

Accreditation Certificate

Forensic Science Ireland

Department of Justice, Equality and Law Reform, Garda Headquarters

Phoenix Park, Dublin 8

Forensic Testing Laboratory

Registration number: 137T

is accredited by the Irish National Accreditation Board (INAB) to undertake testing as detailed in the Schedule bearing the Registration Number detailed above, in compliance with the International Standard ISO/IEC 17025:2005 2nd Edition "General Requirements for the Competence of Testing and Calibration Laboratories" (*This Certificate must only be read in conjunction with the Annexed Schedule of Accreditation*)

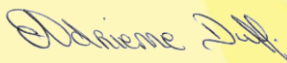
Date of award of accreditation: **07:04:2003**

Date of last renewal of accreditation: **29:04:2013**

Expiry date of this certificate of accreditation: **29:04:2018**

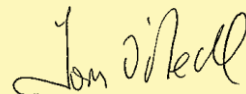
This Accreditation shall remain in force until further notice subject to continuing compliance with INAB accreditation criteria, ISO/IEC 17025 and any further requirements specified by the Irish National Accreditation Board.

Manager: _____



Dr Adrienne Duff

Chairperson: _____



Mr Tom O'Neill

Issued on 29 April 2013

Organisations are subject to annual surveillance and are re-assessed every five years. The renewal date on this Certificate confirms the latest date of renewal of accreditation. To confirm the validity of this Certificate, please contact the Irish National Accreditation Board.

The INAB is a signatory of the European co-operation for Accreditation (EA) Testing Multilateral Agreement (MLA) and the International Laboratory Accreditation Cooperation (ILAC) Mutual Recognition Arrangement.

Schedule of Accreditation



(Annex to Accreditation Certificate)

Permanent and Site Laboratory:
Category A and C

THE FORENSIC SCIENCE IRELAND

Forensic Testing Laboratory

Initial Registration Date :	7-April-2003	15-June-2010
Postal Address:	Garda Headquarters	Site Lab
(Address of other locations as they apply)	Phoenix Park Dublin 8	Ratra House, Phoenix Park Dublin 8
Telephone:	+353 (1) 6662906	
Fax:	+353 (1) 6662929	
E-mail:	FTornton@fsl.ie	
Contact Name:	Fiona Thornton	
Facilities:	Normally not available for Public testing	

Schedule of Accreditation



DETAILED IN SCOPE REG NO.137T
Permanent & Site Laboratory:
Category A and C

THE IRISH NATIONAL ACCREDITATION BOARD (INAB) is the Irish body for the accreditation of organisations including laboratories.

Laboratory accreditation is available to testing and calibration facilities operated by manufacturing organisations, government departments, educational institutions and commercial testing/calibration services. Indeed, any organisation involved in testing, measurement or calibration in any area of technology can seek accreditation for the work it is undertaking.

Each accredited laboratory has been assessed by skilled specialist assessors and found to meet criteria which are in compliance with ISO/IEC 17025 or ISO/IEC 15189 (medical laboratories). Frequent audits, together with periodic inter-laboratory test programmes, ensure that these standards of operation are maintained.

Testing and Calibration Categories:

- Category A:** Permanent laboratory calibration and testing where the laboratory is erected on a fixed location for a period expected to be greater than three years.
- Category B:** Site calibration and testing that is performed by staff sent out on site by a permanent laboratory that is accredited by the Irish National Accreditation Board.
- Category C:** Site calibration and testing that is performed in a site/mobile laboratory or by staff sent out by such a laboratory, the operation of which is the responsibility of a permanent laboratory accredited by the Irish National Accreditation Board.
- Category D:** Site calibration and testing that is performed on site by individuals and organisations that do not have a permanent calibration/testing laboratory. Testing may be performed using
- (a) portable test equipment
 - (b) a site laboratory
 - (c) a mobile laboratory or
 - (d) equipment from a mobile or site laboratory

Standard Specification or Test Procedure Used:

The standard specification or test procedure that is accredited is the issue that is current on the date of the most recent visit, unless otherwise stated.

