

WHS F029 Job Safety Analysis (JSA)

Title	Nitrogen (N ₂) glove box		
School/Business Unit	School of Environmental and Rural Science	Location (building/lab/ workshop if applicable)	Growth cabinet room in W23

JSA Development Date	13.06.2017	JSA Development Team	Samieh Eskandari Chris Guppy Matt Tighe
JSA Review Date			

Relevant Australian Standards / Codes of Practice / Legislation

- AS4332-2004: The storage and handling of gases in cylinders

Relevant Safety Data Sheets (can be obtained via UNE subscription to ChemWatch)

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Plant & Equipment Required

- Ventilated environment, acrylic glass box with a side opening lid, exhaust to outside

Licenses Required

- None

Competencies Required

- Training and practicing

PPE Required



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



	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	13/06/2017

WHS F029 Job Safety Analysis (JSA)

Job Steps				
Job Step	Potential Hazards	Risk Score*	Controls	Residual Risk*
Checking the gas cylinder to be stable in its place	Falling to worker's foot	5	Secure the gases cylinder in its place	3
Open the exhaust valve	Breaking or even exploding the cylinder, valve's or box because of Increasing pressure inside the box by increasing N ₂ release into the box	5	appropriate sequencing of valves and making sure the whole thing is secure	3
Turn on the N ₂ gas	It may cause valves to pop out and increase the risk of exposure to high N ₂ . It can even break/explode the cylinder, valve's or box	5	Open the exhaust valve first, and keep the appropriate sequencing of the valves. Monitoring of pressure via the pressure gauge, as well as O ₂ in the box, Considering a large space, appropriate external venting, monitoring the pressure valve and very limited time using the N ₂ . Using safety glasses, to combat any breakages or valve's popping out, as well as periodical checks by a manager when the experiments are being conducted	3
Turn off the N ₂ gas				
Close the exhaust valve	May break the box- if it is closed before turning off the gas	5	keep the appropriate sequencing of the valves	3


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

STEP 1		STEP 2			
Determine likelihood of occurrence		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
STEP 4: Determine Risk Score Response Priority					
Risk Score	Risk Score Response				
Document Reference	Procedure Reference	Version	Effective Date	Review Date	Page Number
WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	2
					Date Printed
					13/06/2017

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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	CHRIS GARY	Title	SUPERVISOR
Date	13/6/17	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.

[illegible]

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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.

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WHS F029	WHS OP006	1.1	14/09/2016	14/09/2019	4	13/06/2017