

Health monitoring

Guide for dichloromethane



Contents

Introduction	3
Dichloromethane	4
1. Health monitoring for dichloromethane under the Work Health and Safety (WHS) Regulations.....	4
2. Monitoring exposure to dichloromethane	5
Other health monitoring methods.....	5
Workplace exposure standard	6
Removal from work.....	7
Return to work	7
3. Final medical examination	7
4. Route of occupational exposure	8
5. Target organ/effect	8
6. Acute effects	8
CNS.....	8
Respiratory system.....	9
7. Chronic effects	9
8. Carcinogenicity.....	9
9. GHS classification	9
Source documents.....	10
Health monitoring report – Dichloromethane	12
Section 1 – A copy of this section to be provided to the PCBU	12
Section 2 – This section to be retained by the registered medical practitioner	15

Introduction

This guide is intended to be read by a registered medical practitioner with experience in health monitoring who is engaged by person conducting a business or undertaking (PCBU) to carry out or supervise health monitoring. It provides practical guidance to registered medical practitioners about requirements under the work health and safety (WHS) laws for health monitoring.

This guide applies to all workplaces covered by the WHS Regulations where health monitoring is required.

How to use this guide

This guide includes references to the legal requirements under the WHS Act and WHS Regulations. These are included for convenience only and should not be relied on in place of the full text of the WHS Act or WHS Regulations.

The words 'must', 'requires' or 'mandatory' indicate a legal requirement exists that must be complied with. The word 'should' is used in this guide to indicate a recommended course of action, while 'may' is used to indicate an optional course of action.

This guide provides information for those registered medical practitioners engaged by a PCBU to carry out or supervise health monitoring for workers. This guidance should be read in conjunction with the following:

- *Health monitoring guide for registered medical practitioners*
- *Health monitoring guides for hazardous chemicals*
- *Health monitoring guide for workers*
- *Health monitoring guide for persons conducting business or undertakings (PCBUs).*

Health monitoring under the WHS Regulations

In certain circumstances, the model WHS Regulations place duties on a PCBU to provide health monitoring to workers. These requirements arise if the worker is carrying out work with hazardous chemicals including lead and asbestos. In addition, the work being carried out must be the kind of work specified in the WHS Regulations. A PCBU has the duty to determine if health monitoring is required.

The WHS Regulations prescribe that health monitoring is carried out by or supervised by a registered medical practitioner with experience in health monitoring.

Dichloromethane

Dichloromethane (CAS 75-09-2) is a colourless, volatile liquid with a sweetish odour.

Synonyms: methylene chloride, methane dichloride, methylene dichloride.

Work activities that may represent a high risk exposure

The major uses of dichloromethane are:

- production of paint stripper
- furniture stripping
- pharmaceutical industry
- chemical manufacturing or formulation
- process solvents
- polyurethane foam manufacturing
- metal degreasing
- stripping and degreasing in electronics industry
- solvent in polycarbon resin production
- photographic film based manufacturing, and
- formulation of adhesives, varnish sealants, adhesive removers, dry cleaning products, paints, insecticides, hair spray, and detergents.

In the food industry dichloromethane is used as an extraction solvent for spice oleoresins, hops, and for the removal of caffeine from coffee. However, due to concern over residual solvent, most decaffeinator no longer use dichloromethane.

Sources of non-occupational exposure

Exposure to dichloromethane outside of the workplace includes:

- extractant in edible fats, cocoa, spices, caffeine and hops
- paint strippers
- hairspray aerosols
- cleaning products
- room deodorants, and
- lubricating and degreasing products in aerosol form.

1. Health monitoring for dichloromethane under the Work Health and Safety (WHS) Regulations

Collection of demographic, medical and occupational history

Physical examination with emphasis on the central nervous system

Urinary dichloromethane

Health monitoring before starting work in a dichloromethane process

Health monitoring for dichloromethane may be required before the worker starts work so that changes to the worker's health can be detected.

Initial discussions about a health monitoring program should include:

- possible health effects from exposure to dichloromethane
- how to recognise and report symptoms, and
- what is involved in the health monitoring program, for example the frequency of testing and the tests that may be needed.

An initial physical examination should place emphasis on the central nervous system (CNS) if work and medical history indicates this is necessary. An initial medical examination should be carried out for frequent or potential high exposure work (half or more of the eight hour time weighted average) and at 12 month periods thereafter.

