OVERVIEW

The Toxicology Section is part of the Phoenix Police Department Laboratory Services Bureau (LSB) and its mission is to provide excellence in toxicological analysis through the application of current forensic techniques and ongoing innovation to the criminal justice community in the pursuit of making Phoenix the safest major city.

The Toxicology Section performs toxicological analysis on a wide variety of criminal and forensic cases including driving under the influence alcohol and drugs, sexual assault, aggravated assault, hit and run and homicide investigations. The identification of the type and amount of alcohol and other drugs is determined using a variety of scientific techniques including headspace gas chromatography-flame ionization detection (HSGC-FID), enzyme immunoassay (EIA), solid phase extraction (SPE), gas chromatography-mass spectrometry (GC/MS), liquid chromatography-tandem mass spectrometry (LC-MS/MS) and gas chromatography-tandem mass spectrometry (GC-MS/MS).
SERVICES PROVIDED

Analysis of blood and other biological fluids for alcohol

The amount of ethanol in blood samples and other biological fluids can be determined using HSGC-FID. Alcohol concentration is reported out in grams per 100mL. The legal per se level at which every individual is impaired to operate a motor vehicle is 0.080 grams per 100mL or 0.080%. 

![Image of laboratory equipment]

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**BLOOD ALCOHOL CONCENTRATIONS**

<table>
<thead>
<tr>
<th>Year</th>
<th>2013</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average BAC</td>
<td>0.062</td>
<td>0.065</td>
<td>0.063</td>
<td>0.057</td>
<td>0.056</td>
</tr>
<tr>
<td>Highest BAC Value Obtained</td>
<td>0.434</td>
<td>0.527</td>
<td>0.483</td>
<td>0.483</td>
<td>0.483</td>
</tr>
</tbody>
</table>
Analysis of blood and urine samples for drugs

Blood and urine samples are routinely tested for common illegal and prescription drugs of abuse including central nervous system stimulants, depressants, hallucinogens, narcotic analgesics, psychotropic drugs and therapeutic drugs. These include drugs listed in see [drug fact sheet].
Analysis for toxic vapors/inhalants

Inhalants such as Difluoroethane and Toluene can be found in items such as rags as well as in blood and urine samples when individuals abuse by sniffing common household items such as paint, glue, correction fluid and "dust off."