

Forensic applications

Ethanol and ethanol congeners

LGC Standards can offer a wide range of reference materials from different suppliers. The materials are intended for calibration and control of alcohol-related analyses. The materials include ethanol and alcohol congeners in a variety of matrices (aqueous solutions, serum and/or whole blood) and concentrations, as well as metabolites such as ethyl glucuronide.

Ethanol in water

Code	Product	Unit
CERE-056	Ethanol-20 20 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-040	Ethanol-10 10 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-042	Ethanol-15 15 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-043	Ethanol-20 20 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-035	Ethanol-25 25 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-045	Ethanol-40 40 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-029	Ethanol-50 50 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-030	Ethanol-80 80 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-037	Ethanol-80 80 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-031	Ethanol-100 100 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-038	Ethanol-100 100 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-041	Ethanol-150 150 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-032	Ethanol-200 200 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-039	Ethanol-200 200 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-033	Ethanol-300 300 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-036	Ethanol-400 400 mg/dL - 1.2 mL water / ampoule	10 x 1.2 mL
CERE-044	Ethanol-400 400 mg/dL - 5 mL water / ampoule	5 x 5 mL
CERE-034	Ethanol calibration kit 2 ampoules of each of the individual standards. Ethanol at stated concentration (mg/dL), 1.2 mL/ampoule, 10 ampoules per kit Ethanol-50 mg/dL CERE-029 Ethanol-80 mg/dL CERE-030 Ethanol-100 mg/dL CERE-031 Ethanol-200 mg/dL CERE-032 Ethanol-300 mg/dL CERE-033	10 x 1.2 mL
ERML-AC409a	Aqueous ethanol - 20 mg/100 mL Ethanol mass concentration 19.9 mg / 100 mL	50 mL
ERM-AC401D	Aqueous ethanol - 80 mg / 100 mL Ethanol mass concentration 79.8 mg / 100 mL	50 mL
ERM-AC402B	Aqueous ethanol - 107 mg / 100 mL Ethanol mass concentration 106.5 mg / 100 mL	25 mL
ERM-AC403B	Aqueous ethanol - 200 mg / 100 mL Ethanol mass concentration 200.1 mg / 100 mL	25 mL

Forensic applications

Code	Product	Unit
ERM-AC404D-1	Ethanol/water - 5% Ethanol Certified value Ethanol..... 5.06 mL/100 mL at 20°C Density 989.92 kg/m ³ at 20°C	50 mL
ERM-AC404	Ethanol/water - 5% Ethanol Certified value Ethanol..... 5.06 mL/100 mL at 20°C Density 989.92 kg/m ³ at 20°C	5 x 50 mL
ERM-AC405	Ethanol/water - 15% Ethanol Certified value Ethanol..... 15.94 mL/100 mL at 20°C Density 977.87 kg/m ³ at 20°C	50 mL
ERM-AC405B	Ethanol/water - 15% Ethanol Certified value Ethanol..... 15 mL/100 mL at 20°C	5 x 50 mL
ERM-AC406-1	Ethanol/water - 40% Ethanol Certified value Ethanol..... 40.09 mL/100 mL at 20°C Density 946.85 kg/m ³ at 20°C	50 mL
ERM-AC406	Ethanol/water - 40% Ethanol Certified value Ethanol..... 40.09 mL/100 mL at 20°C Density 946.85 kg/m ³ at 20°C	5 x 50 mL
ERM-AC407	Ethanol/water - 70% Ethanol Certified value Ethanol..... 70.01 mL/100 mL at 20°C Density 884.46 kg/m ³ at 20°C	50 mL
ERM-AC407B	Ethanol/water - 70% Ethanol Certified value Ethanol..... 70 mL/100 mL at 20°C	5 x 50 mL
ME 20020	Aqueous ethanol standard (0.2 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20021	Aqueous ethanol standard (0.2 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20023	Aqueous ethanol standard (0.2 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20030	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20031	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20033	Aqueous ethanol standard (0.3 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20051	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20050	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20053	Aqueous ethanol standard (0.5 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20081	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20080	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20083	Aqueous ethanol standard (0.8 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20101	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20100	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20103	Aqueous ethanol standard (1.0 g/L) (Medidrug Ethanol W)	10 x 3 mL