During exposure to a dichloromethane process

2. Monitoring exposure to dichloromethane

Where workers are exposed, suspected of being exposed or are concerned about exposure to dichloromethane, the person conducting the business or undertaking (PCBU) has a duty to arrange a health monitoring appointment with a registered medical practitioner. For example, an appointment should be arranged following spills or loss of containment of dichloromethane resulting in excessive exposure to workers or when workers develop symptoms of dichloromethane exposure.

Up to 75 per cent of inhaled dichloromethane is absorbed. Dichloromethane is also readily absorbed through the skin and following ingestion. Neither dichloromethane nor its metabolites accumulate in tissue. The main route of metabolism of dichloromethane is *via* oxidation to carbon monoxide (CO) and carbon dioxide that are largely exhaled. Lesser amounts of unchanged parent are eliminated in exhaled breath and in urine. The fractions eliminated can vary depending on the absorbed dose; the oxidative metabolic pathway can become saturated at high doses (greater than 250 ppm).

The following test may be used to test the worker's dichloromethane exposure levels:

- urinary dichloromethane analysis.

Where urinalysis is carried out, the following value may be used as a guide when assessing exposure to dichloromethane:

Biological exposure guide for dichloromethane¹

Urinary dichloromethane:

0.3 mg/L

Timing of sample collection is important for quantitative evaluation of exposure. Since urine may be assumed to be in diffusional equilibrium with the blood leaving the kidneys, and blood levels appear to reach steady state after two hours of exposure, sampling just after the end of shift should provide an indication of the average exposure over the period since the previous void.

During sample collection, special precautions should be taken to avoid loss of dichloromethane by evaporation or absorption in rubber or plastic, and to avoid contamination of the sample from the atmosphere.

The test is specific for dichloromethane exposure and results are not confounded by smoking status.

Other health monitoring methods

Other biological tests that may be used (or have been used) to test worker exposure to dichloromethane include measurement of:

¹ American Conference of Governmental Industrial Hygienists (ACGIH) (2017) *Biological Exposure Indices; Dichloromethane*.

EU Scientific Committee on Occupational Exposure Limits (SCOEL). (2009) *Recommendation from the scientific committee on occupational exposure limits for methylene dichloride (dichloromethane)*. SCOEL/SUM/130.

- dichloromethane in blood
- dichloromethane in breath
- carboxylated haemoglobin (COHb) in blood, or
- carbon monoxide in exhaled breath.

Dichloromethane levels in blood also provide a specific indication of exposure to dichloromethane. The data are not confounded by smoking status. Sample collection time is critical and similar precautions to those for urine collection for dichloromethane analysis are warranted. Sampling should occur during or immediately after exposure for quantitative analysis. The method may be used as confirmatory for exposure. If this method is used, the following value may be used as a guidance value:

Blood dichloromethane levels (immediately after exposure)²:

0.5–1 mg/L

Dichloromethane in exhaled breath should only be relied upon as a confirmatory test for exposure, rather than as a test for the extent of exposure. The test is specific for dichloromethane exposure. Sample collection time is critical and should occur immediately after exposure. Special precautions should be taken to avoid contamination or loss of sample due to evaporation.

Dichloromethane is metabolised to CO which can bind to haemoglobin in blood to form COHb. COHb levels in blood have been used as an indicator of the extent of dichloromethane exposure. There is generally a good correlation between blood COHb levels and dichloromethane exposure in non-smokers. However, as CO and COHb formation are not restricted to dichloromethane exposure, interpretation of COHb levels as an indicator of dichloromethane exposure is difficult in smokers; in heavy smokers, blood COHb levels may be higher than the guidance value shown below. These potentially confounding factors should be considered when interpreting the results. If this method is used, the following value may be used as a guidance value:

Blood COHb levels (end of work shift)³:

4 per cent COHb

CO levels in exhaled breath may also provide an indication of dichloromethane exposure. As with blood COHb levels, results may be confounded by smoking. While several CO monitors are commercially available, this test is recommended as an indicator test only, due to its lack of specificity. Confirmatory tests for dichloromethane exposure would still be necessary.

Workplace exposure standard

The workplace exposure standard for dichloromethane (dichloromethylene; methylene chloride) is:

- eight hour time weighted average (TWA) of 50 ppm (174 mg/m³).

