Bunsen Burner | SAFE WORK METHOD STATEMENT (SWMS)

TASK OR ACTIVITY: Bunsen Burner

Business Name:		ABN:	SWMS#
Business Address:			
Contact Person:	Phone:	Email:	

THIS SAFE WORK METHOD STATEMENT IS APPROVED BY THE PCBU OF THIS PROJECT

Under the Work Health and Safety Regulation (WHS Regulation), a person conducting a business or undertaking (PCBU) is required to ensure that a safe work method statement (SWMS) is prepared before the proposed work starts.

Full Name:		
Signature:	Title:	Date:

Details of the person(s) responsible for ensuring implementation, monitoring and compliance of the SWMS as well as reviews and modifications of the SWMS.

Full Name:	Title:	Phone:

ALL PERSONNEL PARTICIPATING IN ANY ACTIVITY ON THIS SWMS MUST HAVE THE FOLLOWING COMMUNICATED	NAME OF ALL RELEVANT PERSONNEL WHO HAVE BEEN CONSULTED AND COMMUNICATED TO IN THE DEVELOPMENT AND APPROVAL OF THIS SWMS
Safety meetings or toolbox talks will be scheduled in accordance with legislative requirements to first identify any site hazards, then to communicate those hazards and then to further take steps to either eliminate or control each hazard.	
If an incident or a near miss occurs, all work must stop immediately. Depending on the severity of the incident, a meeting will be called with all workers to amend the SWMS if required. The meeting may also be an educational opportunity.	
Any changes made to the SWMS after an incident or a near miss must be approved by the Person Conducting Business or Undertaking and communicated to all relevant personnel.	
The SWMS must be kept and be available for inspection at least until the work is completed. Where a SWMS is revised, all versions should be kept. If a notifiable incident occurs in relation to which the SWMS relates, then the SWMS must be kept for at least two years from the occurrence of the notifiable incident.	

CLIENT OR PRINCIPAL CONTRACTOR DETAILS	
Client:	SCOPE OF WORKS
Project Name:	
Project Address:	
Project Manager:	
Contact Phone:	
Date SWMS supplied to Project Manager:	

ANY HIGH-RISK CONSTRUCTION WORK BEING CARRIED OUT	
☐ involves a risk of a person falling more than 2 meters	☐ is carried out on or near pressurised gas mains or piping
☐ is carried out on a telecommunication tower	☐ is carried out on or near chemical, fuel or refrigerant lines
☐ involves demolition of an element of a structure that is load-bearing	☐ is carried out on or near energised electrical installations or services
☐ involves demolition of an element related to the physical integrity of a structure	☐ is carried out in an area that may have a contaminated or flammable atmosphere
☐ involves, or is likely to involve, disturbing asbestos	☐ involves tilt-up or precast concrete
☐ involves structural alteration or repair that requires temporary support to prevent collapse	☐ is carried out on, in or adjacent to a road, railway, shipping lane or other traffic corridor
☐ is carried out in or near a confined space	☐ is carried out in an area of a workplace where there is any movement of powered mobile plant
☐ is carried out in/near a shaft or trench deeper than or tunnel involving use of explosives	☐ is carried out in areas with artificial extremes of temperature.
☐ is carried out in or near water or other liquid that involves a risk of drowning.	☐ involves diving work.

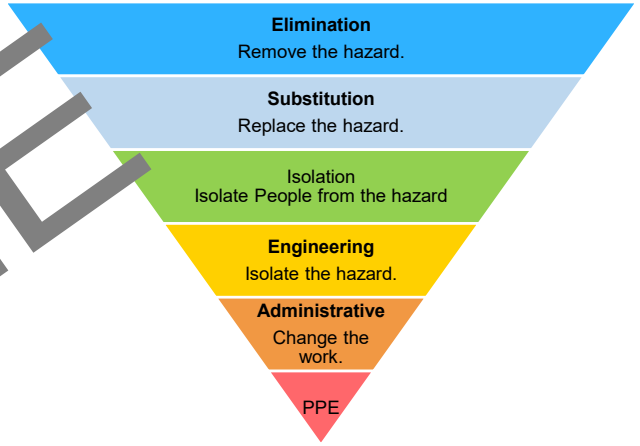
ANY HIGH-RISK MACHINERY OR EQUIPMENT NEARBY

