



Work Activity:	Baylab Workshop – Enzymes		
Persons at Risk:	Employees, young persons, visitors, and others in the vicinity	Risk Assessment ID:	GP-RA-15
Assessor:	Lucy Haywood	Issue Date:	08/2025
Consulted With:	Emma Schierbaum	Version Number:	V 4.0
Approved By:	Yvonne McCann	Review Date:	08/2027

Applicable To:	Bayer employees who work in Baylab, school/college students, teachers and people accompanying the students as helpers
Notes:	Age Group for the Enzymes Workshop is 13 – 18 years of age

Comments and Relevant Documents:

This risk assessment covers the Baylab *Enzymes* Workshop. This risk assessment must be read in conjunction with GP-RA-09 *Baylab and Inspiration Space at Green Park*, which covers the general operation, storage, and maintenance in Baylab as well as the running of practical sessions and experiments for visiting student groups.

Note: All Baylab operations at 400 South Oak Way are under the control of the Baylab Manager.

Supervision of student groups: See GP-RA-09 *Baylab and Inspiration Space at Green Park*.

Spillages: All spillages to be cleaned up immediately and hazardous waste disposed of through our specialist contractor in accordance with the local waste disposal arrangements. Suitable spill kits are provided for all potential spillages.

Personal Protective Equipment: Lab coats are supplied and should be worn during sessions in the Lab. PPE required for the various experiments and procedures have been specified and will be provided to the student groups as required. This might include lab coats, suitable gloves, and safety eyewear. Normal uniform or day wear should be worn as Lab coats will be provided.

Fire and First Aid: The actions to be taken in all foreseeable emergencies and incidents are laid down in our Health and Safety Manual and are available to view on request. The Baylab Manager is a trained first aider.

General: Good laboratory practice must always be followed. Long hair must be safely tied back; ties should be removed or tucked into shirt/lab coat before entry into Baylab. For general advice on health and safety see Health and Safety Executive web site: www.hse.gov.uk/

Note: In addition to this Risk Assessment, Bayer employees and contractors must read and understand all relevant sections within the Bayer Health and Safety Manual. This can be accessed via the Health and Safety SharePoint site.

Please contact the Health and Safety Team based in Reading for any further advice or assistance – our email address is GB-CP-HS@bayer.com

Hazard	Persons at Risk	Risk rating (FF x SF)	Controls and Safe Working Procedures	Additional Controls Recommended
General use of equipment	Baylab Team, student groups and any other people in vicinity	2 x 3 = 6	<p>Ensure sufficient working space around equipment for task</p> <p>Suitable selection of equipment and use restricted to intended purpose</p> <p>All equipment to be maintained in accordance with manufacturer's recommendations</p> <p>Ensure good housekeeping in area</p> <p>Faulty or defective equipment to be removed from use and repaired, recycled, or disposed of</p> <p>PAT testing regime in place and visual checks of all portable electrical equipment prior to use</p> <p>Use of any items of equipment to be demonstrated to students before operation</p> <p>Student use of equipment must be supervised at all times</p> <p>Access to Baylab area is restricted to authorised employees and visiting student groups only</p>	Where new equipment is introduced, a full induction must be provided before use. Training for equipment use by supervising adults is the responsibility of the Baylab Manager.
Slips, trips, and falls	Operator, student groups and others in vicinity	2 x 3 = 6	<p>Ensure good housekeeping in Baylab and Inspiration Space</p> <p>No running allowed in area</p> <p>Signage to be used if necessary to exclude others from designated areas</p> <p>Walkways must always be kept clear</p> <p>Wear suitable footwear</p> <p>Ensure adequate lighting of area</p> <p>All spillages to be cleared immediately</p> <p>Personal items such as bags and coats are stored in closed cupboards outside Baylab</p>	Ensure good cable management to prevent cables becoming a tripping hazard.

Hazard	Persons at Risk	Risk rating (FF x SF)	Controls and Safe Working Procedures	Additional Controls Recommended
Use of micropipettes	Operator, student groups and others in vicinity	2 x 2 = 4	Correct method of use explained at start and practice provided with safe liquids Supervision of process by Baylab Manager or responsible adult Students to report any spillages and spillages cleaned immediately	Note: there is a potential risk from dripping or squirting of irritant or biohazardous liquids.
Use of plastic syringes, plastic micro tubes, metal tweezers, etc.	Operator, student groups and others in vicinity	2 x 2 = 4	Correct use of all equipment explained and demonstrated Practice provided with safe liquids for use of syringes Supervision of process by Baylab Manager or responsible adult Spillages to be reported and cleaned immediately Students to wear nitrile gloves, lab coats and eye protection when assessed as necessary by Baylab Manager Awareness of individual young people's suitability and capability Safe disposal methods for all disposable equipment	Note: the syringes in use are for drawing up liquids only and are not the type that have needles
Use of glassware, column, and clamp stands	Operator, student groups and others in vicinity	2 x 2 = 4	Students will be supervised to ensure glassware is handled correctly to prevent breakage Baylab Manager to ensure all attendees are instructed not to touch any broken glass All breakages to be cleared up immediately and glass to be disposed of suitably in sharps bin	