A physical examination and urinary testing may be indicated if the results of air monitoring indicate frequent or potentially high exposure (half of the TWA or above).

² EU Scientific Committee on Occupational Exposure Limits (SCOEL). (2009) Recommendation from the scientific committee on occupational exposure limits for methylene dichloride (dichloromethane). SCOEL/SUM/130. DFG (2017) List of MAK and BAT Values.

³ EU Scientific Committee on Occupational Exposure Limits (SCOEL). (2009) Recommendation from the scientific committee on occupational exposure limits for methylene dichloride (dichloromethane). SCOEL/SUM/130.

NOTE: Dichloromethane is readily absorbed through the skin and air monitoring results may not be a true indication of exposure.

Removal from work

Where a medical examination indicates the worker is displaying symptoms of exposure to dichloromethane or where results of biological monitoring indicate exposure that may cause adverse health effects, the registered medical practitioner should consider recommending the worker be removed from dichloromethane-related work.

When removal from dichloromethane-related work is indicated the registered medical practitioner must provide the PCBU with the following recommendations:

- the worker should be removed from work with dichloromethane, and
- the PCBU should review control measures and carry out recommended remedial action.

The worker must be informed of the results of health monitoring.

Return to work

Should a worker be removed from dichloromethane-related work, they must not return until the registered medical practitioner has:

- assessed them as medically fit, and
- made a recommendation to the PCBU that the worker can return to remediated dichloromethane-related work.

This assessment should take into consideration the clinical condition of the worker, the worker's urinary dichloromethane levels and remediation of the circumstances that led to the symptoms if possible.

At termination of work in a dichloromethane process

3. Final medical examination

Specimens for urine dichloromethane should be collected on the last shift on the last day of work and a final medical examination carried out as soon as practical thereafter.

Workers with health conditions or continuing symptoms due to dichloromethane exposure should be advised to seek continuing medical examinations as organised by the registered medical practitioner supervising the health monitoring program.

A health monitoring report from the registered medical practitioner should be provided to the PCBU as soon as practicable after the completion of the monitoring program, and at regular intervals for longer term or ongoing health monitoring processes. The report must include:

- the name and date of birth of the worker
- the name and registration number of the registered medical practitioner
- the name and address of the PCBU who commissioned the health monitoring
- the date of the health monitoring
- any test results that indicate whether or not the worker has been exposed to a hazardous chemical
- any advice that test results indicate that the worker may have contracted an injury, illness or disease as a result of carrying out the work that triggered the requirement for health monitoring
- any recommendation that the PCBU take remedial measures, including whether the worker can continue to carry out the type of work that triggered the requirement for health monitoring, and

- whether medical counselling is required for the worker in relation to the work that triggered the requirement for health monitoring.

Potential health effects following exposure to dichloromethane

4. Route of occupational exposure

The primary route of exposure is *via* inhalation. Dichloromethane may also be absorbed through skin contact. Accidental ingestion may be possible, especially when eating or smoking with contaminated hands.

Absorption occurs rapidly and in high levels of exposure to dichloromethane, saturation can occur, leading to death in some cases. The inhalation absorption rate is 70 to 75 per cent and the oral absorption rate is approximately 97 per cent.

Dichloromethane can cross the blood-brain, and placental barrier, and has also been found in breast milk.

5. Target organ/effect

The target organs and potential effects of dichloromethane exposure include:

Table 1 Target organs and potential effects of dichloromethane exposure

Target organ	Effect
Central nervous system	<ul style="list-style-type: none"> • Impairment of function • Dizziness • Headache • Unconsciousness • Death
Liver	<ul style="list-style-type: none"> • Dysfunction
Skin	<ul style="list-style-type: none"> • Irritation • Burns
Respiratory tract	<ul style="list-style-type: none"> • Irritation
Eyes	<ul style="list-style-type: none"> • Irritation

6. Acute effects

The primary health effects associated with acute exposure to dichloromethane is impairment of the CNS function, particularly narcosis and respiratory depression.

Acute inhalation of extremely high concentrations of dichloromethane can be fatal.

