



KEMENTERIAN SUMBER MANUSIA

**LEMBAGA PENILAIAN KOMPETENSI KESELAMATAN DAN
KESIHATAN PEKERJAAN**

**PEPERIKSAAN JURUTEKNIK HIGIEN 1 (PEMONITORAN
KIMIA)**
HYGIENE TECHNICIAN 1 (CHEMICAL MONITORING) EXAMINATION

KERTAS 2
PAPER 2

TUGASAN TEMPAT KERJA
WORKPLACE ASSIGNMENT

GARIS PANDUAN TUGASAN TEMPAT KERJA
WORKPLACE ASSIGNMENT GUIDELINES

ARAHAN:

CALON DIKEHENDAKI MEMBACA ARAHAN DI BAWAH DENGAN TELITI DAN MENGIKUTI SEMUA ARAHAN.

A. TUGASAN TEMPAT KERJA

1. Pilih satu tempat kerja.
2. Laksanakan pemantauan diri menggunakan pensampelan berturutan jangkamasa penuh atau separa (*full or partial period consecutive sampling*) untuk sekurang-kurangnya satu (1) jenis bahan kimia berbahaya kepada kesihatan (BKBKK) bagi sekurang kurangnya dua (2) kumpulan pendedahan yang serupa (SEG) seperti berikut:
 - i) SEG 1 : Minimum 1 bahan kimia (BKBKK)
 - ii) SEG 2 : Minimum 1 bahan kimia (BKBKK)
3. Jalankan pemantauan berpandukan kepada *Guidelines on Monitoring of Airborne Chemical Hazardous to Health 2022*.
4. Sediakan laporan pemantauan mengikut format laporan yang dilampirkan.

B. FORMAT LAPORAN

1. Format Teks
 - i. Tugas ini hendaklah ditaip dengan jelas menggunakan sama ada dalam Bahasa Melayu atau Bahasa Inggeris.
 - ii. Fon yang digunakan mestilah Times New Roman bersaiz 12 dan menggunakan langkau 1.5 baris.
 - iii. Margin kiri dan kanan mestilah berukuran 2.5 cm, manakala margin atas dan bawah mestilah berukuran 2.5 cm dan diformatkan kepada saiz kertas A4.
 - iv. Laporan mesti mempunyai muka depan (sila rujuk Lampiran 1).

2. Format Laporan dan Skema Pemarkahan

| NO. | KETERANGAN | MARKAH |
|---------------|--------------------------------------|--------------|
| 2.1 | BORANG PERAKUAN TUGASAN TEMPAT KERJA | 1 (WAJIB) |
| 2.2 | HALAMAN TAJUK LAPORAN | 1 |
| 2.3 | RINGKASAN EKSEKUTIF | 10 |
| 2.4 | PENGENALAN | 10 |
| 2.5 | KAEDAH | 15 |
| 2.6 | KEPUTUSAN PEMONITORAN DIRI | 25 |
| 2.7 | PERBINCANGAN | 20 |
| 2.8 | CADANGAN | 10 |
| 2.9 | KESIMPULAN | 3 |
| 2.10 | LAMPIRAN | 5 |
| JUMLAH | | 100 |

2.1 BORANG PERAKUAN TUGASAN TEMPAT KERJA (1 markah - WAJIB)

- i. Rujuk Lampiran 2.
- ii. Borang Perakuan Tugas Tempat Kerja adalah dokumen wajib. Penilai akan menggagalkan calon sekiranya calon tidak memuat naik Borang Perakuan Tugas Tempat Kerja atau tiada pengesahan daripada syarikat (tandatangan wakil & cop syarikat).

