



**SH SAFETY CONSULTANCY
SDN BHD**

CHEMICAL HEALTH RISK ASSESSMENT (CHRA) REPORT

In compliance with Regulation 9 & 10 of the Occupational Safety & Health (Use & Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000

POLITEKNIK KOTA BHARU

DOSH REGISTRATION NO.: NA

KM. 24, Kok Lanas, 16450 Ketereh, Kelantan

DATE OF MONITORING : 16 April 2025- 17 April 2025
ASSESSOR : SYAIDATOL SYAKIRA BINTI HASSAN
DOSH REGISTRATION : HQ/22/ASS/00/00059
CONTACT NO. : 011-11315464



CHRA NOTIFICATION FORM

BORANG A

Date :
Workplace : POLITEKNIK KOTA BHARU
KM. 24, Kok Lanas,
16450 Ketereh, Kelantan
Contact person : Mr Che Seman and Mr Rohazak.

Re: CHEMICAL HEALTH RISK ASSESSMENT REPORT

This is to certify that CHRA for the above premise has been conducted on 16th April 2025- 17th April 2025.

2. In compliance to Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000, the CHRA report has been submitted, presented and explained to the employee on _____.

3. The employer has been informed to take action to control exposure of workers to chemicals hazardous to health as indicated in the CHRA report within one month after receiving the report.



.....
Syaidatul Syakira Binti Hassan

DOSH Registration No. : HQ/22/ASS/00/00059

Date of Assessment : 16th April 2025- 17th April 2025

Date of Completion : 3rd September 2025

(REPORT REF. NO.: HQ/22/ASS/00/00059 – 2025/27)

CHRA Report Received by:

Name :

Designation :

Date receive report :

Signature :

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1.0 Executive Summary of CHRA for POLITEKNIK KOTA BHARU

In compliance to the OSHA Act 1994 and the Use and Standard of Exposure of Chemicals Hazardous to Health (USECHH) Regulations 2000, Chemical Health Risk Assessment (CHRA) was conducted at POLITEKNIK KOTA BHARU on 16th April 2025- 17th April 2025 by Syaidatul Syakira Binti Hassan [HQ/22/ASS/00/00059].

The main objective of CHRA is to identify significant health risks and recommend further improvement measures to eliminate or minimize health risks of workers to hazardous chemicals.

The methodology for this CHRA is adopted from the “A Manual of Recommended Practice on Assessment of the Health Risks Arising from the Use of Chemicals Hazardous to Health at the Workplace (First Reprint 2018)” by DOSH Malaysia. A walkthrough inspection was conducted to determine chemical usage and exposure to contaminants. Existing control measures are investigated and assessed for its adequacy.

Summary of Action Priority

Work Area – Work Unit	Number of chemicals with Conclusion				
	Total chemicals	AP-1	AP-2	AP-3	Non- Hazardous Chemical
1. Mechanical Workshop (Agriculture) – Technical Assistant (Agriculture)	11	2	3	1	5
2. CNC Workshop – Technical Assistant (CNC)	3	0	0	2	1
3. Automotive Workshop– Technical Assistant (Automotive)	9	0	5	1	3
4. Highway Workshop– Technical Assistant (Highway)	10	2	0	6	2
5. Maintenance Store – Storekeeper	14	5	6	1	2
6. Welding Workshop - Technical Assistant (Welding)	6	0	2	1	3
7. Mechanical Workshop - Technical Assistant (Mechanical)	6	1	2	1	2

8. Concrete Workshop - Technical Assistant (Concrete)	7	0	4	2	1
9. Wood Workshop - Technical Assistant (Wood)	27	11	0	12	4
10. Brick Workshop - Technical Assistant (Brick)	3	0	3	0	0
11. Water Quality Laboratory – Laboratory Assistant	8	2	0	4	2

AP-1 High risk/Lack of CHTH info & inadequate controlled

AP-2 Moderate/Low risk & inadequate controlled

AP-3 High/Moderate/Low risk & adequate controlled

The recommendations proposed include reviewing of Technical Controls including ventilation and PPE, improving Organizational Controls such as work practice, procedures, training, hygiene and enhance Emergency Response Preparedness that include first aid, emergency eye wash, spill kit and emergency response team.

It is advised to make an action plan to control exposure of workers to chemicals hazardous to health as indicated in the CHRA report within one month after receiving the report.

Chemical Health Risk Assessment (CHRA) Report

For

POLITEKNIK KOTA BHARU

2.0 Introduction

A CHRA is conducted with the purpose of enabling decisions to be made on appropriate control measures, induction, and training of employees, monitoring and health surveillance activities as may be required to protect the health of employees who may be exposed to chemicals hazardous to health at work. This is to be following Regulation 9 of the Occupational Safety & Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000, which aims to protect the health of employees who may be exposed to hazardous chemicals at work.

This assessment is being carried out at POLITEKNIK KOTA BHARU (DOSH Registration No: NA) KM. 24, Kok Lanang, 16450 Ketereh, Kelantan on 16th April 2025- 17th April 2025 by Syaidatul Syakira Binti Hassan [HQ/22/ASS/00/00059] assisted by Nur Shafinas binti Idris. The representative of this company is Mr Che Seman and Mr Rohazak. The previous CHRA was conducted on 1st August 2019 by Mr Akhir bin Ahmad (HQ/17/ASS/00/00019). The last document was received by the assessor on 25th August 2025.

Politeknik Kota Bharu (PKB) is a polytechnic institution established in 1985 and relocated to its permanent Kok Lanang campus in 1988. Its core mission is to provide education and semi-professional training in engineering and trade disciplines to develop the nation's skilled workforce. PKB emphasizes continuous quality improvement, aiming to help students reach their full potential in specialist technical fields.

3.0 Objectives

General Objectives

- a) To identify the workplace areas and work units at **POLITEKNIK KOTA BHARU** where chemicals need CHRA.

Specific Objectives

- a) To identify the hazards posed by each CHTH use within the workplace.
- b) To evaluate the degree of exposure of workers to the CHTH, either through inhalation, dermal or ingestion.
- c) To evaluate the adequacy of existing control measures.
- d) To recommend further appropriate control measures and prioritize actions to be taken to prevent or reduce risks.

4.0 Process Descriptions

Politeknik Kota Bharu (PKB) provides practical-based education supported by various workshops and laboratories to enhance students' technical skills. The agriculture workshop trains students in basic farming practices, crop care, and sustainable methods. The brick and cement workshops focus on construction techniques, masonry, and concrete works, giving students hands-on experience in building and structural applications. The wood workshop develops skills in carpentry, furniture making, and wood-based construction. The welding workshop provides training in metal joining, fabrication, and cutting techniques, while the automotive workshop equips students with knowledge of vehicle servicing, repair, and diagnostics. In addition, specialized laboratories support teaching and research activities, allowing students to conduct experiments, testing, and applied projects. Through these facilities, PKB ensures students gain practical exposure aligned with industry requirements, preparing them for careers in technical and vocational fields.

Note: Detail of process flow kindly refer to APPENDIX III.

Work Area and Work Unit Identified

A walk-through inspection and study of the process was done with interviews of relevant staff concerned with each process area. The usage of the chemicals for this assessment at the work units is as below:

1. Mechanical Workshop (Agriculture) – Technical Assistant (Agriculture)
2. CNC Workshop – Technical Assistant (CNC)
3. Automotive Workshop– Technical Assistant (Automotive)
4. Highway Workshop– Technical Assistant (Highway)
5. Maintenance Store – Storekeeper
6. Welding Workshop - Technical Assistant (Welding)
7. Mechanical Workshop - Technical Assistant (Mechanical)
8. Concrete Workshop - Technical Assistant (Concrete)
9. Wood Workshop - Technical Assistant (Wood)
10. Brick Workshop - Technical Assistant (Brick)
11. Water Quality Laboratory – Laboratory Assistant

Description and discussion of each of the above processes that involves chemicals is further described in detail in the following pages.

4.1 Description of Work Areas and Work Units that involved chemicals.

Work Area	Work Unit	No. of Workers		Task	Existing Control Measure & PPEs
		Male	Female		
Mechanical Workshop (Agriculture)	Technical Assistant (Agriculture)	1	0	1. Technical assistant servicing and perform maintenance at workshop	- It is general ventilation. - PPEs: Safety shoes, rubber palm glove, disposable face mask, wellington boots and safety helmet
CNC Workshop	Technical Assistant (CNC)	1	0	1. Technical assistant servicing and perform CNC activity at workshop	- It is general ventilation. - PPEs: N95 face mask, heat resistant glove, leather glove, latex glove, safety shoes and safety glass

Automotive Workshop	Technical Assistant (Automotive)	1	1	1. Technical assistant performs servicing, overhaul engine and chemical storage	- It is general ventilation. - PPEs: Safety shoes, cotton glove, leather glove, safety glass and face shield
Highway Workshop	Technical Assistant (Highway)	1	0	1. Technical assistant use chemical for highway workshop activity	- It is general ventilation. - PPEs: N95 face mask, safety glass, covered shoes, cotton glove, rubber palm glove and leather glove
Maintenance Store	Storekeeper	6	5	1. Storekeeper stored and issued chemical when needed	- It is general ventilation. - PPEs: Cotton glove and safety shoes
Welding Workshop	Technical Assistant (Welding)	3	0	1. Technical assistant use chemical for welding activity	- It is general ventilation. - PPEs: Cotton glove and safety shoes

Mechanical Workshop	Technical Assistant (Mechanical)	7	1	1. Technical assistant use chemical during mechanical workshop	- It is general ventilation. - PPEs: Safety shoes and safety glass
Concrete Workshop	Technical Assistant (Concrete)	0	1	1. Technical assistant use chemical for concrete workshop activity	- It is general ventilation. - PPEs: Disposable face mask, rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron
Wood Workshop	Technical Assistant (Wood)	1	0	1. Technical assistant use chemical for wood making activity	- It is general ventilation. - PPEs: 3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003, latex glove, safety shoes, leather apron, safety glass and face shield
Brick Workshop	Technical Assistant (Brick)	0	1	1. Technical assistant use chemical for brick making activity	- It is general ventilation. - PPEs: N95 face mask, disposable face mask, cotton glove, latex glove, safety shoes, PVC apron

Water Quality Laboratory	Laboratory Assistant	0	1	1. Laboratory assistant use chemical to test water quality	- It is general ventilation. - PPEs: 3M™ 8210 N95 Particulate Respirator, lab coat, plastic glove, face shield
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5.0 Methodology

The step in doing the chemical health risk assessment were in accordance to guideline introduced by the Department of Occupational Safety and Health, Malaysia which known as **Manual of Recommended Practice on the Assessment of the Health Risks Arising from the Use of Chemicals Hazardous to Health at the Workplace 3rd Edition**, herein after refer as “**CHRA Manual 3rd Edition (First Reprint 2018)**”. The assessment process involves the following:

5.1 Information Gathering

Initial visit

For the purpose of gathering the initial information and identifying the work units namely;

- Inspection of work areas where chemicals are used, handled, stored or released
- Identify personnel exposed to chemicals hazardous to health
- Information gathered from Company which are the list of chemicals used or release at workplace, SDS, process flow chart and layout plan of work area.
- Familiarization with process area and storage facilities
- Conduct walks through inspection
- Gathering information on work practices and procedures such as control measure available, records of maintenance, training and other relevant information.
- Other sources such as internet and reference books.

5.2 Formation of Assessment Team

In order to ensure that the assessment can be carried out smoothly, the Company provided assistance from their personnel who are in charge of the area assessed. They are chosen because of their knowledge of the work area’s process and operation. The assessment team helps the assessor to familiarize with process area and gather information on work practices

and procedures. The assessment team also helped in communicating with the workers who are directly exposed to chemicals in the assessed areas.

5.3 Divide into Work Units

Work Units are established by consulting assessment team after gathering information about the workplace. A Work Unit is defined as a group of workers doing similar tasks (eg: having similar potential for exposure) whether in one work area or covering several work areas and exposed to the same chemical. Work Area is defined as the location / place where chemical was used, handled, or released into the working environment. A walk-through inspection and study of the process was done together with interviews of relevant personnel concerned with each process area. The areas focused for assessment have chemicals used that are likely to pose hazard to worker's health. From the survey, Work Units established are based on their similar task and chemical exposure.

5.4 Determining the degree of hazard

Chemical hazardous to health (CHTH) including chemicals that released or generated from processes and work activities were identified and confirmed with the management, supervisors, and workers and an updated list of chemicals with required details was drawn up in a register as according to DOSH guidelines and Chemical Register.

The degree of hazard was determined based on hazard classification, acute toxicity or health effects of chemical hazardous to health. For inhalation exposures, the degree of hazard is determined by using hazard rating, while for dermal exposures, hazard properties were used. Information of hazard would be obtained from SDS provided or labeling.

5.5 Evaluate exposures

The exposure to chemicals for each work unit was assessed by identifying possible routes of exposure and followed by exposure evaluation through inhalation, dermal and ingestion to determine degree of exposure causing adverse health effects to the workers. Qualitative was used to evaluate exposures through inhalation and dermal route.

Inhalation Risk has been defined as a factor of probability of occurrence and the severity of consequences. The formulation can be expressed as following:

$$\text{Inhalable Risk Rating (RR)} = \text{HR} \times \text{ER}$$

RR - Risk rating (scale 1 to 25)

HR - Hazard rating (scale 1 to 5)

ER - Exposure rating (scale 1 to 5)

Degree of chemical release is determined based on the use and volatility of the chemical:

Degree of release	Observation
Low	Low or little release into the air. No contamination of air, clothing and work surfaces with chemicals capable of skin absorption or causing irritation or corrosion.
Moderate	Moderate release such as a) solvents with medium drying time in uncovered containers or exposed to work environment; b) detectable odour of chemicals with odour thresholds exceeding the PEL. Evidence of contamination of air, clothing and work surfaces with chemicals capable of skin absorption or causing irritation or corrosion
High	Substantial release such as a) solvents with fast drying time in uncovered containers; b) sprays or dust clouds in poorly ventilated areas; c) chemicals with high rates of evaporation exposed to work environment; d) strong odour of chemicals with odour thresholds exceeding the PEL. Gross contamination of air, clothing and work surfaces with chemicals capable of skin absorption or causing irritation or corrosion.

Degree of contact / inhalation is determined by observing how chemical is handled and presence of contamination:

Degree of absorption	Observation / Condition
Low	• Low breathing rate (light work). • Source far from breathing zone. • Contact with chemical other than those described under "Moderate" & "High". • Small area of contact with chemicals capable of skin absorption - limited to palm (intact skin). < 2% or 0.04 m². • No indication of any skin conditions. Intact/normal skin. • No contamination of skin or eyes.
Moderate	• Moderate breathing rate (moderate work). • Source close to breathing zone. • Contact with eye or skin irritants, sensitisers or chemicals capable of skin penetration, except those described under "High". • Moderate area of contact - one or both hands up to the elbows. Skin area 2% or 0.04 m². • Skin dryness and detectable skin condition. Dry, red skin.
High	• High breathing rate (heavy work). • Source within breathing zone. • Gross contamination of eye or skin with skin or eye irritants, sensitisers or chemicals capable of skin absorption.