CNS

Acute exposure to dichloromethane may cause:

- depression of the CNS and neurotoxicity:
 - recurring severe headaches
 - numbness/tingling in hands and feet
 - dizziness
 - loss of memory, confusion, irritability and personality changes
 - slurred speech

- deficits in visual and psychomotor performance (incoordination, reaction time, hand precision, steadiness, gait impairment) and auditory function
- drowsiness
- narcosis
- loss of consciousness, and
- seizures
- coma, and
- death.

The non-lethal effects on the CNS are not permanent and generally cease after the worker has been removed from the workplace and the chemical has been cleared from the body.

Respiratory system

Acute exposure to dichloromethane *via* inhalation may cause upper respiratory tract irritation, coughing breathlessness and tightness of the chest.

Cardiovascular system

Dichloromethane may cause transient electrocardiography (ECG) changes resembling carbon monoxide poisoning. Such abnormalities most often involved the ST segment and T wave, features associated with acute coronary ischemia. Reported cases of dysrhythmias are rare and, if encountered, benign in nature.

Gastrointestinal system

Acute exposure to dichloromethane via ingestion may cause nausea, vomiting gastrointestinal ulceration and liver dysfunction.

Haematological system

Acute exposure to dichloromethane via inhalation may cause increased COHb, increases in red cell count, haemoglobin, and haematocrit may be seen.

Eyes

Acute exposure to airborne dichloromethane may cause irritation, and in severe exposure, corneal burns.

Skin

Acute skin exposure to dichloromethane may cause chemical burns, skin irritation and blistering.

7. Chronic effects

The major effects from chronic inhalation exposure to dichloromethane in humans are effects on the CNS such as headaches, dizziness, nausea and memory loss.

Liver toxicity and congestion may also occur.

8. Carcinogenicity

Dichloromethane has been classified as a Category 2 carcinogen according to the Globally Harmonized System of Classification and Labelling of Chemicals (GHS) as it is suspected of causing cancer in humans.

9. GHS classification

The following GHS health hazard classification for dichloromethane has been taken from Safe Work Australia's Hazardous Chemicals Information System.

Hazard category

Carcinogenicity – category 2

Source documents

Agency for Toxic Substances and Disease Registry; Toxic Substances Portal – [Methylene Chloride](#).

American Conference of Governmental Industrial Hygienists (ACGIH) (2017) Biological Exposure Indices; Dichloromethane.

Brooke, D. and How, P. (1994) Environmental hazard assessment: dichloromethane. Watford, Department of the Environment, Building Research Establishment.

Centers for Disease Control and Prevention; The National Institute for Occupational Safety and Health (NIOSH); [Methylene Chloride](#).

[Chemical analysis branch handbook, 9th Edition, Workplace and biological monitoring exposure analysis](#), WorkCover NSW (PDF 3.39MB).

DFG (2017) List of MAK and BAT Values.

EU Scientific Committee on Occupational Exposure Limits (SCOEL). (2009) Recommendation from the scientific committee on occupational exposure limits for methylene dichloride (dichloromethane). SCOEL/SUM/130.

Ghittori, S., Marraccini, P., Franco, G. and Imbriani, M. (1993) Methylene chloride exposure in industrial workers. *Am. Ind. Hyg. Assoc. J.* 54: 27-31.

Lauwerys, R.R. and Hoet, P. (2001) *Industrial Chemical Exposure Guidelines for Biological Monitoring*, 3rd Ed, Lewis Publishers, Boca Raton.

McCammon, C.S., Glaser, R.A. , Wells , V.E., Phipps, F.C. and Halperin, W.E. (1991) Exposure of workers engaged in furniture stripping to methylene chloride as determined by environmental biological monitoring. *Appl. Occup. Environ. Hyg.* 6: 371-379 .

McKenna, M.J., Zempel, J.A, and Braun, W.H. (1982) The pharmacokinetics of inhaled methylene chloride in rats. *Toxicol. Appl. Pharmacol.* 65: 1-10.

National Industrial Chemicals Notification and Assessment Scheme; Human Health Tier II Assessment for [Methane, dichloro](#).

Safe Work Australia (2013); [Workplace Exposure Standards for Airborne Contaminants](#) (PDF 873KB).

Safe Work Australia; [Hazardous Chemicals Information System](#).

Soden, K.J. (1993) An evaluation of chronic methylene chloride exposure. *J. Occup. Med.* 35: 282-286.

United States Department of Labor; Occupational Safety and Health Administration; [Methylene Chloride](#) World Health Organisation; [Chapter 5.7 Dichloromethane](#) (PDF 184KB).