2.2 HALAMAN TAJUK LAPORAN (1 markah)

- i. Rujuk Lampiran 1.
- ii. Halaman hadapan hendaklah menjadi halaman tajuk laporan dan mengandungi maklumat berikut:
 - Tajuk laporan
 - Jenis pemantauan
 - Nama dan No Kad Pengenalan calon
 - Nama dan alamat tempat kerja yang dibuat pemantauan - No pendaftaran JKPP (sekiranya ada)
 - Tarikh pemantauan

2.3 RINGKASAN EKSEKUTIF (10 markah)

Tulis satu muka surat ringkasan eksekutif yang menerangkan tentang

- i. Tujuan.
- ii. Aktiviti utama yang dijalankan oleh Juruteknik Higien.
- iii. Kaedah.
- iv. Cadangan.
- v. Kesimpulan.

2.4 PENGENALAN (10 markah)

- i. Maklumat latar belakang tentang tempat kerja, penerangan proses dan aktiviti kerja di kawasan yang dipantau.
- ii. Jika pemantauan dilakukan secara berperingkat, iaitu berbeza daripada cadangan penilai risiko kimia, sila nyatakan dengan justifikasi.
- iii. Objektif Pemantauan.
- iv. Tarikh Pemantauan.
- v. Bilangan syif dan bilangan pekerja bagi setiap unit kerja.

2.5 KAEDAH (15 markah)

- i. Kaedah yang digunakan.
- ii. Peralatan yang digunakan (No. Siri Pam, penentuukuran dan tarikh luput).
- iii. Jenis media persampelan yang digunakan.
- iv. Cara pemilihan pekerja daripada kumpulan pendedahan yang serupa (SEG).
- v. Justifikasi jangka masa pemantauan dan bilangan sampel.
- vi. Jenis permonitoran.

2.6 KEPUTUSAN PEMONITORAN DIRI (25 markah)

| Nama bahan kimia / No. Sampel | Kawasan Kerja | Spesifikasi Kerja | Jangka masa Persampelan (minit) | Keputusan (TWA ₈ /MEL/CL/STEL) | PEL/OES | PEL Pendedahan Terlaras / Bercampur (Jika berkenaan) | Pematuhan kepada PEL/OES |
|-------------------------------|---------------|-------------------|---------------------------------|---|---------|--|--------------------------|
| | | | | | | | |

2.7 PERBINCANGAN (20 markah)

- i. Pematuhan terhadap PEL.
- ii. Faktor menyumbang kepada pendedahan seperti amalan kerja, prosedur operasi standard, tindakan tidak selamat atau keadaan tidak selamat.
- iii. Kecukupan langkah kawalan sedia ada.
- iv. Justifikasi strategi pensampelan termasuk kekangan seperti sampel terhad, disebabkan keadaan aktiviti kerja atau kekerapan tugas.

2.8 CADANGAN (10 markah)

- i. Keperluan pemantauan selanjutnya.
- ii. Keperluan untuk mengkaji semula langkah kawalan.
- iii. Keperluan pemantauan pendedahan berkala.

2.9 KESIMPULAN (3 markah)

- i. Keperluan pemantauan selanjutnya.
- ii. Keperluan untuk mengkaji semula langkah kawalan.
- iii. Keperluan pemantauan pendedahan berkala.

2.10 LAMPIRAN (5 markah)

- i. Borang notifikasi HT - Rujuk *Appendix (ii) Guidelines on Monitoring of Airborne Chemical Hazardous to Health 2022* (Lampiran 3).
- ii. Carta Alir Proses.
- iii. Salinan Kaedah yang digunakan (etc: NIOSH Method).
- iv. Salinan Sijil penentuan.
- v. Borang Data & Pengiraan.
- vi. Salinan Sijil Analisa dari Makmal.
- vii. Pelan Lakaran beserta lokasi pekerja yang dipantau.

C. PENYERAHAN LAPORAN TUGASAN TEMPAT KERJA

Laporan Tugas Tempat Kerja (WPA) yang lengkap hendaklah dimuat naik secara berasingan dengan Borang Perakuan Tugas Tempat Kerja (Lampiran 2).

Kedua-dua dokumen perlu dimuat naik secara dalam talian di <https://myexam.niosh.net.my/> sebelum tarikh akhir pengemukaan WPA (Rujuk Jadual Peperiksaan).

