VEYRA INSTITUTE FOR APPLIED SCIENCES

Laboratory Safety Manual

Edition 4.2 · Effective 1 July 2025

Veyra Institute Health & Safety Office
Health & Safety Officer: Ms. Brigitte Halloran
brigitte.halloran@veyra.example · Emergency: +0 (200) 555-0199

14 Aldermere Way, Arenfield AR-4400 · veyra.example · +0 (200) 555-0140

Preamble and Scope

This Laboratory Safety Manual ('the Manual') sets out the minimum safety standards that apply to all persons working in, or visiting, any laboratory or technical facility at the Veyra Institute for Applied Sciences. It applies to all staff, students, postdoctoral researchers, visiting scientists, industrial partners, and contractors, unless explicitly stated otherwise.

Adherence to this Manual is a condition of access to all Veyra laboratories and facilities. Non-compliance may result in suspension of access rights and, in serious cases, disciplinary action up to and including termination of employment or enrolment. Nothing in this Manual removes the need for individuals to exercise personal judgment and professional caution.

Division Heads are responsible for ensuring that all members of their research groups have read, understood, and signed the acknowledgement at the end of this Manual before commencing laboratory work. Signed forms are retained by the Health & Safety Office.

1. General Laboratory Rules

1. Never work alone in a laboratory when undertaking hazardous procedures. Always inform a colleague of your location and expected duration when working outside normal hours.

2. Food, drink, chewing gum, and the application of cosmetics are prohibited in all laboratory areas. Water bottles are permitted only in designated zones marked 'W'.

3. Personal mobile devices must not be placed on laboratory benches or used while handling chemicals, biological agents, or operating equipment.

4. Long hair must be tied back. Loose clothing, scarves, and dangling jewellery are not permitted near moving machinery, open flames, or cryogenic materials.

5. Laboratory doors must be kept closed during experiments involving hazardous materials. Propping fire doors open is prohibited.

6. All equipment must be returned to its designated location after use, cleaned and in working order. Defects must be reported at veyra.example/facilities/faults.

7. No unauthorised modification of equipment, chemical stocks, or safety systems is permitted. Protocol changes require written approval from the Division Head and the Health & Safety Officer.

8. All waste — chemical, biological, radioactive, electronic — must be segregated and disposed of in accordance with Section 5 and the current Waste Management Procedures.

9. Noise levels in shared facilities must not exceed 80 dB(A) without prior arrangement and provision of appropriate hearing protection.

10. Safety data sheets (SDS) for all substances in use must be accessible within the laboratory, in printed form or via veyra.example/safety/sds.

2. Personal Protective Equipment (PPE)

The minimum PPE requirements for all laboratory areas are listed below. Additional PPE may be required by specific risk assessments — always defer to the more stringent requirement. PPE is provided free of charge from the Stores & Supplies Office (Building A, Room 002).

PPE Item	Minimum Standard	When Required
Safety spectacles / goggles	EN166 or equivalent	At all times in wet-chemistry and laser labs
Lab coat	Cotton or FR, full-sleeve, buttoned	At all times in chemical and biological labs
Nitrile gloves	Appropriate thickness for hazard class	Handling chemicals or biological materials
Face shield	EN166, full-face	Cryogenic dispensing, pressurised glassware
Chemical-resistant apron	Nitrile or neoprene	Large-volume solvent and acid/base handling
Respirator	FFP2 or P100 filter	Powder handling, spray operations, aerosol risk
Hearing protection	SNR >= 25 dB	Noise above 80 dB(A) or prolonged exposure
Anti-static footwear	ESD-rated	Cleanroom and flammable-solvent areas
Cryogenic gloves	Rated to -196 C (LN2)	Cryostat work, liquid nitrogen handling

3. Chemical Safety

All chemicals must be stored in accordance with their SDS and the Institute's Chemical Segregation Chart (posted at all store entrances).

· **Flammable solvents:** Store in flammable-materials cabinets. Bench quantities must not exceed 2 litres per person. All ignition sources must be absent.

· **Corrosive acids and bases:** Store segregated in dedicated acid/base cabinets. Handle in fume hoods rated for corrosive vapours. Neutralisation kits must be within reach.