US Environmental Protection Agency; Assessing and Managing Chemicals under TSCA; Fact Sheet: [Methylene Chloride or Dichloromethane \(DCM\)](#).



Health monitoring report

Dichloromethane

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Health monitoring report – Dichloromethane

This health monitoring report is a confidential health record and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with the consent of the worker.

There are two sections. Complete both sections and all questions as applicable.

Section 1 A copy of this section should be forwarded to the person conducting the business or undertaking (PCBU) who has engaged your services.

Section 2 may contain confidential health information. Information that is required to be given to the PCBU should be summarised in Section 1.

Section 1 – A copy of this section to be provided to the PCBU

Person conducting a business or undertaking

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Other businesses or undertakings engaging the worker (include a separate section for each PCBU)

N/A

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Worker details (tick all relevant boxes)

Surname: Click here to enter text.

Given names: Click here to enter text.

Date of birth: Click here to enter a date.

Sex: Male Female

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Current job: Click here to enter text.

Tel (H): Click here to enter text.

Mob: Click here to enter text.

Date started employment: Click here to enter a date.

Employment in dichloromethane risk work (tick all relevant boxes) (information provided by the PCBU)

New to dichloromethane work

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

- New worker but not new to dichloromethane work
- Current worker continuing in dichloromethane work

Worked with dichloromethane since: [Click here to enter a date.](#)

Risk assessment completed: Yes No

Work environment assessment (tick all relevant boxes)
(information provided by the PCBU)

Date of assessment: [Click here to enter a date.](#)

Dichloromethane industry/use

- Production of paint stripper
- Pharmaceutical industry
- Processing solvents
- Food industry
- Stripping and degreasing in electronics industry
- Using solvent in polycarbon resin production
- Photographic film based manufacturing
- Furniture stripping
- Chemical manufacturing or formulation
- Polyurethane foam manufacturing
- Metal degreasing

Formulation of:

- Adhesives
- Adhesive removers
- Paints
- Hair spray
- Other (specify): [Click here to enter text.](#)
- Varnish sealants
- Dry cleaning products
- Insecticides
- Detergents

Controls

Wear gloves	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Respirator use	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Respirator type	Click here to enter text.	
Local exhaust ventilation	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Overalls/work clothing	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Laundering by employer	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Wash basins and showers (with hot and cold water)	<input type="checkbox"/> Yes	<input type="checkbox"/> No
Other please specify		

Health monitoring results

Biological monitoring results

Include/attach test results that indicate whether or not the worker has been exposed

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Date	Tests performed	Recommended action or comment
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.
Click here to enter text.	Click here to enter text.	Click here to enter text.

Comments about health monitoring results (for example any early indications or diagnosis of injury, illness or disease): Click here to enter text.

Recommendations (by registered medical practitioner) (tick all relevant boxes)

Further/additional health monitoring for worker

- This is the final health monitoring report
- Repeat health assessment in Click here to enter text. month(s) / Click here to enter text. week(s)
- Counselling required
- Medical examination by registered medical practitioner. On Click here to enter a date.
- Referred to Medical Specialist (respiratory/dermatology/other). On Click here to enter a date.

Recommendations to PCBU

- The worker is suitable for work with dichloromethane
- Review workplace controls
- The worker should be removed from work with dichloromethane. On Click here to enter a date.
- The worker is fit to resume work. On Click here to enter a date.
- Biological monitoring results indicate unacceptably high exposure levels

Specialist's name: Click here to enter text.

Additional comments or recommendations: Click here to enter text.

Registered medical practitioner (responsible for supervising health monitoring)

Name: Click here to enter text.

Signature:

Date: Click here to enter a date.

Tel: Click here to enter text.

Fax: Click here to enter text.

Registration Number: Click here to enter text.

Medical Practice: Click here to enter text.

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Section 2 – This section to be retained by the registered medical practitioner

Person conducting a business or undertaking

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Other businesses or undertakings engaging the worker

N/A

Company/organisation name: Click here to enter text.

Site address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Site Tel: Click here to enter text.

Site Fax: Click here to enter text.

Contact Name: Click here to enter text.

Worker details (tick all relevant boxes)

Surname: Click here to enter text.

Given names: Click here to enter text.

Date of birth: Click here to enter a date.