Glossary of Terms

Facilities:

- Public calibration/testing service:** Commercial operations which actively seek work from others.
- Conditionally available for public calibration/testing:** Established for another primary purpose but, more commonly than not, is available for outside work.
- Normally not available for public calibration/testing:** Unavailable for public calibration/testing more often than not.

Laboratory users wishing to obtain assurance that calibration or test results are reliable and carried out to the Irish National Accreditation Board criteria should insist on receiving an accredited calibration certificate or test report. Users should contact the laboratory directly to ensure that this scope of accreditation is current. INAB will, on request, verify the status and scope.

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1204 Forensic Biology .02 Bloodstain pattern examination	Blood Pattern Analysis	Documented in-house method FSLB TP 157 Visual Inspection
.99 Miscellaneous <i>Blood</i>	Detection of Blood Using KM Solution Detection of Human Blood	FSLB TP 150 Kastle Meyer test FSLB TP 159 ABA card Hema Trace test
.99 Miscellaneous <i>Items of clothing and swabs relating to Sexual Assault Cases</i>	Detection of Acid Phosphatase (AP) Identification of human spermatozoa Extraction of spermatozoa using whole swab method	FSLB TP 100 Brentamine test FSLB TP 101 -102 Microscopy FSLB TP 109

Scope of Accreditation



The Forensic Science Ireland

Forensic Testing Laboratory - Garda Headquarters

Permanent Laboratory:

Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1204 Forensic Biology .99 Miscellaneous <i>Items of clothing and swabs relating to Sexual Assault Cases</i>	Extraction and detection of seminal fluid using RSID semen membrane test. Extraction and detection of Salivary α -amylase using the RSID Saliva test Extraction and detection of urine using the RSID _{tm} Urine membrane test..	Documented in house methods based on RSID protocols FSLB TP 110 FSLB TP 111 FSLB TP 114
.99 Miscellaneous <i>Items of Clothing & Fabric</i>	Identification/assessment of damage to clothing and fabric	Documented in house methods using visual examinations, low power microscopy and dimensional measurement FSLB TP 200 and FSLB TP 201

Scope of Accreditation



The Forensic Science Ireland

Forensic Testing Laboratory - Garda Headquarters

Permanent Laboratory:

Category A

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
<p>1203 Forensic Chemistry /Criminalistics</p> <p>.03 Glass (and other mineralogical materials) <i>Glass fragments recovered from items compared with control/reference glass samples</i></p>	<p>Recovery of Glass fragments</p> <p>Refractive Index Measurements</p> <p>Surface characteristics using interference microscopy</p> <p>Thermal history by annealing and re-measuring refractive index</p>	<p>Documented in house method FSLC TP 004 - Visual</p> <p>Documented In-house Laboratory modification of ASTM E 1967-98</p> <p>FSLC TP004-FSLC TP006 & FSLC TP 008 Microscopy</p> <p>In-house methods: FSLC TP 009 Microscopy FSLC TP 007 Microscopy</p>
<p>.04 General chemical and physical examinations</p> <p><i>Footwear and footwear impressions from suspected crime scenes</i></p>	<p>Identification and comparison of footwear and footwear marks</p> <p>Enhancement of footwear marks using physical and chemical means</p>	<p>FSLC TP051-FSLC TP061(incl)</p> <p>Visual Comparison</p>

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
<p>1203 Forensic Chemistry /Criminalistics</p> <p>.04 Offensive sprays</p>	<p>Identification of Chlorobenzylidenemalononitrile (CS), Capsaicin and Dihydrocapsaicin in offensive sprays using GC-MS</p> <p>Product limit of detection for CS = 0.4 mg (.0004g)</p> <p>Product limit of detection for Capsaicin and Dihydrocapsaicin = 0.7 mg (0.0007g) in each case.</p>	<p>FSLC TP 350 and FSLC TP 352</p>

