
Overview

Useful For

Detecting the presence of acetone, methanol, isopropanol, or ethanol in urine with subsequent quantitation

Testing Algorithm

This test includes analysis of methanol, ethanol, isopropanol, and acetone.

Method Name

Headspace Gas Chromatography-Flame Ionization Detector (HSGC-FID)

NY State Available

Yes

Specimen

Specimen Type

Urine

Ordering Guidance

For best clinical correlation either VLTS / Volatile Screen, Serum or VLTB / Volatile Screen, Blood is recommended.

Specimen Required

Supplies: Urine Tubes, 10 mL (T068)

Container/Tube: Plastic, 10-mL urine tube

Specimen Volume: 10 mL

Collection Instructions:

1. Collect a random urine specimen.
2. No preservative.

Forms

If not ordering electronically, complete, print, and send a [Therapeutics Test Request](#) (T831) with the specimen.

Reject Due To

All specimens will be evaluated at Mayo Clinic Laboratories for test suitability.

Specimen Minimum Volume

1 mL

Specimen Stability Information

Specimen Type	Temperature	Time	Special Container
Urine	Refrigerated (preferred)	14 days	
	Frozen	28 days	
	Ambient		

Clinical & Interpretive**Clinical Information**

Urine provides a medium for easy screening for methanol, ethanol, isopropanol, and acetone.

Reference Values

METHANOL

Not detected (Positive results are quantitated.)

Cutoff concentration: 10 mg/dL

Toxic concentration: > or =10 mg/dL

ETHANOL

Not detected (Positive results are quantitated.)

Cutoff concentration: 10 mg/dL

ISOPROPANOL

Not detected (Positive results are quantitated.)

Cutoff concentration: 10 mg/dL

Toxic concentration: > or =10 mg/dL

ACETONE

Not detected (Positive results are quantitated.)

Cutoff concentration: 10 mg/dL

Toxic concentration: > or =10 mg/dL

Interpretation

Methanol:

The presence of methanol indicates exposure which may result in intoxication, central nervous system (CNS) depression, and metabolic acidosis. Ingestion of methanol can be fatal if patients do not receive immediate medical treatment.

Ethanol:

The presence of ethanol indicates exposure which may result in intoxication, CNS depression, and metabolic acidosis.

Isopropanol:

The presence of isopropanol indicates exposure which may result in intoxication and CNS depression. Ingestion of isopropanol can be fatal if patients do not receive immediate medical treatment.

Acetone:

The presence of acetone may indicate exposure to acetone; it is also a metabolite of isopropanol and may be detected during ketoacidosis.

Cautions

Quantitation of acetone, methanol, isopropanol, or ethanol in urine correlates poorly with degree of intoxication.

Clinical Reference

1. Langman LJ, Bechtel LK, Meier BM, Holstege C: Chapter 41: Clinical Toxicology. In: Tietz Textbook of Clinical Chemistry and Molecular Diagnostics. Edited by N Rifai, AR Horvath, CT Wittwer. Sixth edition. Elsevier; 2018. pp. 832-87
2. Mihic SJ, Koob GF, Mayfield J, Harris RA: Ethanol. In: Goodman & Gilman's: The Pharmacological Basis of Therapeutics,

13th edition. Edited by LL Brunton, R Hilal-Dandan, BC Knollmann. McGraw-Hill Education; 2017

3. Olson KR, Anderson IB, Benowitz NL, et al: Specific Poisons and Drugs: Diagnosis and Treatment. In Poisoning and Drug Overdose, Seventh edition. McGraw-Hill Education; 2017

Performance

Method Description

Specimens are analyzed and quantified by headspace gas chromatography- flame ionization detection.(Baselt RC. Disposition of Toxic Drugs and Chemicals in Man, 10th edition, Biomedical Publications; 2014. pp 2211)

PDF Report

No

Performing Laboratory Location

Rochester

Fees & Codes

Test Classification

This test was developed, and its performance characteristics determined by Mayo Clinic in a manner consistent with CLIA requirements. This test has not been cleared or approved by the US Food and Drug Administration.

CPT Code Information

80320

G0480 (if appropriate)

LOINC® Information

Test ID	Test Order Name	Order LOINC Value
VLTU	Volatile Scrn, U	24350-1

Result ID	Reporting Name	LOINC®
8826	Volatile Scrn, U	12983-3
30904	Methanol, U	5695-2
30905	Ethanol, U	5645-7

30906	Acetone, U	5570-7
30907	Isopropanol, U	9434-2
34378	Chain of Custody	77202-0