Sex: Male Female Pregnant/breastfeeding

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.

Current job: Click here to enter text.

Tel (H): Click here to enter text.

Mob: Click here to enter text.

Date started employment: Click here to enter a date.

Past employment and exposure details (tick all relevant boxes)

Have you ever worked in any of the following jobs?

If you answered 'yes' to any of the questions, please advise if you experienced any symptoms such as cough or wheeze or asthma when working.

			Comments (all 'yes' answers)
Smelter or refinery	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Production of paint stripper	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Furniture stripping	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Pharmaceutical industry	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Chemical manufacturing or formulation	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

			Comments (all 'yes' answers)
Processing of solvents	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Polyurethane foam manufacturing	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Food industry - extraction solvent for spice oleoresins, hops, and for the removal of caffeine from coffee	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Metal degreasing	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Stripping and degreasing in electronics industry	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Using solvent in polycarbon resin production	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Photographic film based manufacturing	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Formulation of adhesives, varnish sealants, adhesive removers, dry cleaning products, paints, insecticides, hair spray, and detergents	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Other (please specify)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

General health questionnaire (tick all relevant boxes)

Did you suffer any incapacity lasting two weeks or longer in the last two years	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Have you ever had any operations or accidents or been hospitalised for any reason	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Are you currently being treated by a doctor or other health professional for any illness or injury	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Are you currently receiving any medical treatment or taking any medications. Please detail.	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Do you currently smoke	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Do you practice personal hygiene at work, for example nail biting, frequency of hand washing, eating or smoking, clean shaven, shower and change into clean clothes at end of shift	<input type="checkbox"/> No	<input type="checkbox"/> Yes	

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Specific health questions (tick all relevant boxes)

Do you have or have you ever had:

Chest pains or irregular heartbeats or suffered from rheumatic fever	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
High blood pressure or heart disease (including heart attack, heart surgery, murmurs, angina)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Family history of heart disease	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Shortness of breath on exertion	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Wheezing, bronchitis or asthma now or in the past	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any other lung or respiratory conditions (emphysema, pneumonia or sinusitis)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Allergies, hay fever, or allergic bronchitis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Liver disease (including alcohol related or other hepatitis)	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Fits, blackouts, dizziness or fainting	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Epilepsy	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Severe head or spinal injury resulting in hospitalisation	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Severe headaches or migraines	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Chronic fatigue or tiredness	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Significant weight loss	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any neurological condition affecting nerves in your feet or hands, your coordination or balance	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Heavy use or substance abuse of drugs or alcohol	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin disorders or dermatitis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any form of cancer	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Any other significant health conditions	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

General health assessment (if applicable)

Height: Click here to enter text. cm

Weight: Click here to enter text. kg

BP: Click here to enter text. / Click here to enter text. mmHg

Urinalysis

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Blood: Normal Abnormal

Protein: [Click here to enter text.](#)

Referred for further testing

Sugar: [Click here to enter text.](#)

No Yes

Cardiovascular system			Medical comments (for all yes/abnormal)
Blood pressure	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Heart rate	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Heart sounds	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Murmurs present	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Evidence of cardiac failure/oedema	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Respiratory system			
Breathing normal and regular in character	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Click here to enter text.
Auscultation normal	<input type="checkbox"/> Yes	<input type="checkbox"/> No	Click here to enter text.
Signs of past/present respiratory disease	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Nervous system			
Muscular tone, co-ordination	<input type="checkbox"/> Normal	<input type="checkbox"/> Abnormal	Click here to enter text.
Tremor	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin			
Eczema, dermatitis or allergy	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Skin cancer or other abnormality	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Evidence of nail biting	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Mouth - stomatitis	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Gums – ulcers or bleeding	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.
Other	<input type="checkbox"/> No	<input type="checkbox"/> Yes	Click here to enter text.