Forensic applications

Code	Product	Unit
ME 20111	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20110	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20113	Aqueous ethanol standard (1.1 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20131	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20130	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20133	Aqueous ethanol standard (1.3 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20151	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20150	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20153	Aqueous ethanol standard (1.5 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20201	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20200	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20203	Aqueous ethanol standard (2.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20301	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20300	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20303	Aqueous ethanol standard (3.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20401	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20400	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20403	Aqueous ethanol standard (4.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
ME 20500	Aqueous ethanol standard (5.0 g/L) (Medidrug Ethanol W)	10 x 1.1 mL
ME 20501	Aqueous ethanol standard (5.0 g/L) (Medidrug Ethanol W)	100 x 1.1 mL
ME 20503	Aqueous ethanol standard (5.0 g/L) (Medidrug Ethanol W)	10 x 3 mL
NIST-2891	Ethanol-water solution (nominal 0.02 % mass fraction) This reference material is a solution of ethanol in water at a nominal level of 0.02 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified value Ethanol 0.01951 ± 0.00018 %	unit (5)
NIST-2892	Ethanol-water solution (nominal 0.04 % mass fraction) This reference material is a solution of ethanol in water at a nominal level of 0.04 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified value Ethanol 0.03900 ± 0.00046 %	unit (5)
NIST-2893	Ethanol-water solution (nominal 0.08 % mass fraction) This reference material is a solution of ethanol in water at a nominal level of 0.08 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution. Certified value Ethanol 0.08023 ± 0.00074 %	unit (5)

Forensic applications

Code	Product	Unit
NIST-2894	<p>Ethanol-water solution (nominal 0.1 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 0.1 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol 0.10084 ± 0.00083 %</p>	unit (5)
NIST-2895	<p>Ethanol-water solution (nominal 0.2 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 0.2 % mass fraction. This material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol..... 0.1701 ± 0.0014 %</p>	unit (5)
NIST-2896	<p>Ethanol-water solution (nominal 0.3 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 0.3 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in blood. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol..... 0.2980 ± 0.0030 %</p>	unit (5)
NIST-2897	<p>Ethanol-water solution (nominal 2 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 2 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol..... 1.554 ± 0.016 %</p>	unit (5)
NIST-2898	<p>Ethanol-water solution (nominal 6 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 6 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol..... 6.040 ± 0.043 %</p>	unit (5)
NIST-2899	<p>Ethanol-water solution (nominal 25 % mass fraction)</p> <p>This reference material is a solution of ethanol in water at a nominal level of 25 % mass fraction. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of five 2 mL ampoules, each containing approximately 1.2 mL of solution.</p> <p>Certified value Ethanol..... 25.21 ± 0.22 %</p>	unit (5)
NIST-1847	<p>Ethanol-water solutions (breath-alcohol testing: three levels)</p> <p>This reference material is a set of three levels of ethanol in water. The material is intended primarily for use in the calibration of instruments and techniques used for the determination of ethanol in breath. A unit consists of six ampoules, two ampoules each of the nominal levels (mass fraction) of 2 %, 6 %, and 25 %, each containing approximately 10 mL of solution.</p> <p>Nominal and certified levels (mass fraction)</p> <p>2 % 1.554 ± 0.016 % 6 % 6.040 ± 0.043 % 25 % 25.21 ± 0.22 %</p>	unit (6)

Alcohol congeners in water

CERA-057	<p>Multi-component alcohol mix 500 µg/mL</p> <p>4 components in water, 500 µg/mL of each component: acetone, isopropanol, ethanol, methanol</p>	1.2 mL
CERA-056	<p>Multi-component alcohol mix 1000 µg/mL</p> <p>4 components in water, 1000 µg/mL of each component: acetone, isopropanol, ethanol, methanol</p>	1.2 mL
CERA-061	<p>Multi-component alcohol mix 4000 µg/mL</p> <p>4 components in water, 4000 µg/mL of each component: acetone, isopropanol, ethanol, methanol</p>	1.2 mL