Hazard	Persons at Risk	Risk rating (FF x SF)	Controls and Safe Working Procedures	Additional Controls Recommended
Use of milk	Operator, student groups and others in vicinity	1 x 3 = 3	Students to be advised against handling of milk if they have milk allergy Supervision of process by Baylab Manager or responsible adult All spillages to be cleaned up immediately	Students will be asked about potential allergy or intolerance during introduction by Baylab manager.
Storage and use of chemicals	Operator, student groups and others in vicinity	1 x 3 = 3	Students will work with appropriately diluted chemicals Chemicals to be stored in appropriate cabinets with appropriate segregation Minimum quantities of chemicals to be stored Chemicals to returned to storage when not in use COSHH assessments in place to cover use of all chemicals Suitable PPE to be worn, including lab coats, nitrile gloves and eye protection when determined by Baylab Manager All chemicals to be used under supervision of Baylab Manager or responsible adult Spillages to be notified immediately and cleaned up by the Baylab Team in accordance with local waste management protocols	Note: only small quantities of low molarity chemicals used. Waste chemicals to be disposed of in accordance with COSHH assessment and waste policy. Note: use of chemicals includes use of glucose-test strips.

Hazard	Persons at Risk	Risk rating (FF x SF)	Controls and Safe Working Procedures	Additional Controls Recommended
Exposure to potential allergens	Operator, student groups and others in vicinity	2 x 3 = 6	<p>Attending groups to inform in advance of any allergy, medical condition, or access requirement that may affect visit to Baylab</p> <p>Visiting school or group to obtain parental permission to attend Baylab</p> <p>The chemicals, substances and natural items used in this workshop are:</p> <ul style="list-style-type: none"> • Starch • Lactose • Lactose enzyme • Sucrose • Lactose free milk • Calcium lactate • Sodium alginate • Copper sulphate • Bradford reagent • ONPG - o-Nitrophenyl β-D-galactopyranoside <p>Food items including bread, cereal, cheese, fruits. meat</p>	

Calculating the Risk Rating

Risks are assessed by rating the impact and the probability as low, medium or high, given the controls that are in place, as shown below. The numbers are multiplied together to give a score; the higher the score the greater the requirement to address that risk.

Risk is a combination of two factors:

- The likelihood that an adverse event will occur – the *Frequency Factor*
- The severity of the consequences of the adverse event – the *Severity Factor*

To make an assessment:

- Assess the frequency with which an accident may occur and take the numerical value from the table below for *Frequency Factor*. This assessment should be based on available data, such as reported accidents, or on knowledge and experience of the assessor.
- Assess the severity of injury the hazard could cause and take the numerical value from the table below for *Severity Factor*.
- Multiply the Frequency Factor by the Severity Factor to obtain the Risk Rating.
- Consult the Threshold Values given below to decide whether further controls are required.

Risk rating (RR) = Frequency Factor (FF) x Severity Factor (SF)

Frequency Factor	Severity factor
1 = Improbable Occurrence (<1/ year)	0 = No identified effect
2 = Possible Occurrence (Once/ year)	1 = Trivial Injury (no lost time)
3 = Occasional Occurrence (>2/ year)	2 = Minor Injury (≤ 7 days absence)
4 = Frequent Occurrence (>1/ quarter)	3 = Major Injury to One Person (RIDDOR reportable)
5 = Regular Occurrence (>1/ month)	5 = Major Injury to Several People or Fatality

Risk Assessment Conclusion:

The controls identified are accepted as being suitable and sufficient to allow this task to proceed.

Risk Level Rating

Threshold Values for Risk Ratings

0 – 8	LOW LEVEL OF RISK	Acceptable risk within existing control measures
9 – 11	MODERATE LEVEL OF RISK	Put on hold and investigate further controls
12 +	HIGH RISK LEVEL OF RISK	Stop immediately and reassess process

Record of Reviews and Controls Identified:

Date of review:	2 nd June 2023
Reviewed by (list all names Involved in review process):	Lucy Haywood and Lisa Mullan
Extra Controls Identified:	
None	

Date of review:	27 th August 2025
Reviewed by (list all names Involved in review process):	Lucy Haywood and Emma Schierbaum
Extra Controls Identified:	
No changes required	

Register of Changes Made:

Description of Change:	Date of Change:	Made by:
2-yearly review – no changes or additions	27 th August 2025	L Haywood

END