RISK MATRIX

LIKELIHOOD	INSIGNIFICANT	MINOR	MODERATE	MAJOR	CATASTROPHIC	SCORE	ACTION
ALMOST CERTAIN	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4 ACUTE		
LIKELY	2 MODERATE	3 HIGH	3 HIGH	4 ACUTE	4 ACUTE	4A ACUTE	DO NOT PROCEE
POSSIBLE	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	4 ACUTE	3H HIGH	Review befo work starts.
UNLIKELY	1 LOW	1 LOW	2 MODERATE	3 HIGH	4 ACUTE	2M MODERATE	Ensure control measures in place.
RARE	1 LOW	1 LOW	2 MODERATE	3 HIGH	3 HIGH	1L LOW	nitor and k records

Notes on Hierarchy of Controls: Elimination methods are the most effective and preferre en co lli a hazard. Substitution is the second most effective method of controlling a hazard. Engineering by isolation is the ost e ve, while Administrative Controls by changing the work is the fourth most effective method. PPE (Personal Protective Eq ment) he least effective method.

HEIRARCHY OF CONTROLS



PERS NAL P TECTIVE EQUIPMENT (PPE)

Select the appropriate PPE bov uitable or the equipment used or the job task being performed (if applicable).

FOOT PROTECTION	HAND PROTECTION	HEAD PROTECTION	HEARING C ECTION	EY CTION	RESPIRATORY PROTECTION	FACE PROTECTION	HIGH-VIS CLOTHING	PROTECTIVE CLOTHING	FALL PROTECTION	SUN PROTECTION	HAIR/JEWELLERY SECURED
											
☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐	☐

Other PPE Required:

