

Health Monitoring

1. Purpose

GVK Group employees undertake a wide range of activities in diverse work environments and as a result they may at times be exposed to physical hazards or hazardous substances.

This procedure provides guidance for health monitoring, including risk controls, health tests that may be required, managing health test results and recommendations. It details record keeping requirements for monitoring:

- Exposure to hazardous chemicals
- Exposure to asbestos or asbestos-containing material (ACM) through tasks which have caused inadvertent generation of dust containing asbestos fibres or particulates
- Exposure to respirable crystalline silica and silica-containing products, including granite, shale, natural sandstone, aggregates, mortar and concrete.
- Exposure to lead
- Exposure to hazardous noise
- Exposure to other hazardous substances, as prescribed by relevant legislative requirements.

This procedure applies to all workers including managers, supervisors and directors.

2. Definitions

Airborne contaminant

A contaminant in the form of a fume, mist, gas, vapour or dust, and includes microorganisms. An airborne contaminant of this type is a potentially harmful substance that is either not naturally in the air or is present in an unnaturally high concentration and to which workers may be exposed in their working environment.

Breathing zone

A hemisphere of 300 mm radius extending in front of a person's face and measured from the midpoint of an imaginary line joining the ears.

Exposure standard

An exposure standard in the Workplace exposure standard for airborne contaminants in Appendix A. An exposure standard listed in Appendix A represents the airborne concentration of a particular substance or mixture that must not be exceeded. The exposure standard can be of three forms:

- a) eight hour time weighted average,
- b) peak limitation, and
- c) short term exposure limit.

Peak limitation

Means a maximum or peak airborne concentration of a substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.

Short term exposure limit (STEL)

Is the time weighted average maximum airborne concentration of a substance calculated over a 15 minute period.

Eight hour time weighted average (TWA)

Means the maximum average airborne concentration of a substance when calculated over an eight hour working day, for a five day working week.

3. Requirements

GVK Group is committed to the health and wellbeing of all workers. Managers will consult with workers who may through their work activity, be exposed to physical hazards or hazardous substances and provide relevant information about the substance and associated health monitoring.

In line with our commitment to worker health, GVK Group shall take all reasonable steps to prevent excessive exposure to physical hazards or hazardous substances.

GVK Group commits to providing appropriate personal protective equipment, as well as ensuring adequate control measures are developed in accordance with High-Risk Construction Work SWMS, task-based risk assessments, and regulatory requirements.

If hazardous exposure levels are identified or suspected from performance or generation of work tasks:

- The hazards must be managed according to the risk level using the risk management hierarchy of controls.
- Required health monitoring must be conducted.

4. Hazardous chemicals

Work processes can release dusts, gases, fumes, vapours or mists into the air. These are known as airborne contaminants and may be invisible. People that breathe in airborne contaminants at work may be at risk of adverse health effects, including developing an occupational lung disease.

GVK Group will ensure that any work processes that create airborne contaminants that require health monitoring for employees will be managed to ensure risks are as low as reasonably practicable.

Hazardous chemicals requiring health monitoring under the WHS Regulation include:

- Acrylonitrile
- Arsenic (inorganic)
- Asbestos
- Benzene
- Cadmium
- Chromium (inorganic)
- Creosote
- Isocyanates
- Lead (inorganic)
- Mercury (inorganic)

- 4, 4'-Methylene bis (2-chloroaniline) (MOCA)
- Organophosphate pesticides
- Pentachlorophenol (PCP)
- Polycyclic aromatic hydrocarbons (PAH)
- Silica, crystalline
- Thallium
- Vinyl chloride

Not all chemical substances behave the same and therefore some present higher risks to workers than others. Known factors that can increase risks to workers include:

Skin absorption

Some substances easily penetrate intact skin and are absorbed into the body. Skin absorption may be a significant source of exposure.

Sensitisation

Some substances are known to cause sensitisation and create greater risks to sensitised workers. Sensitised workers may also react to levels of the substance below the exposure standard and should not be exposed further to the substance.

Mixtures of substances

The combined effect of exposure to multiple substances, either simultaneously or sequentially, which increase risk to health and safety must be considered.

Where required, GVK Group will engage a specialist occupational health monitoring company to conduct monitoring of airborne contaminants to estimate a person's exposure. The monitoring must be carried out in the breathing zone of the person.

Other health monitoring of the worker must also be carried out by a registered health monitoring doctor.

5. Asbestos and Asbestos Containing Materials

Asbestos is a naturally occurring mineral and can typically be found in rock, sediment or soil. It has strong fibres that are heat resistant and have good insulating properties. In some mining, site excavation and road building activities, some asbestos types may be present as geological contaminants.

Under the Work Health and Safety Regulations a person conducting a business or undertaking (PCBU) must not carry out, direct or allow a worker to carry out work involving asbestos. This includes manufacture, supply, transport, store, remove, use, install, handle, treat, dispose of or disturb asbestos or asbestos containing materials (ACMs).

In the event asbestos is found on a worksite in which GVK Group is conducting work, then the work will cease until testing of the product has been completed and a report is provided to GVK Group supervisor onsite. The principal contractor will be responsible to arrange the safe removal of asbestos in accordance with WHS Regulation.

Where workers are exposed, suspected of being exposed or are concerned about exposure to asbestos, GVK Group will arrange a health monitoring appointment with a registered medical practitioner. Records of health monitoring reports are to be retained for 40 years for those exposed to asbestos and will be treated as confidential.