D. KERTAS 2 – BAHAGIAN B: PEMBENTANGAN

1. Pembentangan adalah berdasarkan kepada **laporan tugas dan pengetahuan dalam bidang pemantauan pendedahan kimia**. Anda dikehendaki membentangkan laporan seolah-olah anda membentangkannya kepada pihak pengurusan. Pembentangan tersebut hendaklah merangkumi perkara-perkara seperti berikut:
 - i. Tujuan pemantauan udara.
 - ii. Penerangan tentang strategi persampelan.
 - iii. Kaedah persampelan dan analisis.
 - iv. Keputusan dan perbincangan.
 - v. Kesimpulan dan saranan.
2. Pembentangan ini hendaklah disediakan dalam bentuk Microsoft PowerPoint dan dicetak sebanyak DUA (2) salinan untuk diberikan kepada panel pembentangan. Pembentangan ini hendaklah selari dengan WPA yang dihantar.
3. Calon **TIDAK DIBENARKAN** membuat apa-apa perubahan terhadap pembentangan selepas pengemukaan WPA.
4. Tempoh sesi pembentangan:
 - i. Pembentangan = 15 minit.
 - ii. Soal jawab = 25 minit.

INSTRUCTION:

CANDIDATES MUST READ THE FOLLOWING INSTRUCTIONS CAREFULLY AND FOLLOW ALL INSTRUCTIONS.

A. WORKPLACE ASSIGNMENT

1. *Choose one workplace.*
2. *Conduct self-monitoring using full-period or separate consecutive sampling period for at least one (1) type of chemical hazardous to health (BKBKK) for each SEG for at least two (2) similar exposure groups (SEG) as follows:*
 - i) *SEG 1 : Minimum 1 chemical (BKBKK)*
 - ii) *SEG 2 : Minimum 1 chemical (BKBKK)*
3. *Conduct monitoring according to *Guidelines on Monitoring of Airborne Chemical Hazardous to Health 2022*.*
4. *Prepare a monitoring and assessment report based on the attached report format.*

B. FORMAT OF ASSIGNMENT REPORT

- i. *Text Format*
 - i. *This assignment must be in either Bahasa Malaysia or English and clearly typed.*
 - ii. *The fonts used must be Times New Roman size 12 and using double spacing (except for title page).*
 - iii. *The left and right margin must be 2.5 cm, while the top and bottom margin must be 2.5 cm and formatted in paper sized A4.*
 - iv. *The report must have a front cover (Please refer to Appendix I).*

ii. Report Format and Marking Scheme

| NO. | DESCRIPTION | MARKS |
|--------------|---------------------------------------|-------------------|
| 2.1 | WORKPLACE ASSIGNMENT DECLARATION FORM | 1 (COMPULSORY) |
| 2.2 | REPORT TITLE PAGE | 1 |
| 2.3 | EXECUTIVE SUMMARY | 10 |
| 2.4 | INTRODUCTION | 10 |
| 2.5 | METHODOLOGY | 15 |
| 2.6 | PERSONAL MONITORING RESULT | 25 |
| 2.7 | DISCUSSION | 20 |
| 2.8 | RECOMMENDATION | 10 |
| 2.9 | CONCLUSIONS | 3 |
| 2.10 | APPENDICES | 5 |
| TOTAL | | 100 |

2.1 WORKPLACE ASSIGNMENT DECLARATION FORM (1 marks - COMPULSORY)

- i. Refer to Appendix 2.
- ii. The Workplace Assignment Declaration form is a mandatory document. The assessor will fail the candidate if the candidate does not upload the Workplace Assignment Declaration Form or if there is no verification from the company (representative's signature & company stamp).

2.2 REPORT TITLE PAGE (1 marks)

- i. Refer to Appendix 1.
- ii. The front page should be the report title page and contain the following information:
 - The title of the report.
 - Type of monitoring.
 - Name and Identification Card Number.
 - Name and address of workplace monitored - DOSH registration number (if any).
 - Date of monitoring.