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1205 Firearms .01 Fires and Explosions <i>Accelerants</i>	Hydrocarbon fire accelerants analysis Identification of bulk material for the following compounds: - Nitrocellulose, PETN, RDX and Nitroxoglycerine, in suspect materials. Ranges:- LOD Nitroglycerine - 0.08 mg (LOD in Propellant Powder) Nitrocellulose - 0.1 mg (LOD in Propellant Powder) PETN 0.1 mg (LOD in typical sample of Semtex) RDX 0.05 mg (LOD in typical sample of semtex)	FSLC TP102 - FSLC TP104 (incl) Gas chromatography-flame ionization detector FSLC TP 102-108(incl) Gas chromatography mass spec detector FSLC TP 114 Automated thermal desorption technique FSLCTP 300 - 307 Technique used:- GCMS, FT-IR GC-ECD

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:
Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1203 Forensic Chemistry/ Criminalistics .01 Fire & explosions (including firearm discharge residues) .02 Fibres Polymers (including paint, plastics and textile fibres) <i>Fibre identification and comparison</i>	Detection and identification of Firearm residues (FAR) LOD 0.5 µm Recovery and preparation of fibres for microscopic examination Microscopic comparison of fibres Micro-spectrophotometry of fibre samples Infra red identification/comparison of fibres Polarising microscopy of fibres UV-Visible Micro-spectrophotometry	FSLC TP 250 - TP 253 and FSLC TP 255 - 257. FSLC TP 150 FSLC TP 151 FSLC TP 152 FSLC TP 153 FSLC TP 154 FSLC TP 155 FSLC TP 156 FSLC TP 160 FSLC TP 161
.02 Paint comparison	Microscopic comparison of paints Infra-red analysis and comparison of paints Extraction of paint	FSLC TP 204 FSLC TP 205 FSLC TP 201, 202, 203

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1204 Forensic Biology .03 DNA analysis Human: <i>Blood</i> <i>Hair</i> <i>Semen</i> <i>Epithelial Cells</i> <i>Saliva</i> <i>Body Tissue</i>	Analysis of Short Tandem Repeat (STR) DNA profiles using various human body fluid and tissue samples, and samples associated with crime scenes, involving: Lysis and Automated purification of DNA using the EZ1 Advanced XL and the EZ1 Investigator Kit. Extraction with Qia Amp DNA mini kit and the DNA Investigator kit	Documented in-house methods: FLSB TP057 TP002-TP009, TP011-TP014 FSLB TP 016, FSLBTP042

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

<p>1204 Forensic Biology .03 DNA analysis</p> <p>Human: <i>Blood</i> <i>Hair</i> <i>Semen</i> <i>Epithelial Cells</i> <i>Saliva</i> <i>Body Tissue</i></p>	<p>Quantification</p> <p>Quantification of male DNA using the Quantifiler Duo KIT</p> <p>Lysis Automated DNA purification, quantification, PCR and sequencing set up using the Hamiltonstar and starlet instruments</p> <p>Robotic 96 well automated platform for the processing of buccal FTA samples</p> <p>Genetic Analyser & Gene Mapper ID X software</p>	<p>Documented in-house methods:</p> <p>FSLB TP 039</p> <p>Performing DNA quantification analysis on the ABI Prism 7500 real time polymerase chain reaction (PCR)</p> <p>FSLB TP058, FSLB TP061</p> <p>FSLB TP 044, 049 and 050</p> <p>FSLB TP 048</p> <p>Computer based</p>
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Scope of Accreditation



