



NMS Labs

CONFIDENTIAL

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Demo Report

Report Issued 04/02/2020 15:00

Patient Name 9190FL-POS
Patient ID 9190FL-POS
Chain 20000914
Age Not Given DOB Not Given
Gender Not Given
Workorder 20000914

To: 88888
Forensic Example Report
Attn: Example Reports
200 Welsh Road
Horsham, PA 19044

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Positive Findings:

Table with 4 columns: Compound, Result, Units, Matrix Source. Rows include Ethanol, Methanol, Isopropanol, Acetone, and Betahydroxybutyric Acid.

See Detailed Findings section for additional information

Testing Requested:

Table with 2 columns: Analysis Code, Description. Row: 9190FL, Ketoacidosis Screen, Postmortem, Fluid (Forensic)

Specimens Received:

Table with 5 columns: ID, Tube/Container, Volume/Mass, Collection Date/Time, Matrix Source, Miscellaneous Information. Row: 001, Clear vial, Not Given, Not Given, Fluid

All sample volumes/weights are approximations.
Specimens received on 03/31/2020.

Detailed Findings:

Analysis and Comments	Result	Units	Rpt. Limit	Specimen Source	Analysis By
Ethanol	85	mg/dL	10	001 - Fluid	Headspace GC
Methanol	85	mg/dL	5.0	001 - Fluid	Headspace GC
Isopropanol	85	mg/dL	5.0	001 - Fluid	Headspace GC
Acetone	85	mg/dL	5.0	001 - Fluid	Headspace GC
Betahydroxybutyric Acid	50	mcg/mL	20	001 - Fluid	GC/MS

Other than the above findings, examination of the specimen(s) submitted did not reveal any positive findings of toxicological significance by procedures outlined in the accompanying Analysis Summary.

Reference Comments:

1. Acetone - Fluid:

Acetone is a solvent used for chemicals, paints, etc. It is also a product of diabetic- and fasting-induced ketoacidosis as well as a metabolite following isopropanol ingestion. In high concentrations, acetone can have CNS-depressing effects. Symptoms include lethargy, ataxia, headache, nausea and lightheadedness. Stupor and coma appear in severe cases. Acetone produced in the body as a result of uncontrolled diabetes can also be converted to isopropanol.

Acetone may be detected in vitreous fluid due to ketoacidosis, but may also be a product of exposure to solvent mixtures containing acetone or isopropanol. Further testing for betahydroxybutyric acid is recommended to specifically diagnose ketoacidosis.

2. Betahydroxybutyric Acid (BHB; Betahydroxybutyrate; Ketone) - Fluid:

Ketoacidosis related to diabetes or alcoholism can be an important factor in determining cause of death. The primary ketone body produced through ketogenesis is acetoacetate. Acetoacetate may then break down to form acetone and betahydroxybutyric acid. Ketogenic diets and other means of clinically induced, mild ketogenesis have been applied to the treatment of Epilepsy, Alzheimer's disease and other disorders.

In vitreous fluid, betahydroxybutyric acid concentrations below 50 mcg/mL are considered normal while concentrations greater than 250 mcg/mL are indicative of ketoacidosis. Ketoacidosis may produce polyuria, polydipsia, weight loss, dizziness, nausea, vomiting, confusion, stupor and coma. There may be an odor of acetone on the breath. Severe ketoacidosis may result in death if left untreated.

3. Ethanol (Ethyl Alcohol) - Fluid:

Ethyl alcohol (ethanol, drinking alcohol) is a central nervous system depressant and can cause effects such as impaired judgment, reduced alertness and impaired muscular coordination. Ethanol can also be a product of decomposition or degradation of biological samples.

4. Isopropanol (Isopropyl Alcohol) - Fluid:

Isopropanol is a common industrial and laboratory chemical that is available as a 70% aqueous solution in 'Rubbing Alcohol'. Isopropanol may be consumed for its intoxicating effects. Isopropanol produces effects in man similar to those produced by ethanol, including impairment of cognitive, perceptual and psychomotor capabilities presenting as decrements in alertness, judgment, perception, coordination, response time and sense of care and caution. As a central nervous system depressant, isopropanol has about two times the potency of ethanol; therefore, while the effects produced are similar, impairment caused by isopropyl alcohol will occur at blood concentrations substantially lower than those of ethanol. Isopropyl alcohol is metabolized to acetone, however acetone produced in the body as a result of uncontrolled diabetes can also be converted to isopropanol.

5. Methanol (Methyl Alcohol) - Fluid:

Methanol is contained in paints, cleaners, windshield washer fluid, 'canned heat', and other household products. It may be consumed for its intoxicating properties which are similar to ethanol; however it is much more toxic. In addition to central nervous system depression with its associated slowing of reaction time, lethargy and confusion, methanol can cause blindness due to its toxic metabolites.



Analysis Summary and Reporting Limits:

All of the following tests were performed for this case. For each test, the compounds listed were included in the scope. The Reporting Limit listed for each compound represents the lowest concentration of the compound that will be reported as being positive. If the compound is listed as None Detected, it is not present above the Reporting Limit. Please refer to the Positive Findings section of the report for those compounds that were identified as being present.

Acode 5150FL - Betahydroxybutyric Acid Confirmation, Fluid

-Analysis by Gas Chromatography/Mass Spectrometry (GC/MS) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Betahydroxybutyric Acid	20 mcg/mL		

Acode 9190FL - Ketoacidosis Screen, Postmortem, Fluid (Forensic)

-Analysis by Headspace Gas Chromatography (GC) for:

<u>Compound</u>	<u>Rpt. Limit</u>	<u>Compound</u>	<u>Rpt. Limit</u>
Acetone	5.0 mg/dL	Isopropanol	5.0 mg/dL
Ethanol	10 mg/dL	Methanol	5.0 mg/dL