

# Controlled Substances Training Manual

## 1.0 Purpose

The following manual is to be used as a guide in training new Forensic Scientists in the analysis of controlled substances. It may be used in its entirety or for just the sections of interest. Each section is to be used with the corresponding analytical method (AM) found in the ISP Controlled Substances AM manual. Special thanks are given to the Kansas Bureau of Investigations for their permission to use their manual as the basis for this manual.

## 2.0 Procedure

As each subsection is completed both the Forensic Scientist and the trainer will sign and date the checklist. Once all training is complete then the analyst will get a copy of the checklist and the original will go to the QA/QC manager to be kept with the analyst's other training records.

## 3.0 General Laboratory

- 3.1 Safety Manual  
Read and pass test of the safety manual.
- 3.2 Quality Manual  
Read and pass test of the quality manual.
- 3.3 Evidence Procedures  
Review evidence procedures including, but not limited to, evidence receipt and checkout, proper seals, and the IETS system.
- 3.4 Review Balcalsop, demonstrate competency of theory and use of the various balances in the laboratory including but not limited to the operation of tare features and the monthly calibration check. Read section 28B, pg 533 through 540, of *Analytical Chemistry, by Skoog/West/Holler, 6<sup>th</sup> edition*.
- 3.5 Review General drug AM.
- 3.6 Complete current requirements of ethics training as detailed in the Quality Manual.
- 3.7 The trainee shall have a general understanding of the other disciplines offered by the Idaho State Police Forensic Services. This understanding can be gained from school course work, reading about each discipline in a General Forensic Science book, reviewing the methods of each discipline and/or talking with or observing other Forensic Scientists working in those areas.

Date of completion \_\_\_\_\_ Forensic Scientist

Trainer

#### 4.0 Testimony Training

- 4.1 Courtroom Decorum  
Discuss appropriate eye contact, gestures, voice volume, and approach for visual aides during testimony.  
Describe proper attire for courtroom appearances.
- 4.2 Admission of Evidence  
Discuss the ramifications of *Daubert v. Merrell Dow Pharmaceutical and Frye v. United States*.  
Discuss the factors that help assure a scientific testing procedure to be established as reliable.
- 4.3 Observation  
Attend an actual trial for observation.

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Trainer

#### 5.0 Marijuana

- 5.1 Background reading  
To include Idaho Code sections 37-2701 (n)(s) and 37-2707 d(27),  
“Drug Identification Bible, 2010”. Pages 581-686.  
Worksheets and reporting format.  
MJ training.doc  
TLC training.doc

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**Sections 5.2, 5.3, 5.4 and 5.5 are used with the Marijuana AM.**

- 5.2 Physical examination, AM section 5.0.0  
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- 5.2.1 Microscopic examination of cystolithic and unicellular hairs, seed structure.
- 5.2.2 Seed germination, AM section 9.0.0

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- 5.3 Duquenois Levine  
AM section 7.0.0.

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- 5.4 Thin Layer Chromatography (TLC)
- 5.4.1 Basic theory and AM section 6.0.0
- 5.4.2 Chloroform and Pet ether/ Ethyl ether systems with fast blue BB.

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- 5.5 Hashish and Pipes  
Order of analysis and reporting differences.

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- 5.6 Competency test  
100 % correct analysis of various plant, and other, material.  
100 % correct answers on the written test.  
The competency tests will be provided by the discipline leader.

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- 5.7 Mock Court  
Purpose, layout and critique.

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## 6.0 Solid Dosage Drugs

- 6.1 Background reading  
The Idaho Code, all of section 37-2700.  
Drug Identification Bible, 2000 version or newer. Applicable sections.

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- 6.2 Gas Chromatograph Mass Spectrometer (GC/MS)  
6.2.1 Hewlett Packard/Agilent GC/MS tutorial  
6.2.2 Review of maintenance procedures and schedules  
6.2.3 Review of documentation and filing system  
6.2.4 HP/Agilent Chemstation software  
6.2.5 Review of various temperature programs  
6.2.6 Read GC training.doc and MS training.doc  
6.2.7 Review GC/MS AM.  
6.2.8 Review CTMAMPH training.doc  
6.2.9 Review Cocaine training.doc

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6.3 Fourier Transform Infrared Spectrometer

6.3.1 Nicolet tutorial

6.3.2 Nicolet Omni software

6.3.3 Review maintenance procedures, schedules, and documentation

6.3.4 Spectroscopy training.doc, IR training.doc, and the FTIR AM.

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6.4 Chemical color (spot) tests

6.4.1 Review Clarke's Analysis of Drugs and Poisons, 3<sup>rd</sup> edition, vol 1, chapter 19.

6.4.2 Spot tests training.doc

6.4.3 Spot tests of known standards with various reagents.

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6.8 Mushrooms

6.8.1 Review Psilocyn/Psilocybin AM.

6.8.2 Review CTMHAL.doc

6.8.3 TLC analysis with T1

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6.9 Pills, LSD, and general unknowns

6.9.1 Review references i.e. PDR, Logo, etc. DEA and Idaho code scheduling

6.9.2 Review Extractions.doc, CTMHAL training.doc, LSD AM, General unknown AM.

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6.10 Clandestine Laboratory Analysis (common)

6.10.1 Review analytical selection sequence.

6.10.2 Phosphorous AM

6.10.3 Iodine AM

6.10.4 Pseudoephedrine and ephedrine extractions and analytical procedures

6.10.5 Methamphetamine extraction and analysis

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6.11 Competency test

100% correct identification of controlled substances from a variety of powders, liquids, and or pills. Results will be attained using all aspects of analysis including at least one result from each instrument capable of producing structural information, i.e. MS and FTIR.

100 % correct answers on written test

The competency tests will be provided by the discipline leader.

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6.12 Mock court

Purpose, layout, and critique

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## History for ISP Forensic Laboratory Training Manual

<u>Revision #</u>	<u>Issue or review date</u>	<u>History</u>	<u>Author or Reviewer</u>
2	6/4/03	Changed format on all sections	D.C. Sincerbeaux
3	1/13/06	Added 3.4 and changed 5.11	D.C. Sincerbeaux
4	5/9/07	added 3.5, section 4 court testimony, renumbered, added written tests to competency's, changed SOP to AM.	
5	5/22/09	Dropped 5.8 and 6.13	D.C. Sincerbeaux
6	11/16/10	Added 3.6, 3.7. Changed 5.1	D.C. Sincerbeaux

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