	• Skin soaked or immersed in chemical capable of skin penetration. • Area of contact not only confined to hands but also other parts of body. Skin area > 50% or 1 m2. • Follicle rich areas. Skin damaged. Severe drying, peeling and cracking.
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Magnitude Rating (MR) is derived after considering degree of chemical release and degree of contact / inhalation:

Degree of release	Degree of absorption	MR
Low	Low	1
	Moderate	2
	High	3
Moderate	Low	2
	Moderate	3
	High	4
High	Low	3
	Moderate	4
	High	5

Exposure Rating (ER) is derived after considering the FR/DR & MR together:

		Magnitude Rating (MR)				
		1	2	3	4	5
FR/DR	1	1	2	2	2	3
	2	2	2	3	3	4
	3	2	3	3	4	4
	4	2	3	4	4	5
	5	3	4	4	5	5

The process involves interview the workers of the work unit, observation of tasks performed and working instructions using the methods, tables and risk and exposure rating stated in CHRA 3rd Manual Edition (First Reprint 2018). The possibility of abnormal exposures and susceptible group of workers has been considered in this assessment and filled up in Form A. Degree of exposure to CHTH determined by using Exposure Rating (ER) by taking into account the intensity or magnitude of exposure, frequency of exposure and duration of exposure.

5.6 Adequate of Control Measures

This was done simultaneously with the exposure evaluation by inspection, checking records on control equipment and procedures including the use and maintenance of PPE. Also check were equipment maintenance records and records of incidents and accidents. Control measures were being categorized into 3 approaches:

- a) Technical Controls (TC) –

- Total enclosure of process and handling systems
- Isolations of the work to control the emission of CHTH
- Application of engineering control equipment
- Provision of PPE

b) Organisational Controls (OC) –

- Adoption of safe work systems and practices
- Providing information, instruction and training to workers
- Personal hygiene

c) Emergency Response Preparedness

- Involve the establishment of emergency response system on chemical related incidents, emergency facilities such as spill control, first aid and fire-fighting.

5.7 Risk Determination for Inhalation Exposure

After the degree of hazard posed by each chemical determined, the exposure evaluated and the adequacy of existing control measures assessed, the assessment is concluded in order to determine further actions to prevent or minimize risks.

The Risk Rating (RR) of each chemical is assessed by taking into account the hazard (HR) and exposure (ER). RR rated from 1 to 4 is considered Low Risk, while RR rated at 5 to 12 is considered Moderate Risk and RR rated at 15 to 25 is considered High Risk.

		Exposure Rating (ER)				
		1	2	3	4	5
Hazard Rating (HR)	1	1	2	3	4	5
	2	2	4	6	8	10
	3	3	6	9	12	15
	4	4	8	12	16	20
	5	5	10	15	20	25

5.8 Exposure Monitoring and Medical Surveillance

Identify existing exposure monitoring on CHTH and establishment of surveillance programs on worker's health status as a result of exposing to CHTH.

5.9 Risk Determination for Dermal Exposure

Level of risk for dermal exposure is categorized into three categories of risk which are:

- L : Low risk
- M1, M2 : Moderate risk
- H1, H2 : High risk

5.10 Assessment Conclusion

The assessment can be concluded based on the result of the level of risk and the adequacy of existing control measures which are:

- High risk and adequately controlled
- High risk and inadequately controlled

- Moderate risk and adequately controlled
- Moderate risk and inadequately controlled
- Low risk and adequately controlled
- Low risk and inadequately controlled

5.11 Action Priority

The table below is used to assign Action Priority based on the level of risk and adequacy of control measures:

Level of Risk	Adequacy of Control	Action Priority (AP)
High	Inadequate	1
HR or ER could not be determined	-	
Moderate / Low	Inadequate	2
High / Moderate / Low	Adequate	3

Further precautions and control measures are suggested to the workplace in order to prevent or minimize the risk posed by the hazardous chemical at the workplace. The recommendations given as required based on the findings and conclusions.

6.0 Discussion

Most significant route of entry is through inhalation, dermal contact, and ingestion. Accidental chemical splash into eye is also possible. Majority of chemicals are exposed to workers on daily basis.

Previous CHRA findings: The previous CHRA was conducted on 1st August 2019 by Mr Akhir bin Ahmad (HQ/17/ASS/00/00019).

Previous chemical exposure monitoring (CEM) conducted: There is no CEM has been conducted previously.

Previous medical surveillance conducted: There is no medical surveillance has been conducted previously.

From the assessment conducted, there is potential to reduce risk by reducing exposure to chemical. This can be achieved by minimizing the chemical's handling period, amount of chemical released into air or amount of chemical contact with worker's body part. Other factors should also be considered such as bad work practice, poor personal hygiene and susceptible persons (such as pregnancy, allergy or asthma) working with chemical

7.0 Assessment Finding

7.1.0 Work Unit: Technical Assistant (Agriculture)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	PETRONAS Diesel Euro 5 (B7)	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	6	M2	No	AP-2
2.	PETRONAS Primax 95 Euro 4M	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	10	H2	No	AP-2
3.	Shell Spirax S2 G 140	Chemical is classified as non-hazardous	NA	NA	NA	NA

4.	Castrol Transmax Manual 90	Chemical is classified as non-hazardous	NA	NA	NA	NA
5.	PENNZOIL HYDRAULIC AW 68 GOLD	Chemical is classified as non-hazardous	NA	NA	NA	NA
6.	Shell Tellus S3 M 68	Chemical is classified as non-hazardous	NA	NA	NA	NA
7.	Shell Spirax S2 G 140	Chemical is classified as non-hazardous	NA	NA	NA	NA
8.	PENNZOIL GEAR PLUS SAE 90 EP; API GL-4	Skin irritation cat 2	NA	M2	Yes	AP-3
9.	Castrol High Temperature Grease	Serious eye irritation cat 2	NA	M2	No	AP-2
10.	Smoothcraft 6003	SDS not available	NA	NA	No	AP-1
11.	Allied lubricant hydraulic oil AWS 68	SDS not available	NA	NA	No	AP-1

Task descriptions: Technical assistant servicing and perform maintenance at workshop

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan

Personal Protective Equipment: Safety shoes, rubber palm glove, disposable face mask, wellington boots and safety helmet

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled.

7.2.0 Work Unit: Technical Assistant (CNC)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
2.	Shell Tonna S3 M 68	Chemical is classified as non-hazardous	NA	NA	NA	NA
3.	Ilocut EDM 401	Aspiration hazard cat 1	NA	NA	Yes	AP-3

Task descriptions: Technical assistant servicing and perform CNC activity at workshop

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: None

Personal Protective Equipment: N95 face mask, heat resistant glove, leather glove, latex glove, safety shoes and safety glass

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled.

7.3.0 Work Unit: Technical Assistant (Automotive)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	PETRONAS Diesel Euro 5 (B7)	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	6	M2	No	AP-2
2.	PETRONAS Primax 95 Euro 4M	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	10	H2	No	AP-2
3.	Castrol Multipurpose Grease	Chemical is classified as non-hazardous	NA	NA	NA	NA
4.	TOA ROADLINE PAINT NON-REFLEXIVE	Acute toxicity cat 4 (Oral) Acute toxicity cat 3 (Dermal)	8	H1	No	AP-2

	#703	Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1 Respiratory sensitization cat 1 Reproductive toxicity cat 2 STOT SE cat 2 STOT RE cat 2 Aspiration hazard cat 1				
5.	Nippon 9000 Gloss Finish Deep Base	Acute toxicity cat 4 (Inhalation) Aspiration hazard cat 1 Carcinogenicity cat 1B Germ cell mutagenicity cat 1B Respiratory sensitization cat 1 Reproductive toxicity cat 2 Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) Skin sensitization cat 1	8	H2	No	AP-2
6.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
7.	Hardex 4D Penetrant & Lubricant Spray 400ml	STOT SE cat 3 (Respiratory irritation)	6	NA	No	AP-2

8.	Petronas syntium 500 15W - 40	Chemical is classified as non-hazardous	NA	NA	NA	NA
9.	Castrol Battery Water	Chemical is classified as non-hazardous	NA	NA	NA	NA

Task descriptions: Technical assistant performs servicing, overhaul engine and chemical storage

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan

Personal Protective Equipment: Safety shoes, cotton glove, leather glove, safety glass and face shield

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.4.0 Work Unit: Technical Assistant (Highway)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
2.	Bitumen	Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	6	M2	Yes	AP-3
3.	Mineral turpentine	Aspiration hazard cat 1 Skin irritation cat 2 STOT SE cat 3 (Narcotic effect)	4	M2	Yes	AP-3
4.	Butane	Chemical is classified as non- hazardous	NA	NA	NA	NA
5.	Hitary 928 Poly Putty	Acute toxicity cat 4 (Oral) STOT SE cat 3 (Narcotic effect) STOT SE cat 3 (Respiratory irritation) Aspiration hazard cat 1	6	NA	Yes	AP-3
6.	Bosny 100% Acrylic spray paint	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation) Skin irritation cat 2	6	M2	Yes	AP-3

		Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)				
7.	RHEOLUBE 737	Reproductive toxicity cat 2	6	M2	Yes	AP-3
8.	Advance 4T Ultra 10W-40 (SN/MA2)	Chemical is classified as non- hazardous	NA	NA	NA	NA
9.	Magnesium sulfate 7 hydrate (HMbG)	SDS not available	NA	NA	No	AP-1
10.	sodium sulphate bendosen	SDS not available	NA	NA	No	AP-1

Task descriptions: Technical assistant use chemical for highway workshop activity

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan

Personal Protective Equipment: N95 face mask, safety glass, covered shoes, cotton glove, rubber palm glove and leather glove

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.5.0 Work Unit: Storekeeper

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	TOA ROADLINE PAINT NON-REFLEXITIVE #703	Acute toxicity cat 4 (Oral) Acute toxicity cat 3 (Dermal) Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1 Respiratory sensitization cat 1 Reproductive toxicity cat 2 STOT SE cat 2 STOT RE cat 2 Aspiration hazard cat 1	12	M1	No	AP-2
2.	Nippon 9000 Gloss Finish Deep Base	Acute toxicity cat 4 (Inhalation) Aspiration hazard cat 1 Carcinogenicity cat 1B Germ cell mutagenicity cat 1B Respiratory sensitization cat 1 Reproductive toxicity cat 2	12	H1	No	AP-2

		Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) Skin sensitization cat 1				
3.	DULUX WEATHERSHIELD MATT	Chemical is classified as non-hazardous	NA	NA	NA	NA
4.	Jotaplast Max	Skin sensitization cat 1	NA	L	Yes	AP-3
5.	HI-PON 40-04 EPOXY TOP COAT	Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1 Germ cell mutagenicity cat 1 Carcinogenicity cat 1	15	H1	No	AP-2
6.	VINILEX 5000	Chemical is classified as non-hazardous	NA	NA	NA	NA
7.	STANDARD THINNERS	Skin irritation cat 2 Serious eye damage cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2 Aspiration hazard cat 1	9	H1	No	AP-2

8.	PETRONAS Diesel Euro 5 (B7)	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	9	M1	No	AP-2
9.	PETRONAS Primax 95 Euro 4M	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	10	H1	No	AP-2
10.	SEAMASTER 6003/6006 HEAT RESISTANT ALUMINIUM PAINT 200°C/600°	SDS not available	NA	NA	No	AP-1
11.	CEMENT@Guard SANCORA	SDS not available	NA	NA	No	AP-1
12.	Seamaster Tora Protection	SDS not available	NA	NA	No	AP-1
13.	Thinner RODA	SDS not available	NA	NA	No	AP-1

14.	Nippon Easycoat	SDS not available	NA	NA	No	AP-1
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Task descriptions: Storekeeper stored and issued chemical when needed

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: None

Personal Protective Equipment: Cotton glove and safety shoes

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.6.0 Work Unit: Technical Assistant (Welding)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	Oxygen	Chemical is classified as non-hazardous	NA	NA	NA	NA
2.	Acetylene	Chemical is classified as non-hazardous	NA	NA	NA	NA
3.	Kobelco RB 26	Chemical is classified as non-hazardous	NA	NA	NA	NA
4.	Weldcote Nozzle Gel	Serious eye irritation cat 2 Carcinogenicity cat 2 Skin sensitization cat 1	9	M2	No	AP-2
5.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
6.	Welding fumes	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect)	9	M2	No	AP-2

Task descriptions: Technical assistant use chemical for welding activity

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan

Personal Protective Equipment: Leather glove, welding apron, welding shield, safety shoes and safety glass

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.7.0 Work Unit: Technical Assistant (Mechanical)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	Cutting fluid	STOT SE cat 3 (Narcotic effect)	4	NA	No	AP-2
2.	Multi-Purpose Grease	Chemical is classified as non-hazardous	NA	NA	NA	NA
3.	Repsol Vesta AW 100	Chemical is classified as non-hazardous	NA	NA	NA	NA
4.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
5.	Onnekas coolant CF 100	SDS not available	NA	NA	No	AP-1
6.	Metal dust	STOT SE cat 3	9	NA	No	AP-2

Task descriptions: Technical assistant use chemical during mechanical workshop

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan

Personal Protective Equipment: safety shoes and safety glass

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.8.0 Work Unit: Technical Assistant (Concrete)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	Castle Portland Composite Cement (PCC)	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	9	M2	No	AP-2
2.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
3.	RHEOLUBE 737	Reproductive toxicity cat 2	9	M2	No	AP-2
4.	Heavy Grease	Skin irritation cat 2	NA	M2	Yes	AP-3
5.	Powder detergent	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	9	M2	No	AP-2
6.	Hand wash	Chemical is classified is non-hazardous	NA	NA	NA	NA
7.	Dust from cement	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	9	M2	No	AP-2

Task descriptions: Technical assistant use chemical for concrete workshop activity

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan

Personal Protective Equipment: Disposable face mask, rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.9.0 Work Unit: Technical Assistant (Wood)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	WD-40 Aerosol	Aspiration hazard cat 1	NA	NA	Yes	AP-3
2.	Bosny 100% Acrylic spray paint	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)	9	M2	Yes	AP-3
3.	No.2 White, No.15 Vermillion, No.23 Deep Blue, No.24 Felt Green, No.30 Black, No.33 Red, No.37 Light Blue (page 1-9) No.4 Executive Grey, No.6 Royal Ivory, No.7 Sugar	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2	9	M2	Yes	AP-3