Code	Product	Unit																								
CERA-054	<p>Multi-component alcohol calibration kit</p> <p>Prepared as congener alcohols in water. It contains three ampoules each of three different concentration levels.</p> <table border="1"> <thead> <tr> <th>Analytes</th> <th>level 1 µg/mL</th> <th>level 2 µg/mL</th> <th>level 3 µg/mL</th> </tr> </thead> <tbody> <tr> <td>Acetone.....</td> <td>500</td> <td>1000</td> <td>4000</td> </tr> <tr> <td>Methanol</td> <td>500</td> <td>1000</td> <td>4000</td> </tr> <tr> <td>Ethanol.....</td> <td>500</td> <td>1000</td> <td>4000</td> </tr> <tr> <td>Isopropanol</td> <td>500</td> <td>1000</td> <td>4000</td> </tr> </tbody> </table>	Analytes	level 1 µg/mL	level 2 µg/mL	level 3 µg/mL	Acetone.....	500	1000	4000	Methanol	500	1000	4000	Ethanol.....	500	1000	4000	Isopropanol	500	1000	4000	3 x 1.2 mL				
Analytes	level 1 µg/mL	level 2 µg/mL	level 3 µg/mL																							
Acetone.....	500	1000	4000																							
Methanol	500	1000	4000																							
Ethanol.....	500	1000	4000																							
Isopropanol	500	1000	4000																							
ME 90311	<p>Aqueous congener alcohols standard, level 1</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations (Medidrug BGS W). The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>2.5 mg/L</td> <td>Isobutanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>Methanol</td> <td>4 mg/L</td> <td>2-Methyl-1-butanol</td> <td>0.5 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)</td> <td>0.5 mg/L</td> <td>3-Methyl-1-butanol</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>0.5 mg/L</td> <td>1-Propanol (n-Propyl alcohol)</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone)</td> <td>0.5 mg/L</td> <td>Ethanol</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	2.5 mg/L	Isobutanol.....	0.5 mg/L	Methanol	4 mg/L	2-Methyl-1-butanol	0.5 mg/L	1-Butanol (n-Butyl alcohol)	0.5 mg/L	3-Methyl-1-butanol	0.5 mg/L	2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol)	0.5 mg/L	2-Butanon (Methyl ethyl ketone)	0.5 mg/L	Ethanol	1.5 g/L	10 x 1.2 mL				
Acetone.....	2.5 mg/L	Isobutanol.....	0.5 mg/L																							
Methanol	4 mg/L	2-Methyl-1-butanol	0.5 mg/L																							
1-Butanol (n-Butyl alcohol)	0.5 mg/L	3-Methyl-1-butanol	0.5 mg/L																							
2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol)	0.5 mg/L																							
2-Butanon (Methyl ethyl ketone)	0.5 mg/L	Ethanol	1.5 g/L																							
ME 90321	<p>Aqueous congener alcohols standard, level 2</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations (Medidrug BGS W). The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>5.0 mg/L</td> <td>Isobutanol.....</td> <td>1.00 mg/L</td> </tr> <tr> <td>Methanol</td> <td>8.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>1.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)</td> <td>1.0 mg/L</td> <td>3-Methyl-1-butanol</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>1.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol)</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone)</td> <td>1.0 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	5.0 mg/L	Isobutanol.....	1.00 mg/L	Methanol	8.0 mg/L	2-Methyl-1-butanol	1.0 mg/L	1-Butanol (n-Butyl alcohol)	1.0 mg/L	3-Methyl-1-butanol	1.0 mg/L	2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol)	1.0 mg/L	2-Butanon (Methyl ethyl ketone)	1.0 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL				
Acetone.....	5.0 mg/L	Isobutanol.....	1.00 mg/L																							
Methanol	8.0 mg/L	2-Methyl-1-butanol	1.0 mg/L																							
1-Butanol (n-Butyl alcohol)	1.0 mg/L	3-Methyl-1-butanol	1.0 mg/L																							
2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol)	1.0 mg/L																							
2-Butanon (Methyl ethyl ketone)	1.0 mg/L	Ethanol.....	1.5 g/L																							
ME 90331	<p>Aqueous congener alcohols standard, level 3</p> <p>Aqueous standard of different congener alcohols for calibration of congener alcohols determinations (Medidrug BGS W). The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>10.0 mg/L</td> <td>Isobutanol.....</td> <td>2.0 mg/L</td> </tr> <tr> <td>Methanol</td> <td>16.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>2.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol)</td> <td>2.0 mg/L</td> <td>3-Methyl-1-butanol</td> <td>2.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>2.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol)</td> <td>2.0 mg/L</td> </tr> <tr> <td>2-Butanon (Methyl ethyl ketone)</td> <td>2.0 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </tbody> </table>	Acetone.....	10.0 mg/L	Isobutanol.....	2.0 mg/L	Methanol	16.0 mg/L	2-Methyl-1-butanol	2.0 mg/L	1-Butanol (n-Butyl alcohol)	2.0 mg/L	3-Methyl-1-butanol	2.0 mg/L	2-Butanol (sec.-Butyl alcohol).....	2.0 mg/L	1-Propanol (n-Propyl alcohol)	2.0 mg/L	2-Butanon (Methyl ethyl ketone)	2.0 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL				
