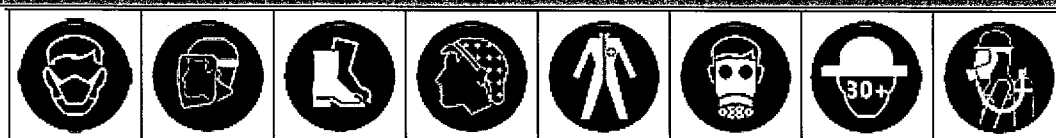


WHS F029 Job Safety Analysis (JSA)

Title	Beckman Coulter Allegra x-12 Centrifuge		
School/Business Unit	Environmental and Rural Science	Location (building/lab/ workshop if applicable)	W55 Chemical analysis laboratory Room 327

JSA Development Date	15/3/17	JSA Development Team	Paul Lisle Oliver Knox
JSA Review Date	15/3/22		

Relevant Australian Standards / Codes of Practice / Legislation
<ul style="list-style-type: none"> Australian Standard AS 2243.3 (2010), Safety in Laboratories: Microbiological Safety and Containment, section 10.3, pp 116-117, 'Centrifuges'
Relevant Safety Data Sheets (can be obtained via UNE subscription to ChemWatch)
<ul style="list-style-type: none"> NA
Plant & Equipment Required
<ul style="list-style-type: none"> NA
Licenses Required
<ul style="list-style-type: none"> NA
Competencies Required
<ul style="list-style-type: none"> Laboratory Induction, Training and Maintenance
PPE Required



	Dust Mask	Face Shield	Foot Protection	Hair Net	Protective Clothing	Respirator	Sun Protection	Breathing Apparatus
Compulsory			X					
As needed	X			X	X			



	Hand Protection	Hearing Protection	Safety Glasses	Safety Harness	Safety Helmet	Safety Vest	Apron/Lab Coat	Welding Mask
Compulsory	X		X				X	
As needed								

Additional PPE/Notes

Document Reference	Procedure Reference	Version	Effective Date	Review Date	Page Number	Date Printed
WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	1	29/09/2017

WHS F029 Job Safety Analysis (JSA)

Job Steps						
Job Step	Potential Hazards	Risk Score*	Controls	Residual Risk*		
Before loading: Check rotor yoke and buckets for any sign of corrosion or cracking. Check that yoke is firmly on drive shaft by turning T-bar clockwise. Consult user manual (IN-197C)	Corroded or cracked yoke could fail and fly off.	8	Engineering controls, safety lock system, circuit breaker on power supply. Induction, training and maintenance	4		
Balancing/ Loading the buckets and carriers as per manual pages 1-8	Unbalanced buckets or carriers can lead to excessive strain on yoke or shaft leading to failure	9-10	Eliminate the hazard by Induction, Training and Guidance, consult user manual	6		
Unloading buckets or carriers 1. wait until the centrifuge has stopped and door lock has opened 2. Carefully remove buckets from the centrifuge 3. Carefully remove labware and samples 4. Clean-up any spills as per user manual page 25	Liquid handling, spills and chemical and biological safety	6	Induction, training and Guidance, consult user manual, Use Personal Protective Equipment (PPE)	4		
Cleaning after use: If a spill occurs : 1. Inform laboratory Manager	Possible explosion hazard with some combinations of acids and container materials under	5	Induction, training and Guidance, consult user manual, Use Personal	4		
Document Reference	Procedure Reference	Version	Effective Date	Review Date	Page Number	Date Printed
WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	2	29/09/2017

WHS F029 Job Safety Analysis (JSA)

2. Remove buckets from centrifuge 3. Remove labware from buckets 4. Remove yoke by turning T-bar counter clockwise to loosen it. 5. Lift yoke straight up and off the drive shaft 6. Wipe down all parts with mild detergent diluted (10% with water) rinse with distilled water and air dry (see manual page 25)	rotor failure conditions, Consult chemical resistances booklet : IN-175MD located near centrifuge		Protective Equipment (PPE)	

* The risk score and residual risk is determined by following steps 1-4 below.

STEP 1

Determine Likelihood of occurrence

STEP 2

Determine severity/consequence/cost

Risk Score Calculator: Definition of Terms

Rare	Likely to occur here only in very exceptional circumstances	Insignificant	No personal injury; and/or No adverse media attention; and/or Financial cost under \$2000
Unlikely	Could occur here at some time	Minor	Minor personal injury (first aid treatment); and/or Adverse Local Media Coverage; and/or Cost \$2000-\$50,000
Possible	May occur here at some time	Moderate	Serious personal injury (medical treatment); and/or Adverse Capital City Media Coverage; and/or Cost \$50,000-\$250,000
Likely	Will probably occur here (has happened before)	Major	Serious Personal Injury/long term absence; and/or Adverse & Extended National media Coverage; and/or Cost \$250,000 - \$1m
Almost Certain	Is expected to occur here in most circumstances	Catastrophic	Fatality(ies)/ long term impairment; and/or Government intervention; and/or Financial cost more than \$1million

STEP 3: Determine Risk Score

Risk Score Calculator: Matrix

	Severity/Consequence/Cost				
Likelihood	Insignificant	Minor	Moderate	Major	Catastrophic
Rare	2	3	4	5	6
Unlikely	3	4	5	6	7
Possible	4	5	6	7	8
Likely	5	6	7	8	9
Almost Certain	6	7	8	9	10

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WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	3	29/09/2017

WHS F029 Job Safety Analysis (JSA)

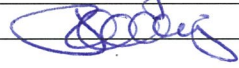
STEP 4: Determine Risk Score Response Priority

Risk Score	Risk Score Response
9-10	Severe risk. Highest of priorities. Must be rectified immediately.
8	Very high risk. Requires urgent attention for quick resolution. Temporary controls to be implemented.
6-7	Moderate to high risk. Prompt planning and resolution required with consultation.
4-5	Low to moderate risk. Consult and identify controls that are reasonably practicable
3	Very low risk. Minor issue for monitoring
2	Insignificant Risk

STEP 5: Implement the Highest Control Possible

Hierarchy of Controls
Eliminate the hazard
Substitute the hazard with something safer
Isolate the hazard from people
Introduce engineering controls
Implement administrative controls
Use Personal Protective Equipment (PPE)

Approval of JSA

Name	FRANK LGAYR	Title	ERS Mgr
Date	3/10/17	Signature	

Sign Off

The University shall provide information and training to workers to enable them to perform tasks safely. This section is signed by workers (and supervisors) to indicate their understanding of the Job Safety Analysis and indicates their competence to complete the job in a safe manner as deemed by their supervisor. Workers should always consult with their supervisor where there is concern about the safety of a task that effects themselves or others.

Date	Worker Name	Worker Signature	Supervisor Name	Supervisor Signature

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WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	4	29/09/2017



WHS F029 Job Safety Analysis (JSA)

Records Storage Instructions

All completed JSAs are to be recorded in TRIM Container A16/3851 utilising a TRIM license in your School/Business Unit. Only the HR Team is able to view records in this container. Completed JSAs are to be published on Safety Hub for ongoing utilisation.

Document Reference	Procedure Reference	Version	Effective Date	Review Date	Page Number	Date Printed
WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	5	29/09/2017