Cane, No.9 Leo Beige, No.10 Golden Honey, No.11 Surf Green, No.12 Yellow, No.13 Golden Yellow, No.14 Orange, No.16 Pale Grey, No.17 Orchid, No.18 Pink, No.20 Monsa Red, No.21 Blue, No.22 Crystal Blue, No.25 Dark Grey, No.26 Turquoise, No.27 Green, No.31 Apple Green, No.32 Avocado Green, No.35 Honda Grey, No.36 Chrome Yellow, No.38 Birch Grey, No.39 Pastel Grey, No.40 Sand Beige, No.41 Malacca Grey, No.42 Genting Dusk, No.60 Brown, No.61 Taxi					
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	Blue, No.62 Petronas Green, No.65 Mahogany, No.66 Light Scarlet, No.67 Grass Green, No.68 Green Lime (page 10- 17)					
4.	KTH GP THINNER 457	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation)	6	M2	Yes	AP-3
5.	TOA WOOD STIAN MATT #M99	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 3 (Inhalation) Serious eye irritation cat 2 Skin sensitization cat 1 Respiratory sensitization cat 1 Germ cell mutagenicity cat 1B Carcinogenicity cat 1B STOT SE cat 2 (Respiratory) STOT RE cat 2 Aspiration hazard cat 1	12	H2	Yes	AP-3
6.	DUNLOP GP	Acute toxicity cat 4 (Oral)	9	M2	Yes	AP-3

		Skin irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect) STOT RE cat 2 Aspiration hazard cat 1				
7.	COLOURLAND BIG TREE HIGH GLOSS (MY)	STOT SE cat 3 (Narcotic effect)	6	NA	Yes	AP-3
8.	Krystal Aerosol Paint	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect) STOT RE cat 2	9	M2	Yes	AP-3
9.	No.29 Flat Black, No.64 Flat White	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2	9	M2	Yes	AP-3

10.	GORI 88	Chemical is classified as non-hazardous	NA	NA	NA	NA
11.	Oscar Synthetic Compressor Oil 68	Acute toxicity cat 4 (Oral) STOT RE cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect)	9	M2	Yes	AP-3
12.	Nippon Super Gloss Enamel	Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1	NA	H1	Yes	AP-3
13.	STANDARD THINNERS	Skin irritation cat 2 Serious eye damage cat 1 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2 Aspiration hazard cat 1	9	H2	Yes	AP-3
14.	SGXX UNION WOOD STAIN	Carcinogenicity cat 1B Germ cell mutagenicity cat 1B STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect) Aspiration hazard cat 1	12	H2	Yes	AP-3
15.	TIMBERCOAT	Chemical is classified as non- hazardous	NA	NA	NA	NA

16.	Woodcare Interior Wood Stain	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)	6	M2	Yes	AP-3
17.	Nippon Paint Platone High Gloss	SDS not available	NA	NA	No	AP-1
18.	Durobond 820	SDS not available	NA	NA	No	AP-1
19.	Kimstone PSV	SDS not available	NA	NA	No	AP-1
20.	Seasmaster super glo plus	SDS not available	NA	NA	No	AP-1
21.	DIY Gelled stain	SDS not available	NA	NA	No	AP-1
22.	Amber finish nippon paint	SDS not available	NA	NA	No	AP-1
23.	Kimber O wood dye	SDS not available	NA	NA	No	AP-1
24.	Nippon timber finish	SDS not available	NA	NA	No	AP-1
25.	Seamaster protective coating	SDS not available	NA	NA	No	AP-1
26.	Sisson floor dressing	SDS not available	NA	NA	No	AP-1
27.	Wood Dust	Serious eye irritation cat 2 Skin irritation cat 2	20	H2	No	AP-1

		Carcinogenicity cat 1A				
		STOT – SE cat 3				

Task descriptions: Technical assistant use chemical for wood making activity

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Exhaust fan, industrial fan, dust collector

Personal Protective Equipment: 3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003, latex glove, safety shoes, leather apron, safety glass and face shield

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.10.0 Work Unit: Technical Assistant (Brick)

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	KAPUR	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	9	M2	No	AP-2
2.	Hardex 4D Penetrant & Lubricant Spray 400ml	STOT SE cat 3 (Respiratory irritation)	9	NA	No	AP-2
3.	Dust from brick	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	9	M2	No	AP-2

Task descriptions: Technical assistant use chemical for brick making activity

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Industrial fan

Personal Protective Equipment: N95 face mask, disposable face mask, cotton glove, latex glove, safety shoes, PVC apron

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

7.11.0 Work Unit: Laboratory Assistant

No	Name of Chemicals	Hazard Classification	Risk Rating (Inhalation)	Level of Risk (Dermal)	Overall adequacy of Technical Controls	Action Priority (AP)
1.	LOW RANGE AMMONIA REAGENT	Skin irritation cat 2 Serious eye irritation cat 2	NA	M2	Yes	AP-3
2.	High Range Ammonia Reagent	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3	9	M2	Yes	AP-3
3.	Bleaching agent (Sodium Hypochlorite Solution)	Acute toxicity cat 4 (Oral) Skin irritation cat 2 Serious eye irritation cat 2	NA	M2	Yes	AP-3
4.	PHOSPHATE BUFFER	Chemical is classified as non-hazardous	NA	NA	NA	NA
5.	NUTRIENT BUFFER	Chemical is classified as non-hazardous	NA	NA	NA	NA
6.	Calcium chloride	Serious eye irritation cat 2	NA	M2	Yes	AP-3
7.	Copper reagent	SDS not available	NA	NA	No	AP-1
8.	Zinc reagent	SDS not available	NA	NA	No	AP-1

Task descriptions: Laboratory assistant use chemical to test water quality

Existing Technical Controls (TC):

Isolation / enclosure: None

Ventilation: General ventilation

Engineering Control Equipment: Industrial fan

Personal Protective Equipment: 3M™ 8210 N95 Particulate Respirator, lab coat, plastic glove, face shield

Action Priority (AP):

AP 3: Low / Moderate / High Risk and adequately controlled.

AP 2: Low / Moderate Risk and inadequately controlled.

AP 1: High Risk and inadequately controlled

8.0 Recommendations

8.1 TECHNICAL CONTROL

8.1.1 Isolation & Enclosure

Isolation and enclosure of chemicals are essential practices in laboratory and industrial settings to ensure the safe handling and containment of hazardous substances. These practices help protect personnel, the environment, and the integrity of the chemicals being worked with. Maintain current practice.

8.1.2 Ventilation

A good ventilation system is essential in a chemical preparation area to ensure the safety of personnel and to maintain the integrity of the chemicals being handled.

Maintain current practice.

8.1.3 Engineering Control Equipment (USECHH Reg. 2000, Regulation 17 & 18)

Engineering control equipment refers to devices and systems designed to control or mitigate workplace hazards and improve safety and health conditions for workers. These controls are typically implemented to reduce or eliminate exposure to hazards in various industrial and occupational settings.

Engineering Control Equipment (ECE) is available at sites such as at Wood Workshop area consist of dust collectors. Recommended to conduct effectiveness testing of dust collector annually by Hygiene Technician II and monthly inspection by in-house technician. Record must be kept.

8.1.4 Personal Protective Equipment (PPE) (USECHH Reg. 2000, Regulation 15 (1) (h) & 16)

PPE refers to clothing, gear, or equipment that individuals wear or use to protect themselves from various hazards in the workplace, laboratory, or other environments. The use of PPE is essential to minimize the risk of injury or illness when working in situations where exposure to hazards cannot be eliminated.

PPE provided to workers are safety shoes, rubber palm glove, disposable face mask, wellington boots, safety helmet, N95 face mask, heat resistant glove, leather glove, latex glove, safety glass, cotton glove, face shield, covered shoes, rubber glove, PVC apron, 3M™ Particulate Respirator 9502+, 3M™ Organic Vapor/Acid Gas Cartridge 6003, leather apron, 3M™ 8210 N95 Particulate Respirator, laboratory coat, plastic glove

Technical Assistant (Agriculture): Recommend to replace disposable face mask with N95 face mask and to provide at least face shield or safety glass to staff when handling the chemicals.

Technical Assistant (Automotive): Recommend to provide N95 face mask to staff when handling the chemicals.

Storekeeper: Recommend to replace disposable face mask with N95 face mask and to provide at least face shield or safety glass to staff when handling the chemicals.

Technical Assistant (Welding) Recommend to provide N95 face mask to staff when handling the chemicals.

Technical Assistant (Mechanical) Recommend to provide N95 face mask to staff when handling the chemicals.

Technical Assistant (Concrete): Recommend to replace disposable face mask with N95 face mask and to provide at least face shield or safety glass to staff when handling the chemicals.

Technical Assistant (Brick): Recommend to provide at least face shield or safety glass to staff when handling the chemicals.

A written procedure on Personal Protective Equipment (PPE) should cover the following:

- Selection criteria of PPE when handle/ use different type of chemicals.
- Issuance, storage, inspection, maintenance, and training of PPE
- Requirements for protection of eye, face, body, hand, head and respiratory including the type and areas where it is required (PPE Matrix).

PPE issuance records are not available at the site. To generate PPE issuance record and keep in good condition.

8.2 ORGANISATIONAL CONTROL

8.2.1 Safe Work System / Practice (USECHH Reg. 2000, Regulation 23)

Safe Operating Procedure (SOP) for chemicals was established at workplace. Maintain the current practice.

8.2.2 Training, Instruction, and Information (Regulation 5 & 22 of USECHH Regulations 2000)

The chemical register is available on site. Maintain current practice and update periodically

Chemical warning signs are not displayed at the Mechanical Workshop (Agriculture), CNC Workshop, Automotive Workshop, Highway Workshop, Maintenance Store, Welding Workshop, Mechanical Workshop, Concrete Workshop, Wood Workshop, Water Quality Laboratory. Ensure warning sign available at the work area. Warning signs shall be given warning of the hazards, printed in dark red against white background and written in national language and English language. *Refer to Appendix*

Training programs such as chemical handling, usage, and maintenance of PPEs are not conducted. Ensure training on chemical safe use management and PPE are conducted every 2 years for workers. Records of training shall be kept.

SDS are not available at Automotive Workshop, Maintenance Store, Welding Workshop, Mechanical Workshop, Concrete Workshop, Brick Workshop, Water Quality Laboratory. Ensure SDS available at the workplace and SDS provided by supplier complied with CLASS Regulation 2013. SDS shall be in National Language and English, with validity of 5 years.

Chemical containers are not complied with CLASS Regulations 2013 at Mechanical Workshop (Agriculture), Highway Workshop, Maintenance Store, Mechanical Workshop. Ensure chemical received from supplier according to Occupational Safety and Health (CLASS) Regulations 2013.

8.2.3 Personal Hygiene

Workers are prohibited from drinking, eating and smoking inside workplace. Keep food and drinks away from chemical store/handling areas.

Toilet with hand washing facilities is available at workplace. To maintain the current hygiene facilities and to ensure employees have good practice of personal hygiene.

8.3 EMERGENCY RESPONSE PREPAREDNESS

An emergency response team was established with an emergency response plan especially on chemical spill. Maintain current practice and review regularly to counter emergency incident or accident effectively when happen.

A first aid kit is available at the work area. Maintain current practice.

Fire extinguishers are available. Drugs in any form of tablets was taken out from the first aid kit. To equip the first aid kit according to **Occupational Safety and Health Act (OSH Act) 1994 (Act 514) - Section 15(1)** – General duty of employer to ensure the safety, health and welfare of employees.

Emergency eyewash is not available at Automotive Workshop, Highway Workshop, Maintenance Store, Welding Workshop, Mechanical Workshop, Wood Workshop, Water Quality Laboratory. To provide emergency portable eyewash at workplace

Chemical spill kit not available at the Maintenance Store and Mechanical Workshop. To provide chemical spill kit at work area

Secondary containment for chemical not available at the Mechanical Workshop (Agriculture), CNC Workshop, Automotive Workshop, Highway Workshop, Maintenance Store, Mechanical Workshop, Wood Workshop, Water Quality Laboratory. Ensure secondary containment sufficient at the workplace

8.4 EXPOSURE MONITORING AND MEDICAL SURVEILLANCE

8.4.1 Monitoring of Air Contaminant (USECHH Reg. 2000, Regulation 26)

Any chemical exposure monitoring must be conducted by a Hygiene Technician I registered with DOSH with approved sampling method, such as NIOSH NMAM or equivalent.

Frequency of chemical exposure monitoring to base on level of exposure obtained as below:

Result of Exposure	Monitoring Frequency
$\geq$ PEL	Not more than 6 months once
$\geq 50\%$ PEL but $<$ PEL	Not more than 12 months once

There is no recommendation for chemical exposure monitoring due to the frequency of chemical use for technical officers, which is quite low, and chemical use depending on the process for each experiment.

8.4.2 Medical Surveillance (USECHH Reg. 2000, Regulation 27)

Medical surveillance is recommended when Chemical Exposure Monitoring result is above 50% PEL of any monitored chemicals or from workers feedback to chemical hazardous to health or causes of ill health. Medical surveillance, which may include biological monitoring is required for the employees who are exposed to the chemicals which are listed in Schedule II of USECHH Regulations 2000.

There is no recommendation for medical surveillance due to the Technical Assistant (TA) handling chemicals in a short period and no cases of ill health or worker feedback related to exposure to CHTH at the workplace.

8.4.3 Specific Action to be Taken.

These chemical SDS not available at site. Recommended to eliminate or substitute with other chemicals with proper documentation.

Work Unit	Name of chemical
Technical Assistant (Agriculture)	• Smoothcraft 6003 • Allied lubricant hydraulic oil AWS 68
Technical Assistant (Highway)	• Magnesium sulfate 7 hydrate (HMbG) • Sodium sulphate bendosen
Storekeeper	• SEAMASTER 6003/6006 HEAT RESISTANT ALUMINIUM PAINT

	• 200°C/600° • CEMENT@Guard SANCORA • Seamaster Tora Protection • Thinner RODA • Nippon Easycoat
Technical Assistant (Mechanical)	• Onnekas coolant CF 100
Technical Assistant (Wood)	• Nippon Paint Platone High Gloss • Durobond 820 • Kimstone PSV • Seamaster super glo plus • DIY Gelled stain • Amber finish Nippon Paint • Kimber O wood dye • Nippon timber finish • Seamaster protective coating • Sisson floor dressing
Laboratory Assistant	• Copper reagent • Zinc reagent

9.0 REASSESSMENT

9.1 Review of Assessment (USECHH Reg. 2000, Regulation 10)

Reassessment is to be carried out in any of the following condition:

- a) There has been a significant change in the work that could affect the outcome of the assessment;
- b) New or improved control measure are implemented where the assessor should be engaged to reassess the exposure and control on the affected work units;
- c) More than five years have elapsed since the last assessment; or
- d) Directed by the Director General, Deputy Director General, or the Director of DOSH.