Acetone.....	10.0 mg/L	Isobutanol.....	2.0 mg/L																							
Methanol	16.0 mg/L	2-Methyl-1-butanol	2.0 mg/L																							
1-Butanol (n-Butyl alcohol)	2.0 mg/L	3-Methyl-1-butanol	2.0 mg/L																							
2-Butanol (sec.-Butyl alcohol).....	2.0 mg/L	1-Propanol (n-Propyl alcohol)	2.0 mg/L																							
2-Butanon (Methyl ethyl ketone)	2.0 mg/L	Ethanol.....	1.5 g/L																							
ME 91341	<p>Aqueous congener alcohols control, level 4</p> <p>Aqueous congener alcohols control (Medidrug BGS W) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>2.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>0.4 mg/L</td> </tr> <tr> <td>Methanol</td> <td>4.0 mg/L</td> <td>3-Methyl-1-butanol</td> <td>0.4 mg/L</td> </tr> <tr> <td>1-Butanol</td> <td>0.4 mg/L</td> <td>1-Propanol.....</td> <td>0.4 mg/L</td> </tr> <tr> <td>2-Butanol</td> <td>0.4 mg/L</td> <td>2-Propanol.....</td> <td>0.4 mg/L</td> </tr> <tr> <td>2-Butanon</td> <td>0.4 mg/L</td> <td>Ethanol</td> <td>1.5 g/L</td> </tr> <tr> <td>Isobutanol</td> <td>0.4 mg/L</td> <td></td> <td></td> </tr> </tbody> </table>	Acetone.....	2.0 mg/L	2-Methyl-1-butanol	0.4 mg/L	Methanol	4.0 mg/L	3-Methyl-1-butanol	0.4 mg/L	1-Butanol	0.4 mg/L	1-Propanol.....	0.4 mg/L	2-Butanol	0.4 mg/L	2-Propanol.....	0.4 mg/L	2-Butanon	0.4 mg/L	Ethanol	1.5 g/L	Isobutanol	0.4 mg/L			10 x 1.2 mL
Acetone.....	2.0 mg/L	2-Methyl-1-butanol	0.4 mg/L																							
Methanol	4.0 mg/L	3-Methyl-1-butanol	0.4 mg/L																							
1-Butanol	0.4 mg/L	1-Propanol.....	0.4 mg/L																							
2-Butanol	0.4 mg/L	2-Propanol.....	0.4 mg/L																							
2-Butanon	0.4 mg/L	Ethanol	1.5 g/L																							
Isobutanol	0.4 mg/L																									
ME 91351	<p>Aqueous congener alcohols control, level 5</p> <p>Aqueous congener alcohols control (Medidrug BGS W) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>2.5 mg/L</td> <td>2-Methyl-1-butanol</td> <td>0.5 mg/L</td> </tr> <tr> <td>Methanol</td> <td>5.0 mg/L</td> <td>3-Methyl-1-butanol</td> <td>0.5 mg/L</td> </tr> <tr> <td>1-Butanol</td> <td>0.5 mg/L</td> <td>1-Propanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanol</td> <td>0.5 mg/L</td> <td>2-Propanol.....</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanon</td> <td>0.5 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> <tr> <td>Isobutanol</td> <td>0.5 mg/L</td> <td></td> <td></td> </tr> </tbody> </table>	Acetone.....	2.5 mg/L	2-Methyl-1-butanol	0.5 mg/L	Methanol	5.0 mg/L	3-Methyl-1-butanol	0.5 mg/L	1-Butanol	0.5 mg/L	1-Propanol.....	0.5 mg/L	2-Butanol	0.5 mg/L	2-Propanol.....	0.5 mg/L	2-Butanon	0.5 mg/L	Ethanol.....	1.5 g/L	Isobutanol	0.5 mg/L			10 x 1.2 mL
Acetone.....	2.5 mg/L	2-Methyl-1-butanol	0.5 mg/L																							
Methanol	5.0 mg/L	3-Methyl-1-butanol	0.5 mg/L																							
1-Butanol	0.5 mg/L	1-Propanol.....	0.5 mg/L																							
2-Butanol	0.5 mg/L	2-Propanol.....	0.5 mg/L																							
2-Butanon	0.5 mg/L	Ethanol.....	1.5 g/L																							
Isobutanol	0.5 mg/L																									
ME 91361	<p>Aqueous congener alcohols control, level 6</p> <p>Aqueous congener alcohols control (Medidrug BGS W) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <table border="1"> <tbody> <tr> <td>Acetone.....</td> <td>5.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>1.0 mg/L</td> </tr> <tr> <td>Methanol</td> <td>10.0 mg/L</td> <td>3-Methyl-1-butanol</td> <td>1.0 mg/L</td> </tr> <tr> <td>1-Butanol</td> <td>1.0 mg/L</td> <td>1-Propanol.....</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanol</td> <td>1.0 mg/L</td> <td>2-Propanol.....</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanon</td> <td>1.0 mg/L</td> <td>Ethanol</td> <td>1.5 g/L</td> </tr> <tr> <td>Isobutanol</td> <td>1.0 mg/L</td> <td></td> <td></td> </tr> </tbody> </table>	Acetone.....	5.0 mg/L	2-Methyl-1-butanol	1.0 mg/L	Methanol	10.0 mg/L	3-Methyl-1-butanol	1.0 mg/L	1-Butanol	1.0 mg/L	1-Propanol.....	1.0 mg/L	2-Butanol	1.0 mg/L	2-Propanol.....	1.0 mg/L	2-Butanon	1.0 mg/L	Ethanol	1.5 g/L	Isobutanol	1.0 mg/L			10 x 1.2 mL
Acetone.....	5.0 mg/L	2-Methyl-1-butanol	1.0 mg/L																							
Methanol	10.0 mg/L	3-Methyl-1-butanol	1.0 mg/L																							
1-Butanol	1.0 mg/L	1-Propanol.....	1.0 mg/L																							
2-Butanol	1.0 mg/L	2-Propanol.....	1.0 mg/L																							
2-Butanon	1.0 mg/L	Ethanol	1.5 g/L																							
Isobutanol	1.0 mg/L																									

