

2017 SPARQ-ed Risk Assessment Sheet : GFP (Protein) Purification

Description of Risk	Hazard				Analyse / Evaluate Risk			Overall Risk Category (see explanation on last page)						
	Source	Current Controls	Event	Category	Consequences	Exposure	Probability							
Exposure to Chemical Agents : Risk of eye and skin exposure to chemicals (such as dithiothreitol, EDTA, ampicillin)	Chemical	PPE worn (gloves, closed footwear, and safety goggles provided). Use of potentially harmful chemicals/substances in fume cupboard/safety cabinet. MSDS available. Well documented procedures.	Chemical exposure - body contact, spills and splash and inhalation (eg. 4% paraformaldehyde is irritant to eyes and skin).	Other Contact with Chemical or Substance	Minor : General chemicals used would be irritants only.	Unusual : Immunofluorescence staining not a common procedure.	Unusual but Possible : Less likely to occur with the control measures but not impossible.	Exposure						
								Prob	VR	R	U	O	F	C
								AC	Low	Low	Low	Low	Mod	Subs
								QP	Low	Low	Low	Low	Low	Mod
								UP	Low	Low	Low	Low	Low	Low
								RP	Low	Low	Low	Low	Low	Low
								C	Low	Low	Low	Low	Low	Low
PI	Low	Low	Low	Low	Low	Low								
Use of UV flashlight : Detection of GFP in bacterial cultures and cell lysates at different steps during purification using a UV flashlight. Care must be taken to shine the flashlight away from peoples' eyes and only onto the specimen.	UV exposure	Avoid looking at the light source directly.	Exposure to ultraviolet light.	UV exposure	Minor : UV damage to eyes	Unusual : This is not a common laboratory procedure.	Conceivable : Unlikely to occur if students use flashlight as instructed. Even if some exposure results, not likely to cause long-term damage since exposure will not be sustained or repetitive.	Exposure						
								Prob	VR	R	U	O	F	C
								AC	Low	Low	Low	Low	Mod	Subs
								QP	Low	Low	Low	Low	Low	Mod
								UP	Low	Low	Low	Low	Low	Low
								RP	Low	Low	Low	Low	Low	Low
								C	Low	Low	Low	Low	Low	Low
PI	Low	Low	Low	Low	Low	Low								

Explanation of Overall Risk Categories

Exposure					
Very Rare (VR) – extremely rare (has not yet occurred)	Rare (R) – hardly every occurs (but has been known to occur)	Unusual (U) – does not occur often (from once per month to once per year)	Occasional (O) – sometimes occurs (from once per week to once per month)	Frequent (F) – occurs often (approximately once daily)	Continuous (C) – occurs repeatedly (or many times daily)

Probability (Prob)					
Almost Certain (AC) – is the most likely and expected result if the hazard event takes place	Quite Possible (QP) – is quite possible, not unusual, has an even 50/50 chance	Unlikely but Possible (UP) – Would be an unusual sequence or coincidence	Remotely Possible (RP) – would be a remotely possible coincidence	Conceivable (C) – has never happened after many years of exposure, but is conceivably possible	Practically Impossible (P) – has never happened after many years of exposure and is virtually impossible

Overall Risk Category				
Low – risk is normally acceptable	Moderate (Mod) – should be dealt with as soon as possible but situation is not an emergency	Substantial (Subs) – should receive attention as soon as possible	High – immediate correction required	Very High (VH) – immediate correction required

The Overall Risk Category for each element is highlighted in **green**.