

RISK ASSESSMENT DETAILS

RISK ASSESSMENT TITLE

HPLC – High Pressure Liquid Chromatography

RISK ASSESSMENT COMPLETED BY:	SUBJECT MATTER EXPERT:	RA NUMBER:
Kate Millan – Health & Safety Officer	Briony Forbes	PROC102
VERSION:	VERSION DATE:	REVIEW DATE:
1	13/08/2009	13/08/2014

IMPORTANT NOTES

HPLC is the analysis of small samples, proteins, sugars, peptides, disaccharides, amino acids, drug assays etc.

PERSONS AT RISK

Staff and students using the apparatus, maintenance staff.

REFERENCED DOCUMENTATION: (list any other sources of information that relates to this risk assessment, e.g. SOPs, other Risk Assessments etc)

Safe Operating Procedures HPLC
MBS Chemical Handling Procedures
MBS Waste Disposal Procedures

OVERALL RISK RATING

Medium

HAZARD IDENTIFICATION & RISK ASSESSMENT (use the Risk Matrix below to assess the risk)

HAZARD 1:

Gas/Chemical

ASSOCIATED RISKS:

Solvents and solutions are pumped through tubing at high pressure, escape of gas may result.

MEASURES REQUIRED TO REDUCE RISK:

1. Process of HPLC must have Safe Operating Procedures.
2. Safety valves are set on each pump to stop flow if pressure is too high.
3. Appropriate safety gloves, glasses and a lab coat must be worn at all times.
4. Persons conducting HPLC work must have instruction from a competent person prior to use.
5. Inexperienced persons should be supervised until deemed competent.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
	Moderate	Rare	Low

HAZARD 2:

Atmospheric Contamination

ASSOCIATED RISKS:

Using toxic solvents may produce hazardous fumes/gas.

MEASURES REQUIRED TO REDUCE RISK:

1. Process of HPLC must have Safe Operating Procedures.
2. Seal all containers/waste bottles containing hazardous solutions.
3. Ensure room/area is well ventilated.
4. Appropriate safety gloves, glasses and a lab coat must be worn at all times.
5. Persons conducting HPLC work must have instruction from a competent person prior to use.
6. Persons using hazardous/dangerous substances must have training in Chemical Management.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
	Major	Rare	Medium

HAZARD 3:

Mechanical

ASSOCIATED RISKS:

Failure of the equipment could result in splashing with toxic solvent.

MEASURES REQUIRED TO REDUCE RISK:

1. Process of HPLC must have Safe Operating Procedures.
2. Safety pressure cut off pumps for if pressure gets too high.
3. Appropriate safety gloves, glasses and a lab coat must be worn at all times.
4. Equipment must have a current electrical test tag.
5. Equipment must be maintained as per manufacturer's recommendations.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
	Moderate	Rare	Low

HAZARD 4:

Chemical Waste

ASSOCIATED RISKS:

Waste generate from HPLC process can be toxic by contact and inhalation.

MEASURES REQUIRED TO REDUCE RISK:

1. Process of HPLC must have Safe Operating Procedures
2. Waste to be contained in an enclosed container with appropriate safety labels.
3. Appropriate safety gloves, glasses and a lab coat must be worn at all times.
4. Persons using hazardous/dangerous substances must have training in Chemical Management.
5. All waste should be disposed of as per the School's Waste Disposal Procedure.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
	Moderate	Unlikely	Medium

HAZARD 4:

Electricity

ASSOCIATED RISKS:

Electric shock from equipment's electrical components.

MEASURES REQUIRED TO REDUCE RISK:

1. Process of HPLC must have Safe Operating Procedures.
2. Equipment must have a current electrical test tag.
3. Equipment must be maintained as per manufacturer's recommendations.

RESIDUAL RISK (When all control measures have been implemented)	CONSEQUENCE	LIKELIHOOD	RISK RATING
	Major	Rare	Medium

ADDITIONAL CONTROLS AFTER REVIEW

RISK CONTROL:

DATE OF REVIEW:	REVIEWED BY:

RISK CONTROL:

DATE OF REVIEW:	REVIEWED BY:

RISK CONTROL:

DATE OF REVIEW:	REVIEWED BY:

HAZARD REGISTER

If the residual risk is high or very-high after controls have been implemented, the risk assessment must be signed off by the Head of School and transferred to the Hazard Register.

DATE ENTERED ON HAZARD REGISTER:	HEAD OF SCHOOL SIGNATURE:

RISK MATRIX

Consequence

		Negligible	Minor	Moderate	Major	Severe
Likelihood	Almost Certain	M	H	V	V	V
	Likely	M	M	H	V	V
	Slight	L	M	H	H	V
	Unlikely	L	L	M	M	H
	Rare	L	L	L	M	M

Almost Certain	There is an expectation that such an event will occur.	Severe	Injury resulting in death or permanent disability.
Likely	There is an expectation that such an event could occur but not certain to occur.	Major	Injury requires extensive medical treatment, hospitalisation.
Slight	The expectation of this event occurring is between "could" and "improbable".	Moderate	Injury requires formal medical treatment e.g. treatment as an outpatient in a medical facility.
Unlikely	The expectation of this event occurring is doubtful or improbable.	Minor	Injury requires first aid.
Rare	There is no expectation that this event will occur.	Negligible	Injury requires minor first aid or results in short term discomfort e.g. headache, bruise etc.