2.3 EXECUTIVE SUMMARY (10 marks)

Write a one-page summary to explain the

- i. Purpose
- ii. Main activities carried out by hygiene technician
- iii. Summary of findings
- iv. Recommendation
- v. Conclusion

2.4 INTRODUCTION (10 marks)

- i. Background information on a workplace, process description and work activity at the monitored area.
- ii. If monitoring is carried out in stages, which is different from the chemical risk assessor's recommendation, please state with justification.
- iii. Objective of monitoring.
- iv. Date of monitoring.
- v. No of shift and no of worker for every work unit.

2.5 METHODOLOGY (15 marks)

- i. Method used.
- ii. List of equipment used (serial number, calibration and expiry date).
- iii. Type of sampling media used.
- iv. Selection of worker from Similar Exposure Group (SEG).
- v. Justification on monitoring duration and number of samples.
- vi. Type of monitoring.

2.6 PERSONAL MONITORING RESULT (25 marks)

| Name of chemical / Sample No. | Work area | Work specification | Sampling Duration (Minutes) | Result (TWA ₈ / MEL/CL/ STEL) | PEL/ OES | Adjusted/ Mixed Exposure PEL (If applicable) | Compliance to PEL/OES |
|-------------------------------|-----------|--------------------|-----------------------------|--|----------|--|-----------------------|
| | | | | | | | |

2.7 DISCUSSION (20 marks)

- i. Compliance with PEL.*
- ii. Factors contribute to the exposure such as work practice, standard operating procedures, unsafe act or unsafe condition.*
- iii. Adequacy of existing control measures.*
- iv. Justification on sampling strategy including its limitation such as limited samples, due to the nature of work activity or task frequency.*

2.8 RECOMMENDATION (10 marks)

- i. Necessity of further monitoring.*
- ii. Necessity to review the control measures.*
- iii. Necessity of periodic exposure monitoring.*

2.9 CONCLUSIONS (3 marks)

- i. Conclude the monitoring objective.*
- ii. Determine the workers exposure in compliance with the PEL.*
- iii. Conclude the overall finding and action to be taken.*

2.10 APPENDICES (5 marks)

- i. HT notification form - Refer Appendix (ii) Guidelines on Monitoring of Airborne Chemical Hazardous to Health 2022 (Appendix 3).*
- ii. Process flowchart.*
- iii. Method Used (eg: US NIOSH Method).*
- iv. Calibration certificate.*
- v. Data and calculation form.*
- vi. Certificate of Analysis from laboratory.*
- vii. Plan layout with monitored workers location.*

C. SUBMISSION OF THE WORKPLACE ASSIGNMENT REPORT

The completed Workplace Assignment Report (WPA) must be uploaded separately from the Workplace Assignment Certification Form (Appendix 2).

Both documents need to be uploaded online at <https://myexam.niosh.net.my> before the WPA submission deadline (Refer to the Examination Schedule).

D. PAPER 2 – PART B: PRESENTATION

1. *The oral examination will be based on the **assignment report and knowledge in the field of chemical exposure monitoring**. You are required to present the report as if you are presenting it to the management. The presentation should contain the following:
 - i. *Purpose of the air monitoring.*
 - ii. *Description of sampling strategy.*
 - iii. *Method of sampling and analysis.*
 - iv. *Findings and discussions.*
 - v. *Conclusion and recommendation.**
2. *The presentation has to be prepared in Microsoft PowerPoint and must be printed out in **TWO (2)** copies for panel presentation. The presentation must tally with the WPA submitted.*
3. *The candidate is **NOT ALLOWED** to make any changes to the presentation after submission the WPA.*
4. *Duration of presentation session:*
 - i. *Presentation = 15 minutes.*
 - ii. *Questions and answers = 25 minutes.*

Lampiran 1 / Appendix 1

Nota: Ini adalah contoh halaman tajuk Laporan Tugas Tempat Kerja
Note: This is only a sample of Workplace Assignment Report title page