Permit or Licenses Requirements	Mandatory Qualifications and Training

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
1. Preparation	Chemical spill, inhalation of harmful fumes	H	- Proper Storage and Handling: Make sure th[illegible]ll chemicals used in the experiment are properly stored and handled. Store chemicals in well-venti[illegible]d areas, a[illegible]y from direct sunlight, heat sources, and incompatible substances. - Personal Protective Equipment (PPE): Provide[illegible]propriate PP[illegible]such as lab coats, chemical-resistant gloves, and safety goggles, t[illegible]rotect workers fro[illegible]chemical[illegible]pills and splashes while handling chemicals. - Safe Work Practi[illegible]: T[illegible]e emp[illegible]ees on how to safely handle chemicals and follow established procedures wh[illegible]using a B[illegible]sen b[illegible]er. This[illegible]ould include guidelines on proper heating techniques and avoiding[illegible]pid changes[illegible]l tempe[illegible]re. - Ade[illegible]te Ven[illegible]tion: E[illegible]sure that the workspace has sufficient ventilation to prevent the buildup of harmf[illegible]es. T[illegible]ay involve using a fume hood, installing an exhaust fan, or simply opening windows and do[illegible]s[illegible] prope[illegible]irflow. - Chem[illegible]al S[illegible] Kits: H[illegible]e spill kits accessible and within easy reach to contain and clean up any accident[illegible] chem[illegible]al spills immediately. These should be tailored to meet the specific needs of each la[illegible]orator[illegible]and c[illegible]ain materials like absorbents, neutralizers, and waste disposal bags. - Emerg[illegible]y Procedures: Establish clear emergency procedures specific to the potential hazards sociated with Bunsen burners and related processes. Regularly review these procedures with e[illegible]loyees, and clearly display them in the laboratory for easy reference. - Regular Maintenance and Inspection: Schedule regular inspection and maintenance of equipment, including Bunsen burners, gas lines, and other components, to ensure they are safe and functional. - Safe Disposal of Waste Products: Properly dispose of any waste generated during the experiment using approved waste bins, containers, or collection systems designated for the specific substance(s). Ensure the waste is later disposed of in compliance with local regulations. - Restricted Access: Limit access to the area where the Bunsen burner is being used by implementing a controlled entry system or placing barriers around the perimeter. This will help to prevent unauthorised individuals from interfering with the experiment or being exposed to potential hazards. - Communication and Signage: Clearly communicate the location of Bunsen burners and associated risks using warning signs and labels. Regularly review these signs to ensure their visibility and clarity for all employees. - Continuous Monitoring and Supervision: Supervise the work area throughout the entire process to monitor the safe use of a Bunsen burner and ensure that all control measures are implemented effectively. Address any concerns, incidents, or emergencies promptly to mitigate risks and maintain a safe working environment.	2M
2. Bunsen Burner setup	Burns from flame, incorrect installation	3H	- Proper training: Ensure all workers operating the Bunsen burner have undergone proper training to understand the safe use and setup of the equipment.	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
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			- Pre-use inspection: Inspect the Bunsen burner, hose, and gas supply for any signs of damage, wear or incorrect installation before every use. - Correct installation: Follow the manufacturer's guidelines for setting up the Bunsen burner, ensuring all parts are correctly assembled and secure. - Stable work surface: Set up the Bunsen burner on a flat, stable, and heat-resistant surface to prevent accidental tipping or sliding. - Appropriate protective gear: Make sure workers handling the Bunsen burner wear heat-resistant gloves, long sleeves, closed-toe footwear, and safety goggles to protect against burns and splashes. - No loose clothing: Ensure that workers don't wear loose clothing, dangling accessories, or have unsecured hair that may come in contact with the flame. - Clear workspace: Keep the area around the Bunsen burner clear of flammable materials, clutter, and debris to minimize fire hazards. - Safety equipment: Have an appropriate fire extinguisher and first-aid kit nearby in case of emergency. - Correct lighting procedure: Follow the recommended lighting procedure (using a striker or taper) to minimise the risk of burns from the flame. - Proper ventilation: Ensure adequate ventilation to avoid the buildup of fumes or gas in the enclosed space. - Supervision: Monitor inexperienced workers closely while they set up and use the Bunsen burner to ensure correct procedures are being followed. - Gas shut-off: Know how to operate the gas shut-off valve in case the flame needs to be extinguished quickly. - Never leave unattended: Don't leave the Bunsen burner unattended while in operation to prevent accidents. - End-of-use checks: Upon finishing using the Bunsen burner, ensure it's correctly and fully turned off, cool down the workspace for a safe handling and storage.	
3. Lighting the flame	Explosion, skin burns	4A	- Proper training: Ensure all personnel involved in lighting the Bunsen burner have received proper training and are familiar with the equipment's safe operation procedures. - Correct fuel: Verify that the gas source is non-flammable, such as methane or natural gas, and not an inappropriate or explosive fuel like propane or hydrogen. - Inspect equipment: Regularly examine the Bunsen burner, hoses, and connections for signs of wear or damage, and replace any faulty components promptly. - Secure connections: Double-check that all connections between the Bunsen burner and the gas source are tightened and properly fitted to prevent gas leaks. - Proper ventilation: Make sure the working area has adequate ventilation to maintain fresh airflow, dissipate heat build-up, and avoid the accumulation of toxic or flammable fumes. - Use safety equipment: Provide appropriate personal protective equipment, including heat-resistant gloves or tongs, safety glasses, and lab coats, to protect against burns and other hazards.	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			- Clear workspace: Keep the surrounding area free, clean, and clear of clutter and combustible materials to minimise fire risks. - Light cautiously: When igniting the burner, use a s[illegible]ker or a long-straw lighter to keep hands at a safe distance from the flame. - Gradual ignition: Slowly open the gas val[illegible]o control th[illegible]ow rate, avoiding abrupt adjustments that could lead to an explosion or excessive flam[illegible]eight. - Monitor flame: Always visually inspect the flam[illegible]uring operatio[illegible] ensuring it remains stable and controlled. - Fire extinguisher access: Plac[illegible] suitable fire extin[illegible]er nearby and ensure it is easily accessible and operational. - Supervision: [illegible]aintain con[illegible]nt sup[illegible]vision w[illegible]e the burner is in use, and never leave it unattended. - Emergency p[illegible]edures: [illegible]stablish and [illegible]mmunicate a clear set of emergency guidelines, including steps to sh[illegible]f the ga[illegible]up[illegible], use fire extinguishers, and contact emergency services if necessary. - Shut[illegible]w[illegible]proces[illegible]After use, ensure the flame is extinguished entirely, and turn off the gas supply at the source[illegible]llo[illegible]he Bu[illegible]n burner to cool down before handling or moving it to avoid burn injuries.	
4. Heating materials	Unsafe handling, overhea[illegible] flammable materials igniting	3H	[redacted]	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
5. Adjusting flame	Uncontrolled flame, thermal burns	3H	[redacted]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
6. Conducting experiment	Incorrect procedure, harmful reactions	3H	[redacted]	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
7. Monitoring experiment	Failure to detect hazardous conditions, improper supervision	2M	[redacted]	1L
8. Shutting off flame	Inadequate extinguishing, burns, gas leaks	3H	[redacted]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
9. Cooling down process	Thermal burns, equipment damage	2M	[redacted]	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
10. Cleaning up	Spills, chemical exposure, broken glassware	3H	[redacted]	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
11. Storage of chemicals and Bunsen Burner	Improper storage, mislabeling, fire hazards	2M	[redacted]	1L