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Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1204 Forensic Biology .03 DNA analysis Human: <i>Blood</i> <i>Hair</i> <i>Semen</i> <i>Epithelial Cells</i> <i>Saliva</i> <i>Body Tissue</i>	Use of PCR chemistry NGM Select to generate DNA profiles from crimestain and reference material types Genetic charecterization of NGM Select profiles using 3500xl genetic analyser Analysis of NGM Select profiles using GeneMapper ID X software Analysis of NGM Select reference profiles using GeneMapper ID X Software in auto analysis mode	FSLB TP 044 and FSLB TP 051 FSLB TP 052 and FSLB TP 053 FSLB TP 055 FSLB TP 056
1204 Forensic Biology .03 DNA analysis Human: <i>Blood</i> <i>Hair</i> <i>Semen</i> <i>Epithelial Cells</i> <i>Saliva</i> <i>Body Tissue</i>	Quantifilier Trio DNA quantification Kit (Manual reference and crime samples): Promega Power Plex Y23 str Kit (Crime stain and reference samples) NGM Select Express Kit (Reference FTA cards)	ABI 7500 Real Time PCR System FSIBTP055 ARKTIC Thermocycler:FSIBTP080 ARKTIC Thermocycler: FSIBTP044

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1201 Controlled Substances .01 Drugs <i>Bulk Cannabis Resin</i> <i>Herbal Material</i> <i>Cannabis Plants</i>	The qualitative analysis of cannabis and cannabis products	Documented In-house methods FSLD TP 005 Microscopy FSLD TP 007 Thin layer Chromatography FSLD TP 008 - Duquenois Levine Test
.01 Drugs <i>Samples submitted as wraps or packages containing:</i> <i>Powders</i> <i>Illicit tablets</i> <i>Samples of liquid</i> <i>Pharmaceutical preparations</i>	Detection of controlled drugs Product limit of identification. Narcotic Analgesics Diamorphine 1 % Dihydrocodeine 1 % Hydrocodone 1 % Methadone 2 % Morphine 1 % Oxycodone 1% Stimulants Amphetamines 1 % Methylamphetamine 1 %	FSLD TP 101 Visual Inspection FSLD TP 106 Gas Chromatography with Mass Spectrometry FSLD TP 103 Thin layer chromatography

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1201	Controlled Substances	Quantitative analysis of Cocaine by GC-FID	Documented In-house methods FSLD TP 302, 303, 308
.01	Drugs	Range of Measurement: 0.2 - 1.6 mg/ml	Gas Chromatography with flame ionization detector
		Qualitative Identification of Zopiclone Limit of identification in matrix (LOI) = 4%	FSLD TP110 and FSLD TS124 GCMS
		Qualitative Identification of Trifluoromethylphenylpiperazine (tfmpp) Limit of identification in matrix (LOI) = 1%	FSLD TP110 and FSLD TS124 GCMS
		Pyrrolidinovaler-o-phenane Limit of identification in Matrix (LOI) = 1%.	
		Methylethcathinone (MEC) Limit of identification in Matrix (LOI) = 1%.	

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1201 Controlled Substances .01 Drugs	Quantitative Analysis of Diamorphine by GC-FID Range of Measurement: 0.2 - 1.6 mg/ml	Documented In-house methods FSLD TP 352, 353, 358 FSLD TS 353 Gas Chromatography with flame ionization detector
.01 Drugs <i>Samples submitted as wraps or packages containing:</i> <i>Powders</i> <i>Illicit tablets</i> <i>Samples of liquid</i> <i>Pharmaceutical preparations</i>	Ecstasy type Compounds Product limit of identification MDMA 1 % MDEA 1 % MDA 1 % DOB >3 % Benzodiazepines Alprazolam 3 % Diazepam 1 % Flunitrazepam 1 % Flurazepam 2 % Nitrazepam 2 % Temazepam 1 % Miscellaneous Cocaine 0.5 % Ketamine 1 %	FSLD TP 106 Gas Chromatography with Mass Spectrometry

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

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Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1201 Controlled Substances .01 Drugs	Qualitative Identification of 1-methyl-4 (phenylmethyl) piperazine (MBZP) - LOD (Product) = 0.75% w:w drug: matrix Qualitative Identification of 4-Methylmethcathinone (4-Mephedrone) Product LOD = 3.0% w/w drug: matrix	FSLD TP 106 Gas Chromatography with Mass Spectrometry Flexible Scope: Additional controlled drugs may be added of the active compound in accordance with the laboratory's approved and documented procedures, FSLD TP 110. "Procedure for the qualitative identification of a controlled drug" and FSLGS 054. For details refer to the laboratory's List of Additional tests, available from the laboratory.
.01 Drugs	LSD	LOI 16µg FSLD TP 152 Thin layer chromatography FSLD TP 153 Gas chromatography with mass spectrometry

