





RISK ASSESSMENT SUMMARY - AUTHORISED

General Risk Assessment for I22 Sample Environment Development Lab and Diamond-Leeds Offline SAXS

Risk Rating	Target Risk
	
Low	Low

Introduction**Assessment date****Revision No****Site****Reference****Area covered by this assessment**

The occupation and maintenance of the I22 Sample Environment Development Lab and Diamond-Leeds Offline SAXS labs (Lab 37-39). The use of the labs by DLS staff and Users. Service connections: water, electricity, Compressed air and Inert Gases
 Special equipment: e.g. Zeiss Microscope, Data Acquisition Rack and Motor Racks
 All in-house experiments should have their own risk assessment,
 User activities should be covered on their own experimental risk assessment.
 Chemicals should have their own COSSH assessment

Assessor carrying out risk assessment**Name(s) of employee(s) consulted****Job title(s)****No of people at risk****First assessed****Review date****Groups of people at risk**

Hazard Analysis

Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
Hazard:- Compressed gas Effects:- Risks of explosion whilst using compressed air.	The use of appropriate high pressure regulator(s). Systems with designed safety features, e.g. relief valve, bursting disc. Operator(s) trained for gas handling.	3 x 1 = 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 1 = 3
Task:- Hazard:- Electricity Effects:- Electrocution	All electrical equipment should be PAT tested. Electrical leads should be inspected for damage on a regular basis. DLS electrical installation are safety checked. Only qualified personnel to modify electrical installations. Power off buttons in room in multiple locations.	5 x 1 = 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5 x 1 = 5
Task:- Hazard:- Falling objects Effects:- Crushing by heavy object falling from high up	No heavy objects to be stored above eye level. 2 people to move objects >25kg. Appropriate support to be used when using top shelves – step, kick-stool.	3 x 1 = 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 1 = 3
Task:- Hazard:- Fire Effects:-	DLS smoke detectors/ fire alarm system. Ensure the operator(s) are familiar with escape routes and fire fighting equipment. All electrical equipment should be PAT tested. Electrical leads should be inspected for damage on a regular basis. Flammable solvents should be	5 x 1 = 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5 x 1 = 5

Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
	stored away from heat sources.			
Task:- Hazard:- Hand Tools Effects:- Risks of cutting injury while using manual tools.	Tools to be handled with care. Sharp blades to be protected when not in use.	3 x 2 = 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 2 = 6
Task:- Hazard:- Manual handling Effects:- Strains caused by Manual Handling.	All personnel Should be trained in Handling techniques and use appropriate lifting equipment and PPE.	2 x 1 = 2	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2 x 1 = 2
Task:- Hazard:- Other Gases Effects:- Asphyxiation by inert gases.	All cylinders to be stored on Experimental Hall Floor in locked, caged, area. All bottle changes by trained personnel. Feed to well ventilated room with air handling. Operator(s) trained for gas handling.	5 x 1 = 5	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	5 x 1 = 5

Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
Task:- Hazard:- Sharps Effects:- Risk of cut when handling glassware if it breaks, or when clearing up broken glassware or when handling needles and other sharps.	Good laboratory practice when handling sharps. Needles to be protected when not in use. All broken glassware to be cleaned up and disposed off in sharps bin. Regular inspection to check all sharps are removed or safely stored away after use.	3 x 2 = 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 2 = 6
Task:- Hazard:- Slips, Trips & Falls Effects:- Injury from falling.	Good housekeeping. Clean up spillages, place warning notices if floor is wet	3 x 2 = 6	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 2 = 6
Task:- Hazard:- Work Equipment Effects:- Risk of injuries (burns, crush injuries, cuts) caused by the misuse of specialist equipment and apparatus, e.g. Microscope, Sample Environment kit (Risk Assessment separate task based).	Appropriate training and operate after reading manuals from supplier. Separate Risk Assessments should be produced for specialized equipment including all DLS and User Sample Environments. Operator(s) training and following equipment instructions.	4 x 1 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4 x 1 = 4

Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
Task:- 01 Use of radioactive material Radioactive sealed source used for calibration of detectors Hazard:- Ionising radiation Effects:- Hazard - X-ray Generator Exposure to X-ray Radiation	Located within interlocked enclosure. Access to X-ray generation locked and stored in a separate location. Only authorized and trained person to use this equipment. Radiation Protection Supervisor appointed - Sam Burholt	4 x 1 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	4 x 1 = 4
Task:- 01 Use of radioactive material Radioactive sealed source used for calibration of detectors Hazard:- Ionising radiation Effects:- Radioactive sources - Fe55	Please refer to document: TDI-HP-PRC-0002; TDI-HP-PRC-0020; Radiation Risk assessment for use of sealed sources CEO_PHYS/DLS/RA/2014/00179	3 x 1 = 3	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	3 x 1 = 3

Hazard Effects Groups of People at Risk	Existing Controls	Risk with Existing Controls (S x L)	Further Controls	Target Risk (S x L)
Task:- 01 Use of radioactive material Radioactive sealed source used for calibration of detectors Hazard:- Chemical spills Effects:- Chemicals are now being used, such as potassium chloride, or glycol for water baths. Skin contact with these chemicals can be possible through spills, or breaks. High danger and risk chemicals will not be used within the lab. Medium and lower will be used in smallest quantities viable, and labelled. Groups of People at Risk:- Employees , Users , Contractors , Visitors	No sample preparation in the lab. Chemicals stored in lab 12. If needed for experiments, spill trays, PPE, chemical waste bin, COSSH and RAs posted outside the lab when in use. All sealed and contained. Limit amounts. Comments:- Lab owner, sample environment development scientist and DL-SAXS technician to assess and control chemical use within the lab. Constant vigilance to user chemical usage and need.	2 x 2 = 4	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	2 x 2 = 4

Risk Factors

Severity

- 1 Trivial effect - First Aid may be required but no lost time(away from work)
- 2 Minor effect - lost time, medical attention and rest of the day off work
- 3 Moderate effect - up to three days off work
- 4 Major injury - more than three days off work or HSE reportable
- 5 Death of one or more persons

Likelihood

- 1 Improbable
- 2 Unlikely
- 3 Occasional
- 4 Frequent
- 5 Regular

Personal Protective Equipment

Additional Information

Overall controls

Lab Access control in place. Training needed to have the ability to work within the lab unsupervised (lab and DL-SAXS). Record kept and retraining needed after 2 yrs.

Health surveillance

Workplace Instructions

Step by step instructions

Equipment needed

Training required for the task

Personal protective equipment details

Actions

Task/Hazard	Risk	Further Controls	Person Responsible	Residual Risk	Approved	Action Taken	Target Completion	Date Completed
					<input type="checkbox"/> Yes <input type="checkbox"/> No			

Conclusions

Change details

Revision No

5

Added hazard to reflect new X-ray SAXS kit installation

Authorisation

Authoriser comments

Authoriser comments by Nick Terrill on 26/4/2019

Comments -

Authoriser comments by Nick Terrill on 27/6/2019

Comments -

Authoriser comments by Richard Doull on 21/10/2019

Comments -

Authoriser comments by Pamela Reynolds on 28/4/2021

Comments -

Authoriser comments by Nick Terrill on 4/8/2022

Comments -

Authoriser

Nick Terrill

Date authorised

04/08/2022

Linked Documents