Forensic applications

Code	Product	Unit
ME 91371	Aqueous congener alcohols control, level 7 Aqueous congener alcohols control (Medidrug BGS W) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine. Analytes Acetone..... 10.0 mg/L Methanol 20.0 mg/L 1-Butanol 2.0 mg/L 2-Butanol..... 2.0 mg/L 2-Butanon 2.0 mg/L Isobutanol 2.0 mg/L 2-Methyl-1-butanol 2.0 mg/L 3-Methyl-1-butanol 2.0 mg/L 1-Propanol..... 2.0 mg/L 2-Propanol..... 2.0 mg/L Ethanol..... 1.5 g/L	10 x 1.2 mL

Ethanol in serum

ME 11020	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11022	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11023	Ethanol in human serum with reference values (0.2 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11030	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11032	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11033	Ethanol in human serum with reference values (0.3 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11050	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11052	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11053	Ethanol in human serum with reference values (0.5 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11080	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11082	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11083	Ethanol in human serum with reference values (0.8 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11100	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 1.1 mL
ME 11102	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 1.5 mL
ME 11103	Ethanol in human serum with reference values (1.0 g/L) (Medidrug Ethanol S)	10 x 3 mL
ME 11110	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11112	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11113	Ethanol in human serum with reference values (1.1 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11130	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11132	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11133	Ethanol in human serum with reference values (1.3 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11150	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11152	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11153	Ethanol in human serum with reference values (1.5 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11200	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL

