in a proficiency test program in which some blood samples containing alcohol are exchanged with other

laboratories and tested so that the proficiency of each analyst and the precision and accuracy of the test method can be evaluated no less than one time per year.

(2) Reporting procedure.

(a) The results should be expressed as grams of alcohol per 100 mL of whole blood sample.

(b) The analysis results should be reported to two significant figures.

(c) Blood alcohol results on living subjects of 0.009 grams of alcohol per 100 mL or lower will be reported as negative. Blood alcohol results on post-mortem samples of 0.019 grams of alcohol per 100 mL or less will be reported as negative. (See WAC 448-14-010 (2)(b))

(3) Sample container and preservative.

(a) A chemically clean dry container consistent with the size of the sample with an inert leak-proof stopper will be used.

(b) Blood samples for alcohol analysis must be preserved with an anticoagulant and an enzyme poison sufficient in amount to prevent clotting and stabilize the alcohol concentration. Suitable preservatives and anticoagulants include the combination of sodium fluoride and potassium oxalate.

[Statutory Authority: RCW 46.61.506. WSR 10-24-067, § 448-14-020, filed 11/30/10, effective 12/31/10; Order 4, § 448-14-020, filed 7/9/70; Emergency and Permanent Order 3, § 448-14-020, filed 9/23/69.]

**WAC 448-14-030 Qualifications for a blood alcohol analyst. (1)**

Minimum qualifications for the issuance by the state toxicologist of a blood alcohol analyst permit will include college level training in fundamental analytical chemistry with a minimum of five quarter hours of quantitative chemistry laboratory or equivalent, with a passing grade.

(2) The state toxicologist will issue a blood alcohol analyst permit to each person found to be properly qualified, and will hold written, oral or practical examinations to aid the state toxicologist in judging qualifications of applicants. Such permits will bear the signature or facsimile signature of the state toxicologist and be dated.

(3) The blood alcohol analyst permits are subject to cancellation by the state toxicologist if the permittee refuses or fails to obtain satisfactory results on samples periodically distributed to the permittees by the state toxicologist.

[Statutory Authority: RCW 46.61.506. WSR 10-24-067, § 448-14-030, filed 11/30/10, effective 12/31/10; Order 4, § 448-14-030, filed 7/9/70; Emergency and Permanent Order 3, § 448-14-030, filed 9/23/69.]