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	
12. Emergency procedures	Ineffective measures, lack of training knowledge	4A	[redacted]	2M

JOB STEP	POTENTIAL HAZARDS	IR	CONTROL MEASURES	RR
SPECIFIC WORK STEPS	HAZARDS THAT MAY ARISE	INITIAL RISK	SPECIFIC MEASURES TO BE PUT IN PLACE TO ELIMINATE OR CONTROL THE RISKS	RESIDUAL RISK
			[redacted]	

EMERGENCY RESPONSE – CALL 000 FOR EMERGENCIES

Ensure to have an Emergency Management Plan in place as well as adequate numbers of trained first aid staff with easy access to fully stocked first aid kits, rescue equipment, material safety data sheets, adequate access to emergency communication equipment and fire-fighting equipment suitable for all classes of fire and ignition sources.

LEGISLATIVE REFERENCES

RELEVANT LEGISLATION AND CODES OF PRACTICE. DELETE THE LEGISLATIVE REFERENCES FOR ANY STATE THAT ARE NOT APPLICABLE

Queensland & Australian Capital Territory
Work Health and Safety Act 2011
Work Health and Safety Regulations 2011
Legislation QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/work-health-and-safety-laws
Codes of Practice QLD: https://www.worksafe.qld.gov.au/laws-and-compliance/codes-of-practice
Legislation ACT: https://www.worksafe.act.gov.au/laws-and-compliance/acts-and-regulations
Codes of Practice ACT: https://www.worksafe.act.gov.au/laws-and-compliance/codes-of-practice

New South Wales
Work Health and Safety Act 2011
Work Health and Safety Regulations 2017
Legislation NSW: https://www.safework.nsw.gov.au/legal-obligations/legislation
Codes of Practice NSW: https://www.safework.nsw.gov.au/resource-library/list-of-codes-of-practice

Northern Territory
Work Health and Safety (National Uniform Legislation) Act 2011
Work Health and Safety (National Uniform Legislation) Regulations 2011
Legislation NT: https://worksafe.nt.gov.au/laws-and-compliance/workplace-safety-laws
Codes of Practice NT: https://worksafe.nt.gov.au/forms-and-resources/codes-of-practice

South Australia
Work Health and Safety Act 2012 (SA)
Work Health and Safety Regulations 2012 (SA)
Legislation for SA: https://www.safework.sa.gov.au/resources/legislation
Codes of Practice for SA: https://www.safework.sa.gov.au/workplaces/codes-of-practice#COPs

Tasmania
Work Health and Safety Act 2012
Work Health and Safety (Transitional and Consequential Provisions) Act 2012
Work Health and Safety Regulations 2012
Work Health and Safety (Transitional) Regulations 2012
Legislation for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/acts-and-regulations
Codes of Practice for TAS: https://worksafe.tas.gov.au/topics/laws-and-compliance/codes-of-practice

Details of permits, licenses or access required by regulatory bodies (add or delete as required):

- Permits from local council
- Authorisation to commence work
- Any required documents.

Victoria
Occupational Health and Safety Act 2004
Occupational Health and Safety Regulations 2017
Legislation VIC: https://www.worksafe.vic.gov.au/occupational-health-and-safety-act-and-regulations
Codes of Practice VIC: https://www.worksafe.vic.gov.au/compliance-codes-and-codes-practice

Western Australia
Work Health and Safety Act 2020
Work Health and Safety Regulations 2022
Legislation Western Australia: https://www.commerce.wa.gov.au/worksafe/legislation
Codes of Practice WA: https://www.commerce.wa.gov.au/worksafe/codes-practice

Safe Work Australia Links
Law and Regulation (All States): https://www.safeworkaustralia.gov.au/law-and-regulation
Model Codes of Practice: https://www.safeworkaustralia.gov.au/resources-publications/model-codes-of-practice