· **Oxidisers:** Must not be stored adjacent to flammables or reducing agents. Dedicated shelving labelled in yellow.

· **Cryogenic liquids (LN2, LHe):** Use in well-ventilated areas. Oxygen monitors are mandatory in enclosed spaces. Never seal cryogenic liquids in closed containers.

· **Controlled and acutely toxic substances:** Require prior written approval from the Division Head and registration with the Health & Safety Office. Double-locking storage is mandatory.

4. Biological Safety

Work with biological materials at Veyra is carried out under the authority of the Institutional Biosafety Committee (IBC). Principal investigators must obtain IBC approval before commencing any work with: live microorganisms (any class), recombinant DNA, human or animal primary cell lines, or prions.

All biological work is assigned a Containment Level (CL1-CL3) by the IBC. CL2 and above must be performed in the Veyra Biofoundry or in a designated Microbiological Safety Cabinet (MSC Class II or III). Workers must complete module BIO-101 (Biological Safety Training) before accessing these areas.

Decontamination: all biological waste must be autoclaved or chemically inactivated before disposal. Sharps contaminated with biological material go into dedicated sharps containers, collected weekly by the Waste Management team.

5. Laser Safety

All lasers at the Institute are classified under IEC 60825-1. Class 3B and Class 4 lasers are subject to the following mandatory controls:

· A Laser Safety Officer (LSO) must be designated per laboratory, responsible for risk assessment, access control, and quarterly equipment checks.

· Appropriate laser safety eyewear (OD >= 4 at the emission wavelength) must be worn by all persons in the room when the laser is operational.

· Interlocked enclosures or access barriers must be in place for all Class 4 beam paths not within a certified laser safety enclosure.

· IEC 60825-1 warning signs must be posted on all access points to rooms housing operational Class 3B or 4 lasers.

· Alignment must be performed at the minimum power required, with beam blocks in place and a documented alignment procedure.

6. Emergency Procedures

Fire: Activate the nearest break-glass alarm. Evacuate immediately via the nearest fire exit. Do not use lifts. Assembly point: Calder Mesa South Car Park. Emergency services: 000. Do not re-enter until the all-clear is given.

Chemical spill: Small spills of low-hazard material: use the spill kit (yellow cabinet in each lab). Large or uncontrolled spills: evacuate and call the Institute Safety Line (+0 200 555-0199, 24/7). Do not clean up spills involving acutely toxic, reactive, or cryogenic materials without trained assistance.

Personal injury / chemical exposure: Eye or skin contact: flush with water for at least 15 minutes at the nearest emergency eyewash or shower. Call for help immediately. Burns: cool with running water for at least 10 minutes. All injuries, however minor, must be reported within 24 hours at veyra.example/safety/incident.

Gas leak: Do not operate light switches or electrical equipment. Evacuate and ventilate if safe to do so. Call +0 (200) 555-0199 from outside the building.

Power failure: Many processes (cryostats, incubators, cell cultures) require immediate response to power loss. Each laboratory must maintain a documented Power Failure Response Plan, reviewed annually and held by the laboratory supervisor.

7. Incident Reporting

Any accident, near-miss, or unsafe condition must be reported via the online Incident Report Form within 24 hours (veyra.example/safety/incident). For incidents involving injury or significant property damage, notify the Health & Safety Office immediately (+0 200 555-0199) and follow up in writing within 48 hours.

Near-miss reports are especially encouraged. The Institute operates a no-blame reporting culture for near-misses, with the aim of eliminating systemic hazards before they cause harm. All reports are reviewed monthly by the Safety Review Committee; anonymised summaries are circulated to Division Heads.

Acknowledgement of Receipt

By signing below, I confirm that I have read, understood, and agree to comply with the Veyra Institute Laboratory Safety Manual (Edition 4.2, effective 1 July 2025). I understand that failure to comply may result in suspension of laboratory access and disciplinary action.

Full name (print): _____

Division / Group: _____

Supervisor / PI: _____

Laboratory area(s): _____

Date: _____

Signature: _____

Return the completed form to the Health & Safety Office, Building A Room 001, or scan to safety@veyra.example. A copy will be returned to your supervisor.