Significant change in the work means changes that may affect the risk decisions, the adequacy of control measures or the conclusion of an assessment. This may include:

- Changes in the chemicals used or handled;
- Increasing or decreasing utilization of CHTH used;
- Changes in the method or rate of work;
- Deterioration in the efficiency of control equipment;
- Plant failure or process failure; or
- New information on the hazard of the chemical becomes available.

10.0 CONTROL OF RECORD

10.1 Record Keeping (USECHH Reg. 2000, Regulation 13)

For the purpose of this assessment, the following records should be maintained by the employer.

Records	Retention Period
CHRA reports	30 years
Records of design and construction of engineering control equipment	Lifetime of usage
Personal exposure monitoring report by the hygiene technician	30 years
Area monitoring reports	5 years
Medical surveillance programmes	30 years
Training programmes	Defined by employer
Records of monthly inspection of engineering control equipment	5 years from the date it was made
Engineering control equipment examination report by the hygiene technician	5 years from the date it was made
PPE programme	2 years
Chemical register	Updated list

11.0 CONCLUSION

The Chemical Health Risk Assessment has been successfully conducted at site. This assessment has identified significant health risks arising from the use and exposure to chemicals hazardous to health.

Numerous control measures have been implemented at the workplace to eliminate or minimize the health risks of workers to hazardous chemicals. However, this assessment also found that there is still room to further improve the management of health risks arising from use and exposure to chemicals in the workplace.

The company shall take appropriate action based on the recommendations of this report as per required by the Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations 2000 and other relevant legislations. It is advised to make an action plan with a timeline for all the recommendations stated in this report.

REFERENCES

- a) Occupational Safety and Health Act, 1994
- b) Occupational Safety and Health (Use and Standards of Exposure of Chemicals Hazardous to Health) Regulations, 2000
- c) Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013
- d) A Manual of Recommended Practice on Assessment of the Health Risks Arising from the Use of Chemicals Hazardous to Health at the Workplace (3rd Edition) by DOSH Malaysia, 2017
- e) A Guide for Writing a Chemical Health Risk Assessment Report by DOSH Malaysia, 2005
- f) Guidelines For The Classification Of Hazardous Chemicals by DOSH Malaysia, 1997
- g) Guidelines on the Control of Chemicals Hazardous To Health by DOSH Malaysia, 2001
- h) Guidelines on the Use of PPE against Chemical Hazards by DOSH Malaysia, 2005
- i) Guidelines on Medical Surveillance by DOSH Malaysia, 2001
- j) Internet:
 - i. Agency for Toxic Substances and Disease Registry by USA Department of Health and Human Services; <http://www.atsdr.cdc.gov/>
 - ii. Personal Protective Equipments by USA Department of Labor; <http://www.osha.gov/>
 - iii. NIOSH Pocket Guide to Chemical Hazards by USA Centers for Disease Control and Prevention; <http://www.cdc.gov/niosh/npg/>
 - iv. Sigma-Aldrich; <http://www.sigmaaldrich.com/>
 - v. Chemical Book; <http://www.chemicalbook.com/>

**12.1.1 WORK AREA: Mechanical
Workshop (Agriculture)**

**WORK UNIT: Technical Assistant
(Agriculture)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Agriculture)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Mechanical Workshop (Agriculture)		4. Number of Employee	Male:	1	Female: 0
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such safety shoes, rubber palm glove, disposable face mask, wellington boots and safety helmet are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Agriculture)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	PETRONAS Diesel Euro 5 (B7)	Diesel [68334-30-5] $\geq 90 - \leq 100\%$	Liquid	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	H332 H315 H351 H373 H304	SDS	3	Y	Y
2.	PETRONAS Primax 95 Euro 4M	Reformate [68955-35-1] $\geq 50 - < 70\%$ Light Naphtha [64742-89-8] $\geq 25 - < 30\%$ MTBE [1634-04-4] $\geq 10 - < 20\%$ Isomerate [64741-70-4] $\geq 10 - < 20\%$ Iso-pentane [78-78-4] $\geq 10 - < 20\%$ Pyrolysis gasoline [68606-10-0] $\geq 5 - < 10\%$ Benzene [71-43-2] $\leq 3.5\%$	Liquid	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	H315 H340 H350 H361fd H336 H373 H304	SDS	5	Y	Y
3.	Shell Spirax S2 G 140	Interchangeable low viscosity base oil (< 20.5 cSt @40°C) 0–90% Alkyl polysulphide $< 3\%$ Dialkyl polysulphide [68937-96-2] $< 3.3\%$	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
4.	Castrol Transmax Manual 90	Distillates (petroleum), hydrotreated heavy paraffinic [64742-54-7] $\geq 30 - \leq 60\%$ Residual oils (petroleum), solvent-dewaxed [64742-62-7] $\geq 10 - \leq 30\%$	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N

		Residual oils (petroleum), hydrotreated [64742-57-0] $\geq 10 - \leq 30\%$ 1-Propene, 2-methyl-, sulfurized [68511-50-2] $\leq 3\%$ Amines, C12-14-alkyl, isooctyl phosphates [68187-67-7] $< 1\%$							
5.	PENNZOIL HYDRAULIC AW 68 GOLD	Highly refined petroleum oil [64742-70-7] $> 90\%$ Zinc dialkyl dithiophosphate [68649-42-3] $< 10\%$	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
6.	Shell Tellus S3 M 68	Interchangeable low viscosity base oil (< 20.5 cSt @40°C) 0–99%	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
7.	Shell Spirax S2 G 140	Interchangeable low viscosity base oil (< 20.5 cSt @40°C) 0–90% Alkyl polysulphide $< 3\%$ Dialkyl polysulphide [68937-96-2] $< 3.3\%$	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
8.	PENNZOIL GEAR PLUS SAE 90 EP; API GL-4	Highly Refined Petroleum Oil [64742-70-7] $> 90\%$ Long-Chain Alkyl Amine [61791-14-8] $< 10\%$	Liquid	Skin irritation cat 2	H315	SDS	NA	Y	N
9.	Castrol High Temperature Grease	Distillates (petroleum), solvent-refined light paraffinic [64741-89-5] $\geq 30 - \leq 60\%$ Residual oils (petroleum), hydrotreated [64742-57-0] $\geq 30 - \leq 60\%$ Zinc alkyl dithiophosphate [68649-42-3] $< 2.5\%$ Phosphoric acid esters, amine salt [91745-46-9] $< 1\%$	Grease	Serious eye irritation cat 2	H319	SDS	NA	Y	N
10.	Smoothcraft 6003	Not available	NA	SDS not available	NA	NA	NA	N	N

11.	Allied lubricant hydraulic oil AWS 68	Not available	NA	SDS not available	NA	NA	NA	N	N
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Table B2: Chemicals Released by the Processes or Work Activities

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C1: Inhalation Exposure Assessment

Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant servicing and perform maintenance at workshop	PETRONAS Diesel Euro 5 (B7)	3	2	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating
Technical assistant servicing and perform maintenance at workshop	PETRONAS Primax 95 Euro 4M	3	2	2	None	Low	Moderate	2	2	5	RR= 10 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant servicing and perform maintenance at workshop	PETRONAS Diesel Euro 5 (B7)	Irritation (H315) Skin absorption and other properties (H351, H373)	Large		✓	M2
Technical assistant servicing and perform maintenance at workshop	PETRONAS Primax 95 Euro 4M	Irritation (H315) Skin absorption and other properties (H340, H350, H361fd, H373)	Large		✓	H2
Technical assistant servicing and perform maintenance at workshop	PENNZOIL GEAR PLUS SAE 90 EP; API GL-4	Irritation (H315)	Large		✓	M2
Technical assistant servicing and perform maintenance at workshop	Castrol High Temperature Grease	Irritation (H319)	Large		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant servicing and perform maintenance at workshop	PETRONAS Diesel Euro 5 (B7)	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	safety shoes, rubber palm glove, wellington boots and safety helmet	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Technical assistant servicing and perform maintenance at workshop	PETRONAS Primax 95 Euro 4M	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	safety shoes, rubber palm glove, wellington boots and safety helmet	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2

Technical assistant servicing and perform maintenance at workshop	PENNZOIL GEAR PLUS SAE 90 EP; API GL-4	Skin	NA	NA	NA	NA	safety shoes, rubber palm glove, wellington boots and safety helmet	Y	Y	Maintain current practice	3
Technical assistant servicing and perform maintenance at workshop	Castrol High Temperature Grease	Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Technical assistant servicing and perform maintenance at workshop	Smoothcraft 6003	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant servicing and perform maintenance at workshop	Allied lubricant hydraulic oil AWS 68	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are available at the workplace. - Label of chemical containers not comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y Y N N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Maintain the current practice - Ensure chemical container comply with OSH (CLASS) Reg. 2013. - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash available at workplace	Y	- Maintain the current practice
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

12.1.2 WORK AREA: CNC Workshop

WORK UNIT: Technical Assistant (CNC)

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (CNC)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	CNC Workshop		4. Number of Employee	Male:	1	Female: 0
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such N95 face mask, heat resistant glove, leather glove, latex glove, safety shoes and safety glass are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (CNC) **DATE OF ASSESSMENT: 16/04/2025- 17/04/2025**

WORK UNIT: Technical Assistant (CNC) **DATE OF ASSESSMENT: 16/04/2025- 17/04/2025**

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
2.	Shell Tonna S3 M 68	Interchangeable low viscosity base oil (<20.5 cSt @40°C) 0–90%	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
3.	Ilocut EDM 401	Highly refined base oil (C15–C20, n-alkanes, isoalkanes, cyclics, <0.03% aromatics) 100%	Liquid	Aspiration hazard cat 1	H304	SDS	NA	N	Y

Table B2: Chemicals Released by the Processes or Work Activities

[illegible]

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Legend

FR= Frequency Rating

DR= Duration Rating

FDR= Frequency-Duration Rating

RR= Risk Rating

MR= Magnitude rating

ER= Exposure Rating

HR= Hazard Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
NA	NA	NA	NA	NA	NA	NA

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR \leq 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y Y Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Maintain the current practice - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

12.1.3 WORK AREA: Automotive Workshop

**WORK UNIT: Technical Assistant
(Automotive)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Automotive)	2. Date of Assessment	16/04/2025- 17/04/2025			
3. Work Area	Automotive Workshop	4. Number of Employee	Male:	1	Female:	1
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks		9. Possibility of Abnormal Exposures				
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.		There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.				
7. Report on Health Effects		10. Possibility of Mixed Exposures				
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.		Mixed exposure is unlikely to occur.				
8. Susceptible conditions related to chemical(s) in use		11. Possibility of ingestion				
There is no susceptible condition related to chemical used.		Ingestion is unlikely as implementation of good personal hygiene in the work place.				
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such safety shoes, cotton glove, leather glove, safety glass and face shield are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Automotive)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	PETRONAS Diesel Euro 5 (B7)	Diesel [68334-30-5] $\geq 90 - \leq 100\%$	Liquid	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	H332 H315 H351 H373 H304	SDS	3	Y	Y
2.	PETRONAS Primax 95 Euro 4M	Reformate [68955-35-1] $\geq 50 - < 70\%$ Light Naphtha [64742-89-8] $\geq 25 - < 30\%$ MTBE [1634-04-4] $\geq 10 - < 20\%$ Isomerate [64741-70-4] $\geq 10 - < 20\%$ Iso-pentane [78-78-4] $\geq 10 - < 20\%$ Pyrolysis gasoline [68606-10-0] $\geq 5 - < 10\%$ Benzene [71-43-2] $\leq 3.5\%$	Liquid	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	H315 H340 H350 H361fd H336 H373 H304	SDS	5	Y	Y
3.	Castrol Multipurpose Grease	n-Phenyl-1-naphthylamine [] $< 1\%$ Hydroxyalkyl carboxylic acid [90-30-2] $\leq 0.3\%$	Grease	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
4.	TOA ROADLINE PAINT NON-REFLECTIVE #703	Calcium Carbonate [1317-65-3] 29.3–30.8% Toluene [108-88-3] 27.3–28.7% Pigment Yellow 34 [12656-85-8] 13.7–14.4% Acrylic Resin [203-625-9] 8.5–8.9% Chlorinated rubber [203-625-9] 6.4–6.8%	Liquid	Acute toxicity cat 4 (Oral) Acute toxicity cat 3 (Dermal) Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1	H302 H311 H315 H319 H317	SDS	4	Y	Y

		Xylene [1330-20-7] 5.4% Chlorinated paraffin [085535-85-9] 2.0% Bentonite [108-88-3] 2.0% Polyolefin wax [1330-20-7] 1.4% Naphtha (petroleum) [64742-48-9] 1.0% Polyamide wax [1330-20-7] 0.8%		Respiratory sensitization cat 1 Reproductive toxicity cat 2 STOT SE cat 2 STOT RE cat 2 Aspiration hazard cat 1	H334 H361fd H371 H373 H304				
5.	Nippon 9000 Gloss Finish Deep Base	Butyl carbitol [112-34-5] 0.08-0.17% Calcium 3,5,5-Trimethylhexanoate[64216-15-5] 0.17-0.41% Turpentine oil [8006-64-2] 0.66-0.83% Cobalt carboxylate [136-52-7] 0.11-0.17% 2- butanone oxime [96-29-7] 0.40-0.40% Naphtha (petroleum), hydrotreated heavy [64742-48-9] 0.25-0.40% Zirconium carboxylate [22464-99-9] 0.50-0.75% Dioctyl sodium sulfosuccinate [577-11-7] 0.2-0.4% 1,2,4- Trimethyl benzene [95-63-6] 0.27-3.1% 1,3,5- trimethyl benzene [108-67-8] 0.07-1.01% Ethyl benzene [100-41-4] 0-0.81% White spirit, naphtha [64742-82-1] 6.74-40.46%\nXylene, mixed isomer [1330-20-7] 6.74%	Liquid	Acute toxicity cat 4 (Inhalation) Aspiration hazard cat 1 Carcinogenicity cat 1B Germ cell mutagenicity cat 1B Respiratory sensitization cat 1 Reproductive toxicity cat 2 Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) Skin sensitization cat 1	H332 H304 H350 H340 H334 H361fd H315 H319 H335 H317	SDS	4	Y	Y
6.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Diesel Euro 5 (B7)	3	2	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Primax 95 Euro 4M	3	2	2	None	Low	Moderate	2	2	5	RR= 10 Moderate risk rating
Technical assistant performs servicing, overhaul engine and chemical storage	TOA ROADLINE PAINT NON-REFLECTIVE #703	3	2	2	None	Low	Moderate	2	2	4	RR= 8 Moderate risk rating
Technical assistant performs servicing, overhaul engine and chemical storage	Nippon 9000 Gloss Finish Deep Base	3	2	2	None	Low	Moderate	2	2	4	RR= 8 Moderate risk rating
Technical assistant performs servicing, overhaul engine and chemical storage	Hardex 4D Penetrant & Lubricant Spray 400ml	3	2	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Diesel Euro 5 (B7)	Irritation (H315) Skin absorption and other properties (H351, H373)	Large		✓	M2
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Primax 95 Euro 4M	Irritation (H315) Skin absorption and other properties (H340, H350, H361fd, H373)	Large		✓	H2
Technical assistant performs servicing, overhaul engine and chemical storage	TOA ROADLINE PAINT NON-REFLECTIVE #703	Acute toxicity (H311) Irritation (H315, H319) Sensitization (H317) Skin absorption and other properties (H361fd, H371, H373)	Large		✓	H1
Technical assistant performs servicing, overhaul engine and chemical storage	Nippon 9000 Gloss Finish Deep Base	Irritation (H315, H319) Skin absorption and other properties (H340, H350, H361fd) Sensitization (H317)	Large		✓	H2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Diesel Euro 5 (B7)	Inh	None	Y	GV, exhaust fan	Y	None	N	N	To provide N95 face mask to the worker	2
		Skin	NA	NA	NA	NA	safety shoes, cotton glove, leather glove and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant performs servicing, overhaul engine and chemical storage	PETRONAS Primax 95 Euro 4M	Inh	None	Y	GV, exhaust fan	Y	None	N	N	To provide N95 face mask to the worker	2
		Skin	NA	NA	NA	NA	safety shoes, cotton glove, leather glove and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant performs servicing, overhaul engine and chemical storage	TOA ROADLINE PAINT NON-REFLEXITIVE #703	Inh	None	Y	GV, exhaust fan	Y	None	N	N	To provide N95 face mask to the worker	2
		Skin	NA	NA	NA	NA	safety shoes, cotton glove, leather glove and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3