Scope of Accreditation



The Forensic Science Ireland

Permanent Laboratory:

Category A

Forensic Testing Laboratory - Garda Headquarters

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1202 .01 Blood alcohol	Alcohol quantification 5 to 400mg% Alcohol identification	FSL DTP 201, 202, 205, 207, 208, 210-212 Gas chromatography - flame ionization detector FSLD TP 213 Gas chromatography flame ionization detector
751 Foods .12 Alcoholic beverages (other than wine) .21 Others <i>Alcohol (Ethanol) Identification and quantification in beverage samples</i>	Alcohol quantification Alcohol identification	FSL DTP 201, 202, 205, 207, 208, 210-212 Gas chromatography - flame ionization detector FSL DTP 213 Gas chromatography - Flame ionization detector

Scope of Accreditation



The Forensic Science Ireland

Site Laboratory:

Category C

Forensic Testing Laboratory Site Lab - Ratra House

INAB Classification number (P9) Materials/products tested		Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
1201	Controlled Substances		Documented In-house methods
.01	Drugs <i>Bulk Cannabis Resin</i> <i>Herbal Material</i> <i>Cannabis Plants</i>	The qualitative analysis of cannabis and cannabis products	FSLD TP 005 Microscopy FSLD TP 007 Thin layer Chromatography FSLD TP 008 - Duquenois Levine Test
.01	Drugs <i>Samples submitted as wraps or packages containing:</i> <i>Powders</i> <i>Illicit tablets</i> <i>Samples of liquid</i> <i>Pharmaceutical preparations</i>	Detection of controlled drugs Product limit of identification Narcotic Analgesics Diamorphine 1 % Dihydrocodeine 1 % Hydrocodone 1 % Methadone 2 % Morphine 1 % Oxycodone 1 % Stimulants Amphetamines 1 % Methylamphetamine 1 %	FSLD TP 101 Visual Inspection FSLD TP 103 Thin layer chromatography FSLD TP 106 Gas Chromatography with mass spectrometry

Scope of Accreditation



The Forensic Science Ireland

Site Laboratory:

Category C

Forensic Testing Laboratory Site Lab - Ratra House

INAB Classification number (P9)	Type of test/properties measured	Standard specifications
Materials/products tested	Range of measurement	Equipment/techniques used
.01 Drugs <i>Samples submitted as wraps or packages containing:</i> <i>Powders</i> <i>Illicit tablets</i> <i>Samples of liquid</i> <i>Pharmaceutical preparations</i>	Ecstasy type Compounds Product limit of identification MDMA 1 % MDEA 1 % MDA 1 % DOB >3 % Benzodiazepines Alprazolam 3 % Diazepam 1 % Flunitrazepam 1 % Flurazepam 2 % Nitrazepam 2 % Temazepam 1 % Miscellaneous Cocaine 0.5 % Ketamine 1 %	FSLD TP 106 Gas chromatography with mass spectrometry
.01 Drugs	LSD LOI 16µg	FSLD TP 152 Thin layer chromatography FSLD TP 153 Gas chromatography with mass spectrometry

Scope of Accreditation



The Forensic Science Ireland

Site Laboratory:

Category C

Forensic Testing Laboratory Site Lab - Ratra House

INAB Classification number (P9) Materials/products tested	Type of test/properties measured Range of measurement	Standard specifications Equipment/techniques used
.01 Drugs <i>Powers</i>	Quantative analysis of Amphetamine Range of measurement 0.15 - 1.7 mg/ml	FSLD TP 359 and FSLD TP 360 by HPLC -DAD