Code	Product	Unit
ME 11202	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11203	Ethanol in human serum with reference values (2.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11300	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11302	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11303	Ethanol in human serum with reference values (3.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11400	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.1 mL
ME 11402	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 1.5 mL
ME 11403	Ethanol in human serum with reference values (4.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 11500	Ethanol in human serum with reference values (5.0 g/L) (Medidrug Ethanol S-plus)	10x1.1 mL
ME 11502	Ethanol in human serum with reference values (5.0 g/L) (Medidrug Ethanol S-plus)	10x1.5 mL
ME 11503	Ethanol in human serum with reference values (5.0 g/L) (Medidrug Ethanol S-plus)	10 x 3 mL
ME 12012	Ethanol in human serum, precision control, X1 (0.5 - 0.6 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12013	Ethanol in human serum, precision control, X1 (0.5 - 0.6 g/L) (Medidrug Ethanol S-X)	10 x 3 mL
ME 12022	Ethanol in human serum, precision control, X2 (0.8 - 1.1 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12023	Ethanol in human serum, precision control, X2 (0.8 - 1.1 g/L) (Medidrug Ethanol S-X)	10 x 3 mL
ME 12032	Ethanol in human serum, precision control, X3 (2.0 - 3.0 g/L) (Medidrug Ethanol S-X)	10 x 1.5 mL
ME 12033	Ethanol in human serum, precision control, X3 (2.0 - 3.0 g/L) (Medidrug Ethanol S-X)	10 x 3 mL

Alcohol congeners in serum

ME 90111	<p>Congener alcohols in human serum (low)</p> <p>Human serum control (Medidrug® BGS S) of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine. - This material will be replaced by ME 91151 soon -</p> <p>Analytes</p> <table border="0"> <tr> <td>Acetone.....</td> <td>2.5 mg/L</td> <td>Isobutanol (Isobutyl alcohol).....</td> <td>0.5 mg/L</td> </tr> <tr> <td>Methanol</td> <td>4.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>0.5 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol).....</td> <td>0.5 mg/L</td> <td>3-Methyl-1-butanol (Isopentyl alcohol)</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>0.5 mg/L</td> <td>1-Propanol (n-Propyl alcohol)</td> <td>0.5 mg/L</td> </tr> <tr> <td>2-Butanon(Methyl ethyl ketone)</td> <td>0.5 mg/L</td> <td>Ethanol</td> <td>1.5 g/L</td> </tr> </table>	Acetone.....	2.5 mg/L	Isobutanol (Isobutyl alcohol).....	0.5 mg/L	Methanol	4.0 mg/L	2-Methyl-1-butanol	0.5 mg/L	1-Butanol (n-Butyl alcohol).....	0.5 mg/L	3-Methyl-1-butanol (Isopentyl alcohol)	0.5 mg/L	2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol)	0.5 mg/L	2-Butanon(Methyl ethyl ketone)	0.5 mg/L	Ethanol	1.5 g/L	10 x 1.2 mL
Acetone.....	2.5 mg/L	Isobutanol (Isobutyl alcohol).....	0.5 mg/L																			
Methanol	4.0 mg/L	2-Methyl-1-butanol	0.5 mg/L																			
1-Butanol (n-Butyl alcohol).....	0.5 mg/L	3-Methyl-1-butanol (Isopentyl alcohol)	0.5 mg/L																			
2-Butanol (sec.-Butyl alcohol).....	0.5 mg/L	1-Propanol (n-Propyl alcohol)	0.5 mg/L																			
2-Butanon(Methyl ethyl ketone)	0.5 mg/L	Ethanol	1.5 g/L																			
ME 90121	<p>Congener alcohols in human serum (medium)</p> <p>Human serum control (Medidrug® BGS S) of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine. - This material will be replaced by ME 91161 soon -</p> <p>Analytes</p> <table border="0"> <tr> <td>Acetone.....</td> <td>5.0 mg/L</td> <td>Isobutanol (Isobutyl alcohol).....</td> <td>1.0 mg/L</td> </tr> <tr> <td>Methanol</td> <td>8.0 mg/L</td> <td>2-Methyl-1-butanol</td> <td>1.0 mg/L</td> </tr> <tr> <td>1-Butanol (n-Butyl alcohol).....</td> <td>1.0 mg/L</td> <td>3-Methyl-1-butanol (Isopentyl alcohol)</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanol (sec.-Butyl alcohol).....</td> <td>1.0 mg/L</td> <td>1-Propanol (n-Propyl alcohol)</td> <td>1.0 mg/L</td> </tr> <tr> <td>2-Butanon(Methyl ethyl ketone)</td> <td>1.0 mg/L</td> <td>Ethanol.....</td> <td>1.5 g/L</td> </tr> </table>	Acetone.....	5.0 mg/L	Isobutanol (Isobutyl alcohol).....	1.0 mg/L	Methanol	8.0 mg/L	2-Methyl-1-butanol	1.0 mg/L	1-Butanol (n-Butyl alcohol).....	1.0 mg/L	3-Methyl-1-butanol (Isopentyl alcohol)	1.0 mg/L	2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol)	1.0 mg/L	2-Butanon(Methyl ethyl ketone)	1.0 mg/L	Ethanol.....	1.5 g/L	10 x 1.2 mL
Acetone.....	5.0 mg/L	Isobutanol (Isobutyl alcohol).....	1.0 mg/L																			
Methanol	8.0 mg/L	2-Methyl-1-butanol	1.0 mg/L																			
1-Butanol (n-Butyl alcohol).....	1.0 mg/L	3-Methyl-1-butanol (Isopentyl alcohol)	1.0 mg/L																			
2-Butanol (sec.-Butyl alcohol).....	1.0 mg/L	1-Propanol (n-Propyl alcohol)	1.0 mg/L																			
2-Butanon(Methyl ethyl ketone)	1.0 mg/L	Ethanol.....	1.5 g/L																			