Technical assistant performs servicing, overhaul engine and chemical storage	Nippon 9000 Gloss Finish Deep Base	Inh	None	Y	GV, exhaust fan	Y	None	N	N	To provide N95 face mask to the worker	2
		Skin	NA	NA	NA	NA	safety shoes, cotton glove, leather glove and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant performs servicing, overhaul engine and chemical storage	Hardex 4D Penetrant & Lubricant Spray 400ml	Inh	None	Y	GV, exhaust fan	Y	None	N	N	To provide N95 face mask to the worker	2
		Skin	NA	NA	NA	NA	safety shoes, cotton glove, leather glove and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y N Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

**12.1.4 WORK AREA: Highway
Workshop**

**WORK UNIT: Technical Assistant
(Highway)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Highway)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Highway Workshop		4. Number of Employee	Male:	1	Female: 0
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such N95 face mask, safety glass, covered shoes, cotton glove, rubber palm glove and leather glove are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Highway)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
2.	Bitumen	Bitumen [8052-42-4] 100%	Solid	Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	H319 H335	SDS	3	Y	N
3.	Mineral turpentine	Benzene, 1,2,4-trimethyl [95-63-6] <10% Benzene 1,3,5- trimethyl [108-67-8] <10% Naphtha , petroleum , hydrosulfurized heavy [64742-82-1] 30-60% Solvent naphtha, petroleum , light aromatic [64742-95-6] 10-30% Xylene [1330-20-7] <10%	Liquid	Aspiration hazard cat 1 Skin irritation cat 2 STOT SE cat 3 (Narcotic effect)	H304 H315 H336	SDS	2	Y	Y
4.	Butane	Butane [106-97-8] ≤100%	Gas	Chemical is classified as non- hazardous	NA	SDS	NA	N	N
5.	Hitary 928 Poly Putty	Not available	Paste	Acute toxicity cat 4 (Oral) STOT SE cat 3 (Narcotic effect) STOT SE cat 3 (Respiratory irritation)	H302 H336 H335	SDS	3	Y	Y

				Aspiration hazard cat 1	H304				
6.	Bosny 100% Acrylic spray paint	Acetone [67-64-1] 20-30% Xylene [1330-20-7] 5-10% n- butyl acetate [123-86-4] 5-10% Ethyl acetate [141-78-6] 5-10% 2- Butoxyethanol [111-76-2] 5-10% Propane [74-98-6] 10-15% Butane [106-97-8] 10-15%	Aerosol	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)	H302 H312 H332 H315 H319 H336	SDS	3	Y	Y
7.	RHEOLUBE 737	1-Decene, homopolymer, hydrogenated [68037-01-4] 40–<50% 1-Dodecene polymer with 1-Decene, hydrogenated [151006-60-9] 40–<50% Quartz [14808-60-7] 1–<3% Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene [68411-46-1] <1% Other components below reportable levels 10–<20%	Solid	Reproductive toxicity cat 2	H361fd	SDS	3	N	N
8.	Advance 4T Ultra 10W-40 (SN/MA2)	Interchangeable low viscosity base oil (<20.5 cSt @40°C) [Not Assigned] 0–90% Alkaryl amine [36878-20-3] 1–3% Alkylphenol [121158-58-5] 0.1–0.29%	Liquid	Chemical is classified as non- hazardous	NA	SDS	NA	N	N
9.	Magnesium sulfate 7 hydrate (HMBG)	Not available	NA	SDS not available	NA	NA	NA	N	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical for highway workshop activity	Bitumen	4	1	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating
Technical assistant use chemical for highway workshop activity	Mineral turpentine	4	1	2	None	Low	Moderate	2	2	2	RR= 4 Moderate risk rating
Technical assistant use chemical for highway workshop activity	Hitary 928 Poly Putty	4	1	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating
Technical assistant use chemical for highway workshop activity	Bosny 100% Acrylic spray paint	4	1	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating
Technical assistant use chemical for highway workshop activity	RHEOLUBE 737	4	1	2	None	Low	Moderate	2	2	3	RR= 6 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant use chemical for highway workshop activity	Bitumen	Irritation (H319)	Large		✓	M2
Technical assistant use chemical for highway workshop activity	Mineral turpentine	Irritation (H315)	Large		✓	M2
Technical assistant use chemical for highway workshop activity	Bosny 100% Acrylic spray paint	Acute toxicity (H312) Irritation (H315, H319)	Large		✓	M2
Technical assistant use chemical for highway workshop activity	RHEOLUBE 737	Skin absorption and other properties (H361fd)	Large		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical for highway workshop activity	Bitumen	Inh	None	Y	GV, exhaust fan, industrial fan	Y	N95 face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Covered shoes, cotton glove, rubber palm glove and leather glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for highway workshop activity	Mineral turpentine	Inh	None	Y	GV, exhaust fan, industrial fan	Y	N95 face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Covered shoes, cotton glove, rubber palm glove and leather glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for highway workshop activity	Hitary 928 Poly Putty	Inh	None	Y	GV, exhaust fan, industrial fan	Y	N95 face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Covered shoes, cotton glove, rubber palm glove and leather glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3

Technical assistant use chemical for highway workshop activity	Bosny 100% Acrylic spray paint	Inh	None	Y	GV, exhaust fan, industrial fan	Y	N95 face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Covered shoes, cotton glove, rubber palm glove and leather glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for highway workshop activity	RHEOLUBE 737	Inh	None	Y	GV, exhaust fan, industrial fan	Y	N95 face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Covered shoes, cotton glove, rubber palm glove and leather glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for highway workshop activity	Magnesium sulfate 7 hydrate (HMBG)	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for highway workshop activity	sodium sulphate bendosen	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are available at the workplace. - Label of chemical containers not comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y Y N N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Maintain the current practice - Ensure chemical container comply with OSH (CLASS) Reg. 2013. - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

12.1.5 WORK AREA: Maintenance Store
WORK UNIT: Storekeeper

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Storekeeper		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Maintenance Store		4. Number of Employee	Male:	6	Female: 5
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒					
	9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such cotton glove and safety shoes are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Storekeeper

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	TOA ROADLINE PAINT NON-REFLEXIVE #703	Calcium Carbonate [1317-65-3] 29.3–30.8% Toluene [108-88-3] 27.3–28.7% Pigment Yellow 34 [12656-85-8] 13.7–14.4% Acrylic Resin [203-625-9] 8.5–8.9% Chlorinated rubber [203-625-9] 6.4–6.8% Xylene [1330-20-7] 5.4% Chlorinated paraffin [085535-85-9] 2.0% Bentonite [108-88-3] 2.0% Polyolefin wax [1330-20-7] 1.4% Naphtha (petroleum) [64742-48-9] 1.0% Polyamide wax [1330-20-7] 0.8%	Liquid	Acute toxicity cat 4 (Oral) Acute toxicity cat 3 (Dermal) Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1 Respiratory sensitization cat 1 Reproductive toxicity cat 2 STOT SE cat 2 STOT RE cat 2 Aspiration hazard cat 1	H302 H311 H315 H319 H317 H334 H361fd H371 H373 H304	SDS	4	Y	Y
2.	Nippon 9000 Gloss Finish Deep Base	Butyl carbitol [112-34-5] 0.08-0.17% Calcium 3,5,5-Trimethylhexanoate[64216-15-5] 0.17-0.41% Turpentine oil [8006-64-2] 0.66-0.83% Cobalt carboxylate [136-52-7] 0.11-0.17% 2- butanone oxime [96-29-7] 0.40-0.40% Naphtha (petroleum), hydrotreated heavy [64742-48-9] 0.25-0.40% Zirconium carboxylate [22464-99-9] 0.50-0.75%	Liquid	Acute toxicity cat 4 (Inhalation) Aspiration hazard cat 1 Carcinogenicity cat 1B Germ cell mutagenicity cat 1B Respiratory sensitization cat 1 Reproductive toxicity cat 2 Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) Skin sensitization cat 1	H332 H304 H350 H340 H334 H361fd H315 H319 H335	SDS	4	Y	Y

		Diocetyl sodium sulfosuccinate [577-11-7] 0.2-0.4% 1,2,4- Trimethyl benzene [95-63-6] 0.27-3.1% 1,3,5- trimethyl benzene [108-67-8] 0.07-1.01% Ethyl benzene [100-41-4] 0-0.81% White spirit, naphtha [64742-82-1] 6.74-40.46%\n Xylene, mixed isomer [1330-20-7] 6.74%			H317				
3.	DULUX WEATHERSHIELD MATT	1-Isopropyl-2,2-dimethyltrimethylene diisobutyrate [6846-50-0] 1-<2.5% IPBC [55406-53-6] 0-<1% Terbutryn [886-50-0] 0-<1%	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
4.	Jotaplast Max	Reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-2H-isothiazol-3-one (3:1) [55965-84-9] 0-1%	Liquid	Skin sensitization cat 1	H317	SDS	NA	Y	N
5.	HI-PON 40-04 EPOXY TOP COAT	Bisphenol-A type solid epoxy resin [25036-25-3] 19-42% Xylene [1330-20-7] 7-16% Diacetone alcohol [123-42-2] 4-10% 2-Butoxyethanol [111-76-2] 4-10%	Liquid	Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1 Germ cell mutagenicity cat 1 Carcinogenicity cat 1	H315 H319 H317 H340 H350	SDS	5	Y	Y
6.	VINILEX 5000	Not available	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
7.	STANDARD THINNERS	Toluene [108-88-3] 10-<30% Propan-1-ol [71-23-8] 5-<10% Methyl acetate [79-20-9] 5-<10% Butan-2-ol [78-92-2] 5-<10% Isopropanol (IPA) [67-63-0] 5-<10% Ethanol [64-17-5] 5-<10% n-Hexane [110-54-3] 5-<10%	Liquid	Skin irritation cat 2 Serious eye damage cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2	H315 H318 H361fd H336 H373	SDS	3	Y	Y

		Cyclohexane [110-82-7] 5-<10% Heptane [142-82-5] 5-<10% Ethylbenzene [100-41-4] 5-<10% Xylene [1330-20-7] 5-<10% n-Butyl acetate [123-86-4] 2-<3% Propyl acetate [109-60-4] 2-<3% Ethyl acetate [141-78-6] 2-<3% Butanone (MEK) [78-93-3] 2-<3% Acetone [67-64-1] 2-<3% n-Butanol [71-36-3] 2-<3% Isobutyl methyl ketone (MIBK) [108-10-1] 2-<3% Methanol [67-56-1] 2-<3% Tetrahydrofuran (THF) [109-99-9] 0.5-<1%		Aspiration hazard cat 1	H304				
8.	PETRONAS Diesel Euro 5 (B7)	Diesel [68334-30-5] $\geq 90 - \leq 100\%$	Liquid	Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Carcinogenicity cat 2 STOT RE cat 2 Aspiration hazard cat 1	H332 H315 H351 H373 H304	SDS	3	Y	Y
9.	PETRONAS Primax 95 Euro 4M	Reformate [68955-35-1] $\geq 50 - < 70\%$ Light Naphtha [64742-89-8] $\geq 25 - < 30\%$ MTBE [1634-04-4] $\geq 10 - < 20\%$ Isomerate [64741-70-4] $\geq 10 - < 20\%$ Iso-pentane [78-78-4] $\geq 10 - < 20\%$ Pyrolysis gasoline [68606-10-0] $\geq 5 - < 10\%$ Benzene [71-43-2] $\leq 3.5\%$	Liquid	Skin irritation cat 2 Germ cell mutagenicity cat 1B Carcinogenicity cat 1A Reproductive toxicity cat 2 STOT SE cat 3 (CNS) STOT RE cat 2 Aspiration hazard cat 1	H315 H340 H350 H361fd H336 H373 H304	SDS	5	Y	Y
10.	SEAMASTER 6003/6006 HEAT RESISTANT ALUMINIUM PAINT 200°C/600°	Not available	NA	SDS not available	NA	NA	NA	N	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Storekeeper stored and issued chemical when needed	TOA ROADLINE PAINT NON-REFLECTIVE #703	3	2	3	None	Low	Moderate	2	3	4	RR= 12 Moderate risk rating
Storekeeper stored and issued chemical when needed	Nippon 9000 Gloss Finish Deep Base	3	2	3	None	Low	Moderate	2	3	4	RR= 12 Moderate risk rating
Storekeeper stored and issued chemical when needed	HI-PON 40-04 EPOXY TOP COAT	3	2	3	None	Low	Moderate	2	3	5	RR= 15 High risk rating
Storekeeper stored and issued chemical when needed	STANDARD THINNERS	3	2	3	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Storekeeper stored and issued chemical when needed	PETRONAS Diesel Euro 5 (B7)	4	1	2	None	Low	Low	1	2	3	RR= 6 Moderate risk rating
Storekeeper stored and issued chemical when needed	PETRONAS Primax 95 Euro 4M	4	1	2	None	Low	Low	1	2	5	RR= 10 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Storekeeper stored and issued chemical when needed	TOA ROADLINE PAINT NON-REFLECTIVE #703	Acute toxicity (H311) Irritation (H315, H319) Sensitization (H317) Skin absorption and other properties (H361fd, H371, H373)	Small	✓		M1
Storekeeper stored and issued chemical when needed	Nippon 9000 Gloss Finish Deep Base	Irritation (H315, H319) Skin absorption and other properties (H361fd, H350, H340) Sensitization (H317)	Small	✓		H1
Storekeeper stored and issued chemical when needed	Jotaplast Max	Sensitization (H317)	Small	✓		L
Storekeeper stored and issued chemical when needed	HI-PON 40-04 EPOXY TOP COAT	Sensitization (H317) Irritation (H315, H319) Sensitization (H317) Skin absorption and other properties (H350, H340)	Small	✓		H1
Storekeeper stored and issued chemical when needed	STANDARD THINNERS	Irritation (H315) Corrosion (H318) Skin absorption and other properties (H361fd,H373)	Small	✓		H1