Model Codes of Practice

- Managing noise and preventing hearing loss at work
- Confined spaces
- Labelling of workplace hazardous chemicals
- Managing risks of hazardous chemicals in the workplace
- Welding processes
- First aid in the workplace
- Managing the risk of falls at workplaces
- Hazardous manual tasks
- Managing the risk of falls in housing construction
- Managing electrical risks in the workplace
- Demolition work
- Excavation work
- Work health and safety consultation, cooperation and coordination
- Managing the work environment and facilities
- How to manage work health and safety risks
- Managing risks of plant in the workplace
- Construction work

SIGNATORIES OF THE SAFE WORK METHOD STATEMENT

The signed and dated personnel listed below have cooperated in the consultation and development of this Safe Work Method Statement which has been approved by the Person/s Conducting a Business or Undertaking (PCBU). In signing this Safe Work Method Statement each individual acknowledges and confirms that they have read this SWMS in full, having raised any questions for items on this Safe Work Method Statement that require clarification, and confirms that they are competent, skilled and knowledgeable for the task assigned to them. Every person acknowledges that they have received the relevant training and qualifications where required, before carrying out any work contained in this Safe Work Method Statement. By signing this Safe Work Method Statement each individual agrees to work safely, to follow any safe work instructions which are provided, and agrees to use all Personal Protective Equipment where appropriate.

Worker Name	Signature	Date

SAFE WORK METHOD STATEMENT MONITORING AND REVIEW

The SWMS must be reviewed regularly to make sure it remains effective and must be reviewed (and revised if necessary) if relevant control measures are revised. The review process should be carried out in consultation with workers (including contractors and sub-contractors) who may be affected by the operation of the SWMS and their health and safety representatives who represented that work group at the workplace.

When the SWMS has been revised the PCBU must ensure that all persons involved with the work are advised that a revision has been made and how they can access the revised SWMS, including all persons who will need to change a work procedure or system as a result of the review are advised of the changes in a way that will enable them to implement their duties consistently with the revised SWMS. All workers that will be involved in the work must be provided with the relevant information and instruction that will assist them to understand and implement the revised SWMS.

The SWMS must be monitored regularly for the effectiveness of ensuring hazard controls are effective in reducing the risk of incidents, keeping the workplace safe for all personnel. The person responsible for monitoring the effectiveness of the Safe Work Method Statement should employ a multi-faceted approach which includes but is not limited to:

1. Spot Checks.
2. Consultation with workers, contractors and sub-contractors.
3. Internal audits on a continual basis.

An approach of continuous improvement, promptly recording inconsistencies or deficiencies, followed up by immediate corrective action and consultation with all relevant personnel ensures that the PCBU is consistently developing ever-improving systems of safe work principles.

REVIEW NUMBER	1	2	3	4	5	6	7
NAME							
INITIALS							
DATE							

SAFE WORK METHOD STATEMENT REVIEW CHECKLIST

This Safe Work Method Statement Review Checklist is to be followed and used upon initial development of the SWMS to help ensure that all steps have been adequately taken before work commences. Think of this document as an internal audit review checklist before commencing work, and may form part of a Toolbox Talk (safety meeting) and may be used as an opportunity for education and training.

ITEMS WHICH MUST BE INCLUDED IN THE SWMS	COMPLETED	COMMENTS
The company details have been entered, including the project name and address.	☒	
All relevant personnel consulted during the development of the SWMS.	☒	
Name, signature, position and date signed of the person approving the SWMS.	☐	
Specific personnel and qualifications, experience is noted in the SWMS.	☒	
Provides a step-by-step process of tasks required to carry out the activity or task.	☒	
Adequate risk assessment of any identified hazards has been completed.	☒	
Foreseeable hazards are identified and documented for each step.	☒	
Any hazards listed in any site risk assessments have been added to the SWMS.	☒	
SWMS initial risk (IR) column as well as residual risk (RR) column completed.	☒	
Check control measures added to the SWMS are the most effective selection	☒	
Responsible person is assigned and listed on the SWMS for the implementation of control measures.	☒	
Permit or licenses requirements specified, such as Hot Work, Electrical Work, Work at Heights etc.	☒	
SWMS identifies plant and equipment to be used	☒	
Details of inspection checks required for any equipment listed are noted on the SWMS.	☒	
Describes any mandatory qualifications, experience, training or skills required to perform the work.	☒	
Applicable personal protective equipment is selected on the SWMS.	☒	
Reflects and documents any legislative references and/or Australian Standards.	☒	
Identifies any hazardous substances used with specific control measures in line with any SDS.	☒	

REVIEWED BY		**DATE REVIEWED**	
SIGNATURE		**DATE COMPLETED**	