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

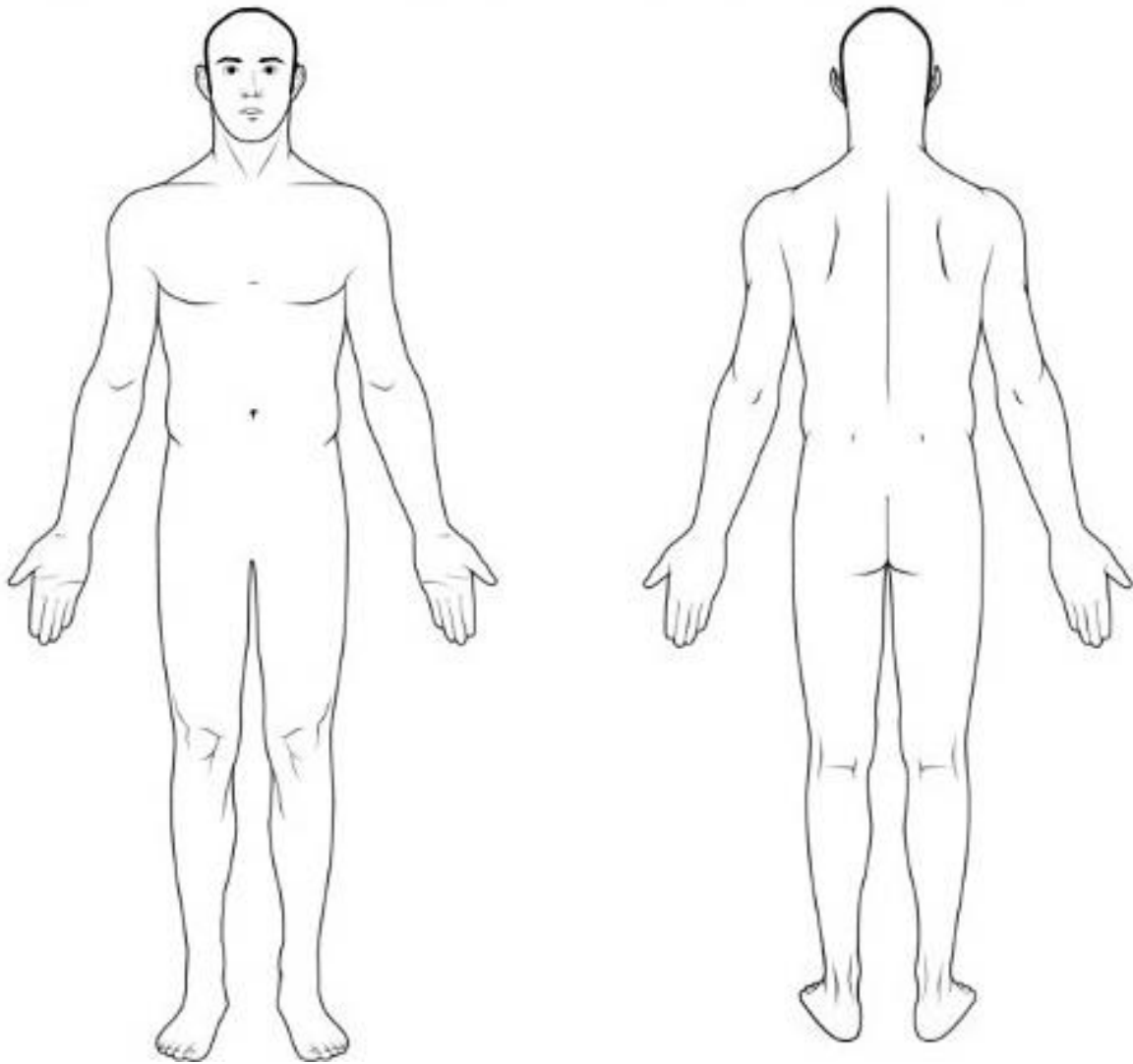


Figure 1 Template of the human body to indicate the location of abnormalities

Biological monitoring results

Include/attach at least the previous two test results (if available)

Date	Tests performed	Recommended action or comment
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.
Click here to enter a date.	Click here to enter text.	Click here to enter text.

Other medical history, family medical history, current medication, comments, tests or recommendations (use separate sheet if necessary)

Click here to enter text.

This form contains confidential information and must not be disclosed to another person except in accordance with the Work Health and Safety Regulations or with consent of the worker

Registered medical practitioner (responsible for supervising health monitoring)

Name: Click here to enter text.

Signature:

Date: Click here to enter a date.

Tel: Click here to enter text.

Fax: Click here to enter text.

Registration Number: Click here to enter text.

Medical Practice: Click here to enter text.

Address: Click here to enter text.

Suburb: Click here to enter text.

Postcode: Click here to enter text.