Storekeeper stored and issued chemical when needed	PETRONAS Diesel Euro 5 (B7)	Irritation (H315) Skin absorption and other properties (H351, H373)	Small	✓		M1
Storekeeper stored and issued chemical when needed	PETRONAS Primax 95 Euro 4M	Irritation (H315) Skin absorption and other properties (H340, H350, H361fd, H373)	Small	✓		H1

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Storekeeper stored and issued chemical when needed	TOA ROADLINE PAINT NON-REFLEXTIVE #703	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Storekeeper stored and issued chemical when needed	Nippon 9000 Gloss Finish Deep Base	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Storekeeper stored and issued chemical when needed	Jotaplast Max	Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
Storekeeper stored and issued chemical	HI-PON 40-04 EPOXY TOP COAT	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2

when needed		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Storekeeper stored and issued chemical when needed	STANDARD THINNERS	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Storekeeper stored and issued chemical when needed	PETRONAS Diesel Euro 5 (B7)	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Storekeeper stored and issued chemical when needed	PETRONAS Primax 95 Euro 4M	Inh	None	Y	GV	Y	None	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Cotton glove & safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or	2

										safety glass to the worker	
Storekeeper stored and issued chemical when needed	SEAMASTER 6003/6006 HEAT RESISTANT ALUMINIUM PAINT 200°C/600°	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Storekeeper stored and issued chemical when needed	CEMENT@Guard SANCORA	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Storekeeper stored and issued chemical when needed	Seamaster Tora Protection	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Storekeeper stored and issued chemical when needed	Thinner RODA	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Storekeeper stored and issued chemical when needed	Nippon Easycoat	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR \leq 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y N Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit not available at workplace	N	- To provide chemical spill kit at the workplace

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

**12.1.6 WORK AREA: Welding
Workshop**

**WORK UNIT: Technical Assistant
(Welding)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Welding)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Welding Workshop		4. Number of Employee	Male:	3	Female: 0
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such leather glove, welding apron, welding shield, safety shoes and safety glass are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Welding)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	Oxygen	Oxygen [7782-44-7] 100%	Gas	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
2.	Acetylene	Acetylene [74-86-2] 100%	Gas	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
3.	Kobelco RB 26	Iron [7439-89-6] Balance Titanium dioxide [13463-67-7] 8–18% Silicon dioxide [14808-60-7] <8% Manganese [7439-96-5] <3% Calcium carbonate [471-34-1] <3% Potassium oxide [12136-45-7] <3% Starch [9005-25-8] <3% Aluminium oxide [1344-28-1] <3% Sodium oxide [1313-59-3] <1% Wood powder [] <1% Ferric oxide [1309-37-1] <1% Zirconium oxide [1314-23-4] <1% Carbon [7440-44-0] <1% Ferrous oxide [1345-25-1] <1% Guar Gum [9000-30-0] <1%	Solid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
4.	Weldcote Nozzle Gel	Dihydroxy, anthracenedione, phenyl amino [C15H12N2O3] 0.01–1.00% Petrolatum [Cu 3/8/8009] 99–99.9%	Gel	Serious eye irritation cat 2 Carcinogenicity cat 2 Skin sensitization cat 1	H319 H351 H317	SDS	3	Y	N

5.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
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Table B2: Chemicals Released by the Processes or Work Activities									
No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	Welding fumes	Iron [7439-89-6] Balance Titanium dioxide [13463-67-7] 8–18% Silicon dioxide [14808-60-7] <8% Manganese [7439-96-5] <3% Calcium carbonate [471-34-1] <3% Potassium oxide [12136-45-7] <3% Starch [9005-25-8] <3% Aluminium oxide [1344-28-1] <3% Sodium oxide [1313-59-3] <1% Wood powder [] <1% Ferric oxide [1309-37-1] <1% Zirconium oxide [1314-23-4] <1% Carbon [7440-44-0] <1% Ferrous oxide [1345-25-1] <1% Guar Gum [9000-30-0] <1%	Fumes	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect)	H315 H319 H335 H336	SDS	3	Y	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical for welding activity	Weldcote Nozzle Gel	4	1	3	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Fumes generated during the activity	Welding fumes	4	1	3	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant use chemical for welding activity	Weldcote Nozzle Gel	Irritation (H315) Sensitization (H317) Skin absorption and other properties (H351)	Small		✓	M2
Fumes generated during the activity	Welding fumes	Irritation (H315, H319)	Large		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical for welding activity	Weldcote Nozzle Gel	Inh	None	Y	GV, exhaust fan, industrial fan	Y	None	N	N	To provide N95 face mask to the technical assistant	2
		Skin	NA	NA	NA	NA	Leather glove, welding apron, welding shield, safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3
Fumes generated during the activity	Welding fumes	Inh	None	Y	GV, exhaust fan, industrial fan	Y	None	N	N	To provide N95 face mask to the technical assistant	2
		Skin	NA	NA	NA	NA	Leather glove, welding apron, welding shield, safety shoes	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	safety glass	Y	Y	Maintain current practice	3

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y N Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

**12.1.7 WORK AREA: Mechanical
Workshop**

**WORK UNIT: Technical Assistant
(Mechanical)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Mechanical)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Mechanical Workshop		4. Number of Employee	Male:	7	Female: 1
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such safety shoes and safety glass are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Mechanical)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	Cutting fluid	Butane [106-97-8] 10-30% Distillates (petroleum), hydrotreated light : kerosine unspecified [64742-47-8] 10-30%	Liquid	STOT SE cat 3 (Narcotic effect)	H336	SDS	2	N	N
2.	Multi-Purpose Grease	Mixture	Grease	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
3.	Repsol Vesta AW 100	Mixture	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
4.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
5.	Onnekas coolant CF 100	Not available	NA	SDS not available	NA	NA	NA	N	N

Table B2: Chemicals Released by the Processes or Work Activities

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	Metal dust	Metal dust	Dust	STOT – SE cat 3	H335	ICOP CCHC	3	N	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical during mechanical workshop	Cutting fluid	4	1	2	None	Low	Moderate	2	2	2	RR= 4 Low risk rating
Metal dust generated during activity	Metal dust	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
NA	NA	NA	NA	NA	NA	NA

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical during mechanical workshop	Cutting fluid	Inh	None	Y	GV, exhaust fan, industrial dan	Y	None	N	N	To provide N95 face mask	2
Technical assistant use chemical during mechanical workshop	Onnekas coolant CF 100	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Metal dust generated during activity	Metal dust	Inh	None	Y	GV, exhaust fan, industrial dan	Y	None	N	N	To provide N95 face mask	2

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers not comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y N N N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Ensure chemical container comply with OSH (CLASS) Reg. 2013 - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit not available at workplace	N	- To provide chemical spill kit at workplace

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

**12.1.8 WORK AREA: Concrete
Workshop**

**WORK UNIT: Technical Assistant
(Concrete)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Concrete)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Concrete Workshop		4. Number of Employee	Male:	0	Female: 1
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such disposable face mask, rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Concrete)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	Castle Portland Composite Cement (PCC)	Calcium silicates, aluminates, ferro-aluminates, sulphates, trace alkalis, lime, magnesia, and soluble Chromium (VI)	Powder	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	H315 H319 H335	SDS	3	Y	N
2.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
3.	RHEOLUBE 737	1-Decene, homopolymer, hydrogenated [68037-01-4] 40–<50% 1-Dodecene polymer with 1-Decene, hydrogenated [151006-60-9] 40–<50% Quartz [14808-60-7] 1–<3% Benzenamine, N-phenyl-, reaction products with 2,4,4-trimethylpentene [68411-46-1] <1% Other components below reportable levels 10–<20%	Solid	Reproductive toxicity cat 2	H361fd	SDS	3	N	N
4.	Heavy Grease	Not available	Paste	Skin irritation cat 2	H315	SDS	NA	Y	N
5.	Powder detergent	Linear dodecyl benzene sulphonic acid sodium salt [25155-30-0] Sodium tripolyphosphate [7758-29-4]	Powder	Skin irritation cat 2 Serious eye irritation cat 2	H315 H319 H335	SDS	3	Y	N

		Sodium sulfate [7757-82-6] Sodium silicate [1344-09-8] Sodium carbonate [497-19-8]		STOT SE cat 3 (Respiratory irritation)					
6.	Hand wash	Not available	Liquid	Chemical is classified is non-hazardous	NA	SDS	NA	N	N

Table B2: Chemicals Released by the Processes or Work Activities									
No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	Dust from cement	Dust from cement	Powder	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	H315 H319 H335	SDS	3	Y	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical for concrete workshop activity	Castle Portland Composite Cement (PCC)	5	1	3	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for concrete workshop activity	RHEOLUBE 737	5	1	3	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for concrete workshop activity	Powder detergent	5	1	3	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Dust generated during the activity	Dust from cement	5	1	3	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant use chemical for concrete workshop activity	Castle Portland Composite Cement (PCC)	Irritation (H315, H319)	Large		✓	M2
Technical assistant use chemical for concrete workshop activity	RHEOLUBE 737	Skin absorption and other properties (H61fd)	Large		✓	M2
Technical assistant use chemical for concrete workshop activity	Heavy Grease	Irritation (H315)	Large		✓	M2
Technical assistant use chemical for concrete workshop activity	Powder detergent	Irritation (H315, H319)	Large		✓	M2
Dust generated during the activity	Dust from cement	Irritation (H315, H319)	Large		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical for concrete workshop activity	Castle Portland Composite Cement (PCC)	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Technical assistant use chemical for concrete workshop activity	RHEOLUBE 737	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2

Technical assistant use chemical for concrete workshop activity	Heavy Grease	Skin	NA	NA	NA	NA	Rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron	Y	Y	Maintain current practice	3
Technical assistant use chemical for concrete workshop activity	Powder detergent	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Dust generated during the activity	Dust from cement	Inh	None	Y	GV, exhaust fan, industrial fan	Y	Disposable face mask	N	N	To replace disposable face mask with N95 face mask	2
		Skin	NA	NA	NA	NA	Rubber glove, safety shoes wellington boots, cotton glove, heat resistant glove and PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2

Legend:**AP: Action Priority****AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined****AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures****AP-3: where there is adequate control measures irrespective of the RR**

Table D2: Organisational Control (OC)		
Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are available in the work area. - Safe work instruction available at work area.	N Y N Y Y Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Maintain the current practice - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

12.1.9 WORK AREA: Wood Workshop

**WORK UNIT: Technical Assistant
(Wood)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Wood)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Wood Workshop		4. Number of Employee	Male:	1	Female: 0
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such 3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003, latex glove, safety shoes, leather apron, safety glass and face shield are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Wood)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	WD-40 Aerosol	Distillates (petroleum), hydrotreated light [64742-47-8] 50–70% Non-Hazardous Ingredients [Mixture] 30–50% Carbon Dioxide [124-38-9] 2–3%	Aerosol	Aspiration hazard cat 1	H304	SDS	NA	N	Y
2.	Bosny 100% Acrylic spray paint	Acetone [67-64-1] 20-30% Xylene [1330-20-7] 5-10% n- butyl acetate [123-86-4] 5-10% Ethyl acetate [141-78-6] 5-10% 2- Butoxyethanol [111-76-2] 5-10% Propane [74-98-6] 10-15% Butane [106-97-8] 10-15%	Aerosol	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation) Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)	H302 H312 H332 H315 H319 H336	SDS	3	Y	Y
3.	No.2 White, No.15 Vermillion, No.23 Deep Blue, No.24 Felt Green, No.30 Black, No.33 Red, No.37 Light Blue (page 1-9) No.4 Executive Grey, No.6 Royal Ivory, No.7 Sugar Cane, No.9 Leo Beige, No.10 Golden Honey, No.11 Surf Green, No.12 Yellow, No.13	Butane [106-97-8] ≥21 - ≤32% Propane [74-98-6] ≥5 - ≤12% Ethylbenzene [100-41-4] ≥1 - ≤3% Ethylene glycol monobutyl ether [111-76-2] ≥3 - ≤7% Xylene (mixture of isomers) [1330-20-7] ≥3 - ≤8% Ethyl acetate [141-78-6] ≥1 - ≤3% Isopropyl alcohol [67-63-0] ≥1 - ≤3% Butyl acetate [123-86-4] ≥2 - ≤6% Toluene [108-88-3] ≥1 - ≤3% N-butyl alcohol [71-36-3] ≥1 - ≤3%	Aerosol	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2	H304 H315 H319 H361fd H336 H373	SDS	3	Y	Y

	Golden Yellow, No.14 Orange, No.16 Pale Grey, No.17 Orchid, No.18 Pink, No.20 Monsa Red, No.21 Blue, No.22 Crystal Blue, No.25 Dark Grey, No.26 Turquoise, No.27 Green, No.31 Apple Green, No.32 Avocado Green, No.35 Honda Grey, No.36 Chrome Yellow, No.38 Birch Grey, No.39 Pastel Grey, No.40 Sand Beige, No.41 Malacca Grey, No.42 Genting Dusk, No.60 Brown, No.61 Taxi Blue, No.62 Petronas Green, No.65 Mahogany, No.66 Light Scarlet, No.67 Grass Green, No.68 Green Lime (page 10-17)	Acetone [67-64-1] ≥ 35 - $\leq 40\%$ Titanium dioxide [13463-67-7] ≥ 0 - $\leq 7\%$ Carbon black [1333-86-4] ≥ 0 - $\leq 2\%$ Cellulose nitrate [9004-70-0] ≥ 2 - $\leq 5\%$ Dibutyl phthalate [84-74-2] $< 0.5\%$							
4.	KTH GP THINNER 457	Oxygenated Solvent [71-36-3] 25 - 35% Non-Oxygenated Solvent [123-86-4] 45 - 55% Aromatic Solvent [1330-20-7] 20 - 30%	Liquid	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal) Acute toxicity cat 4 (Inhalation)	H302 H312 H332	SDS	2	Y	Y
5.	TOA WOOD STIAN MATT #M99	Alkyd Resin [-] 50 - 55% White Spirit [64742-82-1] 30 - 35% Rheological additive [-] 3.0 - 3.5%	Liquid	Acute toxicity cat 4 (Oral) Acute toxicity cat 4 (Dermal)	H302 H312 H331	SDS	4	Y	Y