Forensic applications

Code	Product	Unit
ME 90131	<p>Congener alcohols in human serum (high)</p> <p>Human serum control (Medidrug® BGS S) of different congener alcohols for quality control of congener alcohols determinations from serum. The concentration values have been determined by independent laboratories of forensic medicine. - This material will be replaced by ME 91171 soon -</p> <p>Analytes</p> <p>Acetone..... 10.0 mg/L Isobutanol (Isobutyl alcohol)..... 2.0 mg/L Methanol 16.0 mg/L 2-Methyl-1-butanol 2.0 mg/L 1-Butanol (n-Butyl alcohol)..... 2.0 mg/L 3-Methyl-1-butanol (Isopentyl alcohol) 2.0 mg/L 2-Butanol (sec.-Butyl alcohol) 2.0 mg/L 1-Propanol (n-Propyl alcohol)..... 2.0 mg/L 2-Butanon(Methyl ethyl ketone) 2.0 mg/L Ethanol 1.5 g/L</p>	10 x 1.2 mL
ME 91141	<p>Congener alcohols in human serum, level 4</p> <p>Serum control (Medidrug BGS S) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <p>Acetone..... 2.0 mg/L 2-Methyl-1-butanol 0.4 mg/L Methanol 4.0 mg/L 3-Methyl-1-butanol 0.4 mg/L 1-Butanol 0.4 mg/L 1-Propanol..... 0.4 mg/L 2-Butanol..... 0.4 mg/L 2-Propanol..... 0.4 mg/L 2-Butanon 0.4 mg/L Ethanol 1.5 g/L Isobutanol 0.4 mg/L</p>	10 x 1.2 mL
ME 91151	<p>Congener alcohols in human serum, level 5</p> <p>Serum control (Medidrug BGS S) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <p>Acetone..... 2.5 mg/L 2-Methyl-1-butanol 0.5 mg/L Methanol 5.0 mg/L 3-Methyl-1-butanol 0.5 mg/L 1-Butanol 0.5 mg/L 1-Propanol..... 0.5 mg/L 2-Butanol..... 0.5 mg/L 2-Propanol..... 0.5 mg/L 2-Butanon 0.5 mg/L Ethanol 1.5 g/L Isobutanol 0.5 mg/L</p>	10 x 1.2 mL
ME 91161	<p>Congener alcohols in human serum, level 6</p> <p>Serum control (Medidrug BGS S) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <p>Acetone..... 5.0 mg/L 2-Methyl-1-butanol 1.0 mg/L Methanol 10.0 mg/L 3-Methyl-1-butanol 1.0 mg/L 1-Butanol 1.0 mg/L 1-Propanol..... 1.0 mg/L 2-Butanol..... 1.0 mg/L 2-Propanol..... 1.0 mg/L 2-Butanon 1.0 mg/L Ethanol 1.5 g/L Isobutanol 1.0 mg/L</p>	10 x 1.2 mL
ME 91171	<p>Congener alcohols in human serum, level 7</p> <p>Serum control (Medidrug BGS S) for quality control of quantitative determinations of congener alcohols by GC. The concentration values have been determined by independent laboratories of forensic medicine.</p> <p>Analytes</p> <p>Acetone..... 10.0 mg/L 2-Methyl-1-butanol 2.0 mg/L Methanol 20.0 mg/L 3-Methyl-1-butanol 2.0 mg/L 1-Butanol 2.0 mg/L 1-Propanol..... 2.0 mg/L 2-Butanol..... 2.0 mg/L 2-Propanol..... 2.0 mg/L 2-Butanon 2.0 mg/L Ethanol 1.5 g/L Isobutanol 2.0 mg/L</p>	10 x 1.2 mL