Report of Chemical Exposure Monitoring

at

A Manufacturing Company

(font size 22)

Type of Monitoring
(Personal/Area)

Location

Factory/Workplace Name

Full Address

DOSH Registration Number (if any)

Date Of Monitoring : DD/MM/YYYY

By

Name : _____

MyKad No. : XXXXXXXX-XX-XXXX

(font size 16)

Chemical Exposure Monitoring Examination

Paper 2: Workplace Assignment

(font size 12)

Lampiran 2 / Appendix 2

BORANG PERAKUAN TUGASAN TEMPAT KERJA
WORKPLACE ASSIGNMENT DECLARATION FORM

Adalah saya dengan ini mengaku bahawa Tugas Tempat Kerja ini yang disediakan untuk peperiksaan **Juruteknik Higien 1 (Pemonitoran Kimia)** adalah berdasarkan hasil kerja asal saya sendiri dan maklumat diperolehi hasil lawatan tapak ke tempat kerja saya yang berkenaan kecuali sedutan atau petikan yang dinyatakan.

Sekiranya maklumat yang dinyatakan tidak benar, pihak Jawatankuasa Kompetensi HT1 di bawah Lembaga Penilaian Kompetensi Keselamatan dan Kesihatan Pekerjaan (LPKKKP) berhak menggagalkan Tugas Tempat Kerja ini.

Borang Perakuan Tugas Tempat Kerja ini adalah dokumen wajib. Penilai akan menggagalkan calon sekiranya tiada pengesahan daripada syarikat (tandatangan wakil & cop syarikat).

*I hereby certify that this Workplace Assignment prepared for the **Hygiene Technician 1 (Chemical Monitoring)** examination is based on my original work and information's are gathered from the site visit except for citation and quotation made.*

If the information stated is not true, the Jawatankuasa Kompetensi HT1 under Lembaga Penilaian Kompetensi Keselamatan dan Kesihatan Pekerjaan (LPKKKP) reserves the rights to fail this Workplace Assignment.

The Workplace Assignment Declaration form is a mandatory document. The assessor will fail the candidate if no verification from the company (representative's signature & company stamp).

Tandatangan / Signature :

Nama / Name :

No. MyKad / MyKad No. :

Tarikh / Date :

PENGESAHAN SYARIKAT / COMPANY VERIFICATION

Saya mengesahkan penama seperti di atas telah menjalankan tugas tempat kerja di premis ini bagi tujuan peperiksaan **Juruteknik Higien 1 (Pemonitoran Kimia)**:

*I confirm the above-named person has conducted the workplace assignment at this premises for the purpose of the **Hygiene Technician 1 (Chemical Monitoring)** examination:*

Tandatangan / Signature :

Nama / Name :

Jawatan & Jabatan :
Position & Department

No. Tel. (Pej./Bimbit) :
Tel. No (Off./ Handphone)

Cop rasmi syarikat
Company official stamp

Tarikh / Date :

Lampiran 3 / Appendix 3

(GUIDELINES ON MONITORING OF AIRBORNE CHEMICAL HAZARDOUS TO
HEALTH 2022)

| HT Notification Form | |
|--|---|
| Date | : _____ |
| Workplace | : _____ _____ _____ _____ |
| Contact Person | : _____ |
| Ref: REPORT ON MONITORING OF AIRBORNE CHEMICAL HAZARDOUS TO HEALTH | |
| This is to certify that monitoring of airborne chemical hazardous to health for the above premise has been conducted and explained to the Safety and Health Committee member's/employer's representative of the workplace on the _____ (<i>date of presentation</i>). | |
| 2. | The report has been submitted to the employer on _____ (<i>date of submission</i>). |
| _____ Signature of Hygiene Technician | |
| DOSH Registration No. | : _____ |
| Monitoring Report Received by: (To be filled by employer) | |
| Name | : _____ |
| Designation | : _____ |
| Date of receipt report | : _____ |
| Signature | : _____ |