		Amorphous silica [7631-86-9] 1.0 - 1.3% Naphtha [64742-48-9] 0.3 - 0.5% 3-iodo-2-propynyl butylcarbamate [55406-53-6] 0.1 - 0.2% 1-Methoxy-2-propanol [107-98-2] 0.1 - 0.2% Methyl Ethyl Ketoxime [96-29-7] 0.1 - 0.2% Permethrin [52645-53-1] 0.1 - 0.2% Cobalt 2-ethylhexanoate [136-52-7] 0.1 - 0.2%		Acute toxicity cat 3 (Inhalation) H319 Serious eye irritation cat 2 H317 Skin sensitization cat 1 H334 Respiratory sensitization cat 1 H340 Germ cell mutagenicity cat 1B H350 Carcinogenicity cat 1B H371 STOT SE cat 2 (Respiratory) H373 STOT RE cat 2 H304 Aspiration hazard cat 1					
6.	DUNLOP GP	Hydrocarbon Solvent [108-88-3] 77% Chloroprene Rubber [9010-98-4] 15% Phenolic Resin [28064-14-4] 7% Magnesium Oxide [1309-48-4] 1%	Paste	Acute toxicity cat 4 (Oral) H302 Skin irritation cat 2 H315 Reproductive toxicity cat 2 H361fd STOT SE cat 3 (Respiratory irritation) H335 STOT SE cat 3 (Narcotic effect) H336 STOT RE cat 2 H373 Aspiration hazard cat 1 H304	SDS	3	Y	Y	
7.	COLOURLAND BIG TREE HIGH GLOSS (MY)	Naphtha (petroleum), hydrodesulfurized heavy [64742-82-1] 20–30% Naphtha (petroleum), hydrodesulfurized heavy [64742-82-1] <10% Xylene [1330-20-7] ≤3% Methyl ethyl ketoxime [96-29-7] ≤0.3%	Liquid	STOT SE cat 3 (Narcotic effect) H336	SDS	2	N	N	
8.	Krystal Aerosol Paint	Hydrocarbon solvent 30-60% Synthetic resin 10-<30% Petroleum gas, liquid [68476-85-7] 30-60%	Liquid	Aspiration hazard cat 1 H304 Skin irritation cat 2 H315 Serious eye irritation cat 2 H319	SDS	3	Y	Y	

				Reproductive toxicity cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect) STOT RE cat 2	H361fd H335 H336 H373				
9.	No.29 Flat Black, No.64 Flat White	Butane [106-97-8] $\geq 21-\leq 32\%$ Propane [74-98-6] $\geq 5-\leq 12\%$ Ethylbenzene [100-41-4] $\geq 1-\leq 3\%$ Ethylene glycol monobutyl ether [111-76-2] $\geq 1-\leq 7\%$ Xylene (mixture of isomers) [1330-20-7] $\geq 3-\leq 7\%$ Ethyl acetate [141-78-6] $\geq 1-\leq 3\%$ Isopropyl alcohol [67-63-0] $\geq 1-\leq 3\%$ Butyl acetate [123-86-4] $\geq 2-\leq 6\%$ Toluene [108-88-3] $\geq 1-\leq 3\%$ N-Butyl alcohol [71-36-3] $\geq 1-\leq 3\%$ Acetone [67-64-1] $\geq 35-\leq 40\%$ Titanium dioxide [13463-67-7] $\geq 0-\leq 6\%$ Carbon black [1333-86-4] $\geq 0-\leq 2\%$ Cellulose nitrate [9004-70-0] $\geq 2-\leq 5\%$ Dibutyl phthalate [84-74-2] $< 0.5\%$ Silicon dioxide [112926-00-8] $\geq 1-\leq 3\%$	Aerosol	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2	H304 H315 H319 H361d H336 H373	SDS	3	Y	Y
10.	GORI 88	Hydrocarbons, C10-C13, n-alkanes, isoalkanes, cyclics, $< 2\%$ aromatics [64742-48-9] $\geq 25-\leq 50\%$	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N

		2-Methylpentane-2,4-diol [107-41-5] ≤0.30% 3-Iodo-2-propynyl <0.25% Butylcarbamate [55406-53-6]							
11.	Oscar Synthetic Compressor Oil 68	Hydrotreated neutral oil based [72623-87-1] 97.20% Performance Additives 2.50% Pour Point Depressant [9011-14-7] 0.30%	Liquid	Acute toxicity cat 4 (Oral) STOT RE cat 2 STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect)	H302 H373 H335 H336	SDS	3	Y	Y
12.	Nippon Super Gloss Enamel	Alkyd Resin 20.16-30.0% Low boiling point hydrogen treated naphtha [64742-82-1] 8.70-19.13% Hydrotreated heavy naphtha [64742-48-9] 0.68-1.50% Aluminum hydroxide [21645-51-2] 0.53-1.17% Zirconium oxide [1314-23-4] 0.53-1.17%	Liquid	Skin irritation cat 2 Serious eye irritation cat 2 Skin sensitization cat 1	H315 H319 H317	SDS	NA	Y	N
13.	STANDARD THINNERS	Toluene [108-88-3] 10-<30% Propan-1-ol [71-23-8] 5-<10% Methyl acetate [79-20-9] 5-<10% Butan-2-ol [78-92-2] 5-<10% Isopropyl alcohol [67-63-0] 5-<10% Ethanol [64-17-5] 5-<10% Hexane-norm [110-54-3] 5-<10% Cyclohexane [110-82-7] 5-<10% Heptane [142-82-5] 5-<10% Ethylbenzene [100-41-4] 5-<10% Xylene [1330-20-7] 5-<10% Butyl acetate-norm [123-86-4] 2-<3% Propyl acetate [109-60-4] 2-<3% Ethyl acetate [141-78-6] 2-<3% Butanone [78-93-3] 2-<3% Acetone [67-64-1] 2-<3% Butanol-norm [71-36-3] 2-<3%	Liquid	Skin irritation cat 2 Serious eye damage cat 1 Reproductive toxicity cat 2 STOT SE cat 3 (Narcotic effect) STOT RE cat 2 Aspiration hazard cat 1	H315 H318 H361fd H336 H373 H304	SDS	3	Y	Y

		Isobutyl methyl ketone [108-10-1] 2-<3% Methanol [67-56-1] 2-<3% Tetrahydrofuran [109-99-9] 0.5-<1%							
14.	SGXX UNION WOOD STAIN	Resin 50-70% Solvent [8052-41-3] 20-30% Additive 1-10%	Liquid	Carcinogenicity cat 1B Germ cell mutagenicity cat 1B STOT SE cat 3 (Respiratory irritation) STOT SE cat 3 (Narcotic effect) Aspiration hazard cat 1	H350 H340 H335 H336 H304	SDS	4	N	Y
15.	TIMBERCOAT	Not available	Liquid	Chemical is classified as non- hazardous	NA	SDS	NA	N	N
16.	Woodcare Interior Wood Stain	Solvent naphtha, petroleum, light aliphatic [64742-89-8] 30-60% Solvent naphtha, petroleum, light aromatic [64742-95-6] 10-30% Naphtha, petroleum, hydrodesulfurized heavy [64742-82-1] 1-10%	Liquid	Aspiration hazard cat 1 Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Narcotic effect)	H304 H315 H319 H336	SDS	2	Y	Y
17.	Nippon Paint Platone High Gloss	Not available	NA	SDS not available	NA	NA	NA	N	N
18.	Durobond 820	Not available	NA	SDS not available	NA	NA	NA	N	N
19.	Kimstone PSV	Not available	NA	SDS not available	NA	NA	NA	N	N
20.	Seasmaster super glo plus	Not available	NA	SDS not available	NA	NA	NA	N	N

21.	DIY Gelled stain	Not available	NA	SDS not available	NA	NA	NA	N	N
22.	Amber finish nippon paint	Not available	NA	SDS not available	NA	NA	NA	N	N
23.	Kimber O wood dye	Not available	NA	SDS not available	NA	NA	NA	N	N
24.	Nippon timber finish	Not available	NA	SDS not available	NA	NA	NA	N	N
25.	Seamaster protective coating	Not available	NA	SDS not available	NA	NA	NA	N	N
26.	Sisson floor dressing	Not available	NA	SDS not available	NA	NA	NA	N	N

Table B2: Chemicals Released by the Processes or Work Activities									
No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	Wood Dust	Wood Dust	Dust	Serious eye irritation cat 2 Skin irritation cat 2 Carcinogenicity cat 1A STOT – SE cat 3	H319 H315 H350 H335	SDS	5	Y	N

Table C1: Inhalation Exposure Assessment

Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical for wood making activity	Bosny 100% Acrylic spray paint	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for wood making activity	No.2 White, No.15 Vermillion, No.23 Deep Blue, No.24 Felt Green, No.30 Black, No.33 Red, No.37 Light Blue (page 1-9) No.4 Executive Grey, No.6 Royal Ivory, No.7 Sugar Cane, No.9 Leo Beige, No.10 Golden Honey, No.11 Surf Green, No.12 Yellow, No.13 Golden Yellow, No.14 Orange, No.16 Pale Grey, No.17 Orchid, No.18 Pink, No.20 Monsa Red, No.21 Blue, No.22 Crystal Blue, No.25 Dark Grey, No.26 Turquoise, No.27 Green, No.31	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating

	Apple Green, No.32 Avocado Green, No.35 Honda Grey, No.36 Chrome Yellow, No.38 Birch Grey, No.39 Pastel Grey, No.40 Sand Beige, No.41 Malacca Grey, No.42 Genting Dusk, No.60 Brown, No.61 Taxi Blue, No.62 Petronas Green, No.65 Mahogany, No.66 Light Scarlet, No.67 Grass Green, No.68 Green Lime (page 10-17)										
Technical assistant use chemical for wood making activity	KTH GP THINNER 457	4	1	2	None	Moderate	Moderate	3	3	2	RR= 6 Moderate risk rating
Technical assistant use chemical for wood making activity	TOA WOOD STIAN MATT #M99	4	1	2	None	Moderate	Moderate	3	3	4	RR= 12 Moderate risk rating
Technical assistant use chemical for wood making activity	DUNLOP GP	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating

Technical assistant use chemical for wood making activity	COLOURLAND BIG TREE HIGH GLOSS (MY)	4	1	2	None	Moderate	Moderate	3	3	2	RR= 6 Moderate risk rating
Technical assistant use chemical for wood making activity	Krystal Aerosol Paint	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for wood making activity	No.29 Flat Black, No.64 Flat White	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for wood making activity	Oscar Synthetic Compressor Oil 68	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for wood making activity	STANDARD THINNERS	4	1	2	None	Moderate	Moderate	3	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for wood making activity	SGXX UNION WOOD STAIN	4	1	2	None	Moderate	Moderate	3	3	4	RR= 12 Moderate risk rating
Technical assistant use chemical for wood making activity	Woodcare Interior Wood Stain	4	1	2	None	Moderate	Moderate	3	3	2	RR= 6 Moderate risk rating

Dust generated during the wood activity	Wood Dust	5	2	4	None	Moderate	Moderate	3	4	5	RR= 20 High risk rating
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Legend

FR= Frequency Rating

MR= Magnitude rating

DR= Duration Rating

ER= Exposure Rating

FDR= Frequency-Duration Rating

HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant use chemical for wood making activity	Bosny 100% Acrylic spray paint	Acute toxicity (H312) Irritation (H315, H319)	Large		✓	M2
Technical assistant use chemical for wood making activity	No.2 White, No.15 Vermillion, No.23 Deep Blue, No.24 Felt Green, No.30 Black, No.33 Red, No.37 Light Blue (page 1-9) No.4 Executive Grey, No.6 Royal Ivory, No.7 Sugar Cane, No.9 Leo Beige, No.10 Golden Honey, No.11 Surf Green, No.12 Yellow, No.13 Golden Yellow, No.14 Orange, No.16 Pale Grey, No.17 Orchid, No.18 Pink, No.20 Monsa Red, No.21 Blue, No.22 Crystal Blue, No.25 Dark Grey, No.26 Turquoise, No.27 Green, No.31 Apple Green, No.32 Avocado Green, No.35 Honda Grey, No.36 Chrome Yellow, No.38 Birch Grey,	Irritation (H315, H319) Skin absorption and other properties (H361fd, H373)	Large		✓	M2

	No.39 Pastel Grey, No.40 Sand Beige, No.41 Malacca Grey, No.42 Genting Dusk, No.60 Brown, No.61 Taxi Blue, No.62 Petronas Green, No.65 Mahogany, No.66 Light Scarlet, No.67 Grass Green, No.68 Green Lime (page 10- 17)					
Technical assistant use chemical for wood making activity	KTH GP THINNER 457	Acute toxicity (H312)	Large		✓	M2
Technical assistant use chemical for wood making activity	TOA WOOD STIAN MATT #M99	Acute toxicity (H312) Irritation (H319) Sensitization (H317) Skin absorption and other properties (H340, H350, H371, H373)	Large		✓	H2
Technical assistant use chemical for wood making activity	DUNLOP GP	Irritation (H315) Skin absorption and other properties (H361fd, H373)	Large		✓	M2
Technical assistant use chemical for wood making activity	Krystal Aerosol Paint	Irritation (H315, H319) Skin absorption and other properties (H361fd, H373)	Large		✓	M2

Technical assistant use chemical for wood making activity	No.29 Flat Black, No.64 Flat White	Irritation (H315, H319) Skin absorption and other properties (H361d, H373)	Large		✓	M2
Technical assistant use chemical for wood making activity	Oscar Synthetic Compressor Oil 68	Skin absorption and other properties (H373)	Large		✓	M2
Technical assistant use chemical for wood making activity	Nippon Super Gloss Enamel	Irritation (H315, H319) Sensitization (H317)	Large		✓	H1
Technical assistant use chemical for wood making activity	STANDARD THINNERS	Irritation (H315) Corrosion (H318) Skin absorption and other properties (H361fd, H373)	Large		✓	H2
Technical assistant use chemical for wood making activity	SGXX UNION WOOD STAIN	Skin absorption and other properties (H350, H340)	Large		✓	H2
Technical assistant use chemical for wood making activity	Woodcare Interior Wood Stain	Irritation (H315, H319)	Large		✓	M2
Dust generated during the wood activity	Wood dust	Irritation (H315, H319) Skin absorption and other properties (H350)	Large		✓	H2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical for wood making activity	Bosny 100% Acrylic spray paint	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	No.2 White, No.15 Vermillion, No.23 Deep Blue, No.24 Felt Green, No.30 Black, No.33 Red, No.37 Light Blue (page 1-9) No.4 Executive Grey, No.6 Royal Ivory, No.7 Sugar Cane, No.9 Leo Beige, No.10 Golden Honey, No.11 Surf Green, No.12 Yellow,	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3