Ethanol in blood

ME 61050	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 1.1ml
ME 61052	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 1,5 ml
ME 61053	Ethanol in human whole blood, 0.5 g/L (Medidrug Ethanol VB-plus)	10 x 3 ml
ME 61080	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 1.1 mL
ME 61082	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 1.5 mL
ME 61083	Ethanol in human whole blood, 0.8 g/L (Medidrug Ethanol VB-plus)	10 x 3 mL
ME 61110	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 1.1 mL
ME 61112	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 1.5 mL
ME 61113	Ethanol in human whole blood, 1.1 g/L (Medidrug Ethanol VB-plus)	10 x 3 mL

Code	Product	Unit
Markers for identification of ethanol use		
ME 70002	Ethyl-β-D-6-glucuronide	2 mg
ME 70010	Ethyl-β-D-6-glucuronide	10 mg
ME 70502	Ethyl-β-D-6-glucuronide-D5	2 mg
ME 70510	Ethyl-β-D-6-glucuronide-D5	10 mg
ME 41055	Ethylglucuronide in human serum (Medidrug ETG 1/05-A S-plus) Lyophilised serum control prepared from human serum for accuracy and precision monitoring of ethylglucuronide determinations in serum. The reference value ranges were established by institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) reference value Ethylglucuronide 1.7 mg/L	10 x 2.5 mL
ME 41056	Ethylglucuronide in human serum (Medidrug ETG 2/05-A S-plus) Lyophilised serum control prepared from human serum for accuracy and precision monitoring of ethylglucuronide determinations in serum. The reference value ranges were established by institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) reference value Ethylglucuronide 0.91 mg/L	10 x 2.5 mL
ME 41057	Ethylglucuronide in human serum (Medidrug ETG 1/06-A S-plus) Lyophilised serum control prepared from human serum for accuracy and precision monitoring of ethylglucuronide determinations in serum. The reference value ranges were established by institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) reference value Ethylglucuronide 3.64 mg/L	10 x 2.5 mL
ME 41075	Ethylglucuronide in human urine (Medidrug ETG 1/05-B U-plus) Lyophilised urine control prepared from human urine for accuracy and precision monitoring of ethylglucuronide determinations in urine. The assay values and confidence ranges were established by a large number of independent institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) certified value Ethylglucuronide 2.70 mg/L	10 x 2.5 mL
ME 41077	Ethylglucuronide in human urine (Medidrug ETG 1/06-B U-plus) Lyophilised human urine control for accuracy and precision monitoring of ethylglucuronide determinations from human urine. The reference values were established by institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) Ethylglucuronide 4.46 mg/L	10 x 2.5 mL
ME 41078	Ethylglucuronide, human urine control with reference values (Medidrug ETG 1/07-B U-plus) Lyophilised human urine control for accuracy and precision monitoring of ethylglucuronide determinations from human urine. The reference values were established by institutions of forensic medicine within the bounds of external proficiency testing by the GTFCh (Association of Toxicological and Forensic Chemistry) Ethylglucuronide 1.53 mg/L	10 x 2.5 mL