ASB Standard 120, Second Edition
2026

Standard for the Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Impaired Driving Investigations

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Foreword

Impaired driving is a public health and safety concern, and toxicological testing is a critical part of these investigations. This document promotes standardization of the minimum analytical scope and sensitivity of forensic toxicological testing of blood in investigations of alleged impaired driving. This document is adapted from the work of the National Safety Council's Alcohol, Drug, and Impairment Division. These requirements were developed based on laboratory surveys, epidemiological data, drug-use patterns, and analytical capabilities of laboratories conducting analyses of specimens collected from drivers suspected of being impaired. Specific legal requirements may require deviations from this standard practice.

This second edition includes several substantive changes from the original 2021 standard for the analytical scope and sensitivity of forensic toxicological testing of blood in impaired driving investigations. Gabapentin was added to the list of required substances, while carisoprodol and meprobamate were removed. Hydromorphone and oxymorphone were added as metabolites for confirmatory testing. Table 1 was updated to reflect and clarify minimum requirements for immunoassay-based initial testing, non-immunoassay-based initial testing, and confirmatory testing. ANSI/ASB 113, *Standard for Identification Criteria in Forensic Toxicology* was added as a normative reference.

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The Toxicology Consensus Body of the AAFS Standards Board revised, prepared, and finalized this document as a standard.

Questions, comments, and suggestions for improving this document can be sent to the AAFS-ASB Secretariat at asb@aafs.org or 401 N 21st Street, Colorado Springs, CO 80904.

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Keywords: *impaired driving; scope of testing; analytical sensitivity; forensic toxicology*

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Table 1 Required Minimum Analytical Scope and Sensitivity for Testing of Blood in Impaired Driving Investigations .....

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Standard for the Analytical Scope and Sensitivity of Forensic Toxicological Testing of Blood in Impaired Driving Investigations

1 Scope

This document delineates the minimum requirements for the analytical scope and sensitivity for the forensic toxicological testing of blood specimens collected from suspected impaired drivers. This document does not cover the analysis of breath, oral fluid, urine, or other specimen types collected in impaired driving investigations.

2 Normative References

The following references are indispensable for applying this standard. The document's latest edition (including any amendments) applies.

ANSI/ASB Standard 113, *Standard for Identification Criteria in Forensic Toxicology*[1]

ASB Technical Report 208, *Forensic Toxicology: Terms and Definitions*[1]

3 Terms and Definitions

For purposes of this document, all applicable terms are defined in ASB Technical Report 208, *Forensic Toxicology: Terms and Definitions*.

4 Requirements for Forensic Toxicological Testing of Blood Specimens in Impaired Driving Investigations

4.1 The minimum requirements for the scope and analytical sensitivities listed in Table 1 shall be followed for the forensic toxicological testing of blood specimens in impaired driving investigations.

NOTE 1 If a compound does not need to be accounted for in the initial testing, it is indicated by "N/A."

NOTE 2 The blood concentrations listed are based on free drug concentrations.

NOTE 3 The listed concentrations are not intended to correlate to impairment or *per se* limits.

4.2 While it is preferred that testing includes all compounds listed in Table 1, based on customer requests, the scope of testing may be limited as follows:

a) Ethanol: Testing may be limited to ethanol.

b) Other Drugs: All compounds listed in Table 1, except for ethanol.

c) Ethanol and Other drugs: All compounds listed in Table 1.

4.3 Laboratories shall meet the required scope and analytical sensitivity by testing internally, externally, or a combination of both.

[1] Available from https://www.aafs.org/academy-standards-board.

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4.4 Laboratories should consider other potentially impairing substances based on factors such as regional drug trends and case histories.

4.5 Laboratory procedures shall address the specimens to be tested when multiple specimens are submitted.

4.6 Laboratories shall determine the appropriate analytical instrumentation to be utilized for both the initial testing of blood specimens and the confirmatory testing of presumptive-positive analytes of interest.

4.7 Laboratories shall meet the requirements of ANSI/ASB 113, *Standard for Identification Criteria in Forensic Toxicology*.

4.8 Confirmatory testing of analytes listed in Table 1 should include the concentration.

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41 **Table 1 – Required Minimum Analytical Scope and Sensitivity for**
42 **Testing of Blood in Impaired Driving Investigations**

Compound	Initial Testing		Confirmatory Testing
	Immunoassay	Non-Immunoassay	
Ethanol (g/dL)			
Ethanol	0.01	0.01	0.01
Cannabinoids (ng/mL)			
Δ9-tetrahydrocannabinol (Δ9-THC)	N/A	N/A	1
11-nor-9-carboxy-Δ9-tetrahydrocannabinol (Δ9-THC-COOH)	10	10	5
11-hydroxy-Δ9-tetrahydrocannabinol (11-OH-Δ9-THC)	N/A	N/A	1
CNS Stimulants (ng/mL)			
Methamphetamine	20	20	20
Amphetamine	20	20	20
3,4-Methylenedioxy-methamphetamine (MDMA)	25	20	20
3,4-Methylenedioxy-amphetamine (MDA)	N/A	N/A	20
Cocaine	N/A	N/A	10
Benzoylecgonine	50	50	50
Cocaethylene	N/A	N/A	10
CNS Depressants (ng/mL)			
Zolpidem	10	10	10
Gabapentin	1000	1000	1000
Alprazolam	10	10	10
Clonazepam	15	10	10
7-aminoclonazepam	N/A	N/A	10
Lorazepam	15	10	10
Diazepam	50	20	20
Nordiazepam	50	20	20
Oxazepam	50	20	20
Temazepam	50	20	20
Narcotic Analgesics (ng/mL)			
Codeine	N/A	N/A	10
6-Acetylmorphine	N/A	N/A	5
Buprenorphine	1	1	1
Norbuprenorphine	N/A	N/A	1
Fentanyl	1	1	1
Hydrocodone	10	10	10
Hydromorphone	N/A	N/A	5
Methadone	50	20	20
Morphine	10	10	10
Oxycodone	10	10	10
Oxymorphone	N/A	N/A	5
Tramadol	100	50	50
O-desmethyltramadol	N/A	N/A	50

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44 NOTE Table 1 was adapted from the work of the National Safety Council's Alcohol, Drug, and Impairment
45 Division.

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Annex A
(informative)

Bibliography

The following bibliography is not intended to be an all-inclusive list, review, or endorsement of literature on this topic. The goal of the bibliography is to provide publications cited informationally, and publications relevant to the standard.

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