[illegible]

Technical assistant use chemical for wood making activity	KTH GP THINNER 457	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	TOA WOOD STIAN MATT #M99	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	DUNLOP GP	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes,	Y	Y	Maintain current practice	3

							leather apron, and face shield				
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	COLOURLAND BIG TREE HIGH GLOSS (MY)	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	Krystal Aerosol Paint	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3

Technical assistant use chemical for wood making activity	No.29 Flat Black, No.64 Flat White	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	Oscar Synthetic Compressor Oil 68	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	Nippon Super Gloss Enamel	Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3

Technical assistant use chemical for wood making activity	STANDARD THINNERS	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	SGXX UNION WOOD STAIN	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	Woodcare Interior Wood Stain	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	Y	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	Y	Maintain current practice	3

		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3
Technical assistant use chemical for wood making activity	Nippon Paint Platone High Gloss	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Durobond 820	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Kimstone PSV	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Seasmaster super glo plus	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	DIY Gelled stain	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Technical assistant use chemical for wood making activity	Amber finish Nippon Paint	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Kimber O wood dye	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Nippon timber finish	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Seamaster protective coating	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
Technical assistant use chemical for wood making activity	Sisson floor dressing	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Dust generated during the wood activity	Wood Dust	Inh	None	Y	GV, Exhaust fan, industrial fan, dust collector	N	3M™ Particulate Respirator 9502+, N95, 3M™ Organic Vapor/Acid Gas Cartridge 6003	Y	N	To conduct effectiveness testing of dust collector annually by HTII and monthly inspection by in-house technician.	1
		Skin	NA	NA	NA	NA	Latex glove, safety shoes, leather apron, and face shield	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Safety glass	Y	Y	Maintain current practice	3

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y Y Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Maintain the current practice - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

12.1.10 WORK AREA: Brick Workshop

**WORK UNIT: Technical Assistant
(Brick)**

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Technical Assistant (Brick)		2. Date of Assessment	16/04/2025- 17/04/2025		
3. Work Area	Brick Workshop		4. Number of Employee	Male:	0	Female: 1
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks			9. Possibility of Abnormal Exposures			
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.			There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.			
7. Report on Health Effects			10. Possibility of Mixed Exposures			
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.			Mixed exposure is unlikely to occur.			
8. Susceptible conditions related to chemical(s) in use			11. Possibility of ingestion			
There is no susceptible condition related to chemical used.			Ingestion is unlikely as implementation of good personal hygiene in the work place.			
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such N95 face mask, disposable face mask, cotton glove, latex glove, safety shoes, PVC apron are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Technical Assistant (Brick)

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	KAPUR	Calcium oxide and calcium hydroxide	Powder	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	H315 H319 H335	SDS	3	Y	N
2.	Hardex 4D Penetrant & Lubricant Spray 400ml	Calcium sulfonate 0–1% Dearomatised hydrocarbons [64742-48-9] 50–60% Liquefied petroleum gas [68467-86-8] <5% Aliphatic petroleum distillate [64742-54-7] 40–50%	Aerosol	STOT SE cat 3 (Respiratory irritation)	H335	SDS	3	N	N

Table B2: Chemicals Released by the Processes or Work Activities

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	Dust from brick	Dust from brick	Powder	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3 (Respiratory irritation)	H315 H319 H335	SDS	3	Y	N

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Technical assistant use chemical for brick making activity	KAPUR	5	1	4	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Technical assistant use chemical for maintenance	Hardex 4D Penetrant & Lubricant Spray 400ml	5	1	4	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating
Dust generated during the brick making process	Dust from brick	5	1	4	None	Moderate	Moderate	2	3	3	RR= 9 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Technical assistant use chemical for brick making activity	KAPUR	Irritation (H315, H319)	Large		✓	M2
Dust generated during the brick making process	Dust from brick	Irritation (H315, H319)	Large		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Technical assistant use chemical for brick making activity	KAPUR	Inh	None	Y	GV, industrial fan	Y	N95 face mask, disposable face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	cotton glove, latex glove, safety shoes, PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2
Technical assistant use chemical for maintenance	Hardex 4D Penetrant & Lubricant Spray 400ml	Inh	None	Y	GV, industrial fan	Y	N95 face mask, disposable face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	cotton glove, latex glove, safety shoes, PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2

Dust generated during the brick making process	Dust from brick	Inh	None	Y	GV, industrial fan	Y	N95 face mask, disposable face mask	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	cotton glove, latex glove, safety shoes, PVC apron	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	None	N	N	To provide at least face shield or safety glass to the worker	2

Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR < 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are available in the work area. - Safe work instruction available at work area.	N Y N Y Y Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Maintain the current practice - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash not available at workplace	N	- To provide emergency portable eyewash at workplace

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

**12.1.11 WORK AREA: Water Quality
Laboratory**

WORK UNIT: Laboratory Assistant

FORM A: WORK UNIT DESCRIPTION

1. Work Unit	Laboratory Assistant	2. Date of Assessment	16/04/2025- 17/04/2025			
3. Work Area	Water Quality Laboratory	4. Number of Employee	Male:	0	Female:	1
5. Working Hours	Working Arrangement: Normal ☐ Shift Work ☒ 9.00 am – 6.00pm 8.30 am – 5.00 pm 8.00 am – 5.00 pm					
6. Worker Health Feedbacks		9. Possibility of Abnormal Exposures				
From the feedback of employees through interview, there is no complaint for ill health or other complains since all employees is fit to work condition.		There is only a possibility of splashing or spillage during transferring of chemicals. There is no dispensing activity in this work area.				
7. Report on Health Effects		10. Possibility of Mixed Exposures				
From the feedback of the employees, there is no health effect been reported except for normal MC for illness like flu and cough. All workers are Malaysian and medical check up has conducted before employment.		Mixed exposure is unlikely to occur.				
8. Susceptible conditions related to chemical(s) in use		11. Possibility of ingestion				
There is no susceptible condition related to chemical used.		Ingestion is unlikely as implementation of good personal hygiene in the work place.				
12. Other information						
It is natural ventilation. Fire extinguisher is available at site. PPEs such 3M™ 8210 N95 Particulate Respirator, lab coat, plastic glove, face shield are provided to employees.						

FORM B: LIST OF CHEMICALS HAZARDOUS TO HEALTH ASSESSED

WORK UNIT: Laboratory Assistant

DATE OF ASSESSMENT: 16/04/2025- 17/04/2025

Table B1: Chemicals Used in Work Unit

No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1.	LOW RANGE AMMONIA REAGENT	Sodium salicylate Sodium hypochlorite Sodium nitroferricyanide	Liquid	Skin irritation cat 2 Serious eye irritation cat 2	H315 H319	SDS	NA	N	Y
2.	High Range Ammonia Reagent	Sodium hypochlorite or other chlorine derivatives (depending on formulation) Stabilizer Water	Liquid	Skin irritation cat 2 Serious eye irritation cat 2 STOT SE cat 3	H315 H319 H335	SDS	3	N	Y
3.	Bleaching agent (Sodium Hypochlorite Solution)	Sodium Hypochlorite 3–15%	Liquid	Acute toxicity cat 4 (Oral) Skin irritation cat 2 Serious eye irritation cat 2	H302 H315 H319	SDS	NA	N	Y
4.	PHOSPHATE BUFFER	Sodium phosphate dibasic (Na ₂ HPO ₄) Sodium phosphate monobasic (NaH ₂ PO ₄)	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
5.	NUTRIENT BUFFER	Phosphate Sulfate Ammonium chloride pH buffer (e.g., boric acid or Tris)	Liquid	Chemical is classified as non-hazardous	NA	SDS	NA	N	N
6.	Calcium chloride	Calcium chloride [10043-52-4]	Powder	Serious eye irritation cat 2	H319	Label	NA	Y	N
7.	Copper reagent	Not available	NA	SDS not available	NA	NA	NA	N	N

8.	Zinc reagent	Not available	NA	SDS not available	NA	NA	NA	N	N
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Table B2: Chemicals Released by the Processes or Work Activities									
No.	Name of Chemical	Hazardous Ingredient	Physical Form	Hazard Classification	H-code	Source of Information	HR	Dermal (Y/N)	Ingestion (Y/N)
1	NA	NA	NA	NA	NA	NA	NA	NA	NA

Table C1: Inhalation Exposure Assessment											
Job or Task	Name of Chemical	FR	DR	FDR	PEL	Degree of Release or Exposure Level	Degree of Chemical Inhaled	MR	ER	HR	RR
Laboratory assistant use chemical to test water quality	High Range Ammonia Reagent	4	1	2	None	Low	Moderate	2	3	3	RR= 9 Moderate risk rating

Legend

FR= Frequency Rating
MR= Magnitude rating

DR= Duration Rating
ER= Exposure Rating

FDR= Frequency-Duration Rating
HR= Hazard Rating

RR= Risk Rating

Table C2: Dermal Assessment						
Job or Task	Name of Chemical	Hazardous Properties	Extent of Dermal Contact	Duration of Exposure		Level of risk
				Short Term (<15min/shift)	Long Term (≥15min/shift)	
Laboratory assistant use chemical to test water quality	LOW RANGE AMMONIA REAGENT	Irritation (H315, H319)	Small		✓	M2
Laboratory assistant use chemical to test water quality	High Range Ammonia Reagent	Irritation (H315, H319)	Small		✓	M2
Laboratory assistant use chemical to test water quality	Bleaching agent (contoh: Sodium Hypochlorite Solution)	Irritation (H315, H319)	Small		✓	M2
Laboratory assistant use chemical to test water quality	Calcium chloride	Irritation (H319)	Small		✓	M2

Legend:

L: Low risk

M: Moderate risk

H: High risk

Table D1: Technical Controls (TC)

Table D1: Technical Controls (TC)											
Job or Task	Name of Chemical	ROE	Existing Technical Controls (TC)							Recommendation on TC	AP
			Isolation or Enclosure		Engineering Control & Ventilation		PPE		Overall Adeq. (Y/N)		
			Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)	Specify	Adequacy (Y/N/NA)			
Laboratory assistant use chemical to test water quality	LOW RANGE AMMONIA REAGENT	Skin	NA	NA	NA	NA	Lab coat, plastic glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Face shield	Y	Y	Maintain current practice	3
Laboratory assistant use chemical to test water quality	High Range Ammonia Reagent	Inh	None	Y	GV, industrial fan	Y	3M™ 8210 N95 Particulate Respirator	Y	Y	Maintain current practice	3
		Skin	NA	NA	NA	NA	Lab coat, plastic glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Face shield	Y	Y	Maintain current practice	3
Laboratory assistant use chemical to test water quality	Bleaching agent (Sodium Hypochlorite Solution)	Skin	NA	NA	NA	NA	Lab coat, plastic glove	Y	Y	Maintain current practice	3
		Eye	NA	NA	NA	NA	Face shield	Y	Y	Maintain current practice	3
Laboratory assistant use chemical to test water quality	Calcium chloride	Eye	NA	NA	NA	NA	Face shield	Y	Y	Maintain current practice	3
Laboratory assistant use chemical to test water quality	Copper reagent	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1

Laboratory assistant use chemical to test water quality	Zinc reagent	NA	NA	NA	NA	NA	NA	NA	NA	SDS not available	1
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Legend:

AP: Action Priority

AP-1: where the RR is at or above 15 ($RR \geq 15$) and inadequate control measure or where the HR or ER could not be determined

AP-2: where the RR is less than 15 ($RR \leq 15$) and inadequate control measures

AP-3: where there is adequate control measures irrespective of the RR

Table D2: Organisational Control (OC)

Existing Organisational Control (OC)	Adequacy (Y/N/NA)	Recommendation
(a) Adoption of safe work systems and practices <i>(Please specify):</i> - Safe Operating Procedure (SOP) of chemical handling established at site.	Y	- Maintain the current practice
(b) Providing information, instruction, and training to workers <i>(Please specify):</i> - Training on chemical handling was not conducted - Chemical register is available at site. - Safety Data Sheet (SDS) are not available at the workplace. - Label of chemical containers comply with OSH (CLASS) Reg. 2013. - Chemical warning signs are not available in the work area. - Safe work instruction available at work area.	N Y N Y N Y	- To conduct chemical handling training every 2 years - Maintain the current practice and review periodically - Ensure SDS available at the workplace - Maintain the current practice - Ensure chemical warning sign available at workplace - Maintain the current practice
(c) Personal hygiene <i>(Please specify):</i> - Workers practice proper personal hygiene - Workers are not allowed eating, drinking & smoking inside work area - Toilet and washing facilities available	Y Y Y	- Maintain the current practice. - Maintain the current practice. - Maintain the current practice.

Table D3: Emergency Response Preparedness		
Emergency Response Preparedness	Adequacy (Y/N/NA)	Recommendation
- Training on handling chemical spill or release not conducted.	N	- To conduct training on chemical handling every 2 years
- Emergency response procedure available at workplace.	Y	- Maintain the current practice.
- Emergency response team is available at workplace.	Y	- Maintain the current practice.
- First aid kit available work area	Y	- Maintain the current practice
- Emergency eyewash available at workplace	Y	- Maintain the current practice
- Liquid chemicals were placed at the floor	N	- To provide secondary containment for liquid chemical
- Chemical spill kit available at workplace	Y	- Maintain the current practice

Table D4: Exposure Monitoring & Medical Surveillance	
Existing Programme	Recommendation (indicate necessary)
(a) Monitoring of personal exposures and general air levels <i>(please specify):</i> Currently, there are no monitoring of exposure conducted at this work area.	Chemical exposure monitoring is not recommended.
(b) Medical surveillance <i>(please specify):</i> Currently, there are no medical surveillance conducted for this work unit.	Medical surveillance is not recommended

Table D5: Specific Action to be Taken	
Specific action to be taken	
Name of Chemical	Recommendation
Not applicable.	Not applicable.

WARNING SIGN

Warning sign to be posted at areas using hazardous chemicals (Example)

**AMARAN
WARNING**

**BAHAN KIMIA MERBAHAYA KEPADA
KESIHATAN DIGUNAKAN DI KAWASAN INI**

**CHEMICALS HAZARDOUS TO HEALTH
USED IN THIS AREA**

Example at workplace:



PRODUCTION LAYOUT PLAN

PROCESS FLOW CHART

CERTIFICATES ASSESSOR