6. Respirable Crystalline Silica (RCS)

Silica is silicon dioxide, a naturally occurring and widely abundant mineral that forms the major component of most rocks and soils. There are non-crystalline and crystalline forms of silicon dioxide. The most common type of crystalline silica is quartz.

Silica dust or respirable crystalline silica (RCS) is generated in workplace mechanical processes such as crushing, cutting, drilling, grinding, sawing or polishing of natural or man-made stone. RCS can penetrate deep into the lungs and can cause irreversible lung damage.

The workplace exposure standard (WES) for respirable crystalline silica (RCS) dust is 0.05 mg/m³ as a time-weighted average airborne concentration over 8 hours.

GVK Group is committed to ensure worker exposure to silica dust is kept as low as reasonably practicable and that air monitoring is conducted where there is uncertainty that the workplace exposure standard is being exceeded or to find out if there is a risk to worker health.

Where a worker risk of exposure to crystalline silica is significant, suitable health monitoring will be conducted and GVK Group will work with relevant clients to ensure dust control measures are implemented and reviewed regularly.

7. Lead

Inorganic lead (lead) and lead compounds are found in many workplaces as either dust or fumes in an oxide or salt form. Work process at GVK Group will be assessed to determine if it exposes workers to any:

- Lead particles, dust or fumes (for example, grinding, sanding or welding)
- Lead batteries or parts of batteries.

Suitable control measures will be put in place to minimise lead exposure, including:

- Confining lead work to one area as much as possible
- Use of personal protective equipment
- Health monitoring

GVK Group will ensure that workers are not exposed to lead above the workplace exposure standard (WES). The WES for inorganic lead (eight hour time weighted average) is 0.05mg/m³. Where an employee's exposure limit may exceed the workplace exposure standard, GVK Group will ensure health monitoring appointment is made with a health monitoring doctor and biological monitoring is conducted according to the WHS regulator.

Monitoring records will be kept for a minimum of 30 years and will be made available to the relevant worker.

8. Hazardous Noise

GVK Group will ensure that workers are not exposed to noise above the exposure standard as much as is reasonable. Noise can be measured in two ways. One is for noise over an eight-hour shift and one is “peak” or one-off noise. Workers must not be exposed above 85 decibels (as an average) over eight hours at work. This rule changes depending on decibels and time exposed. For example, the risk at 91 decibels over two hours is the same as 85 decibels over eight hours. Table 1 provides examples of the length of time a person without hearing protection can be exposed before the standard ($L_{Aeq,8h} = 85$ dB(A)) is exceeded.

Noise level dB(A)	Exposure time before standard is exceeded
80	16 hours ¹
82	12 hours ²
85	8 hours
88	4 hours
91	2 hours
94	1 hour
97	30 minutes
100	15 minutes
103	7.5 minutes
106	3.8 minutes
109	1.9 minutes
112	57 seconds
115	28.8 seconds
118	14.4 seconds
121	7.2 seconds
124	3.6 seconds
127	1.8 seconds
130	0.9 seconds

Table 1: Equivalent noise exposures

Workers will not be exposed to a noise level above 140 decibels. Any exposure above this level could instantly damage hearing.

Where there is a risk of noise-related injury in the workplace, GVK Group will reduce of risk of noise-related injury including:

- Identifying noise hazards
- Undertaking noise assessments
- Using suitable control measures
- Provide personal protective equipment to workers and
- Testing noise levels.

¹ The adjustment factor for extended work shifts shown the Code is taken into account. For extended periods longer than eight hours refer to adjusted exposure standards.

² $L_{Aeq,8h}$ means the eight-hour equivalent continuous A-weighted sound pressure level in decibels (dB(A)) referenced to 20 micropascals; determined in accordance with AS/NZS 1269.1–2005: Occupational noise management—Measurement and assessment of noise emission and exposure.

Audiometric testing

In accordance with Clause 58 Audiometric testing under the NSW Work Health and Safety Regulation (2017), where a worker needs to frequently wear personal hearing protection to protect them from noise above the noise exposure standard, the worker will be required to undertake audiometric testing. Only workers who are *frequently* required to wear hearing protection as a control measure where noise exceeds the exposure standard are required to undertake audiometric testing. This also applies to workers in Queensland.

For new workers, a baseline hearing test must be completed within three months of commencing their employment. The worker must then get a follow-up monitoring hearing test at least every two years during their employment. More frequent hearing tests may be required for workers exposed to high, average noise levels throughout their work shift, (e.g., $\geq 100\text{dB(A)}$).

GVK Group will arrange for a hearing test appointment at a preferred audiology clinic in the local area and will ensure that all hearing test reports, including any updated baseline hearing tests, are kept as confidential documents. Employees will get a copy of their hearing test reports when their employment ends.

Noise assessments

GVK Group will work with clients who have complex workplaces to make a reasonable attempt to assess the risk of noise at the workplace.

For complex workplaces where there are many or varied noise sources, or where workers move in and out of noisy areas, a competent person should complete a noise assessment e.g. an occupational hygienist.

For simpler workplaces where there is one noisy work activity or a single noisy machine, the PCBU can engage the machines manufacturer to provide information on noise levels.

Adjustment of eight hour time weighted average exposure standards

Where workers have a working day longer than eight hours or work more than 40 hours a week, the person conducting the business or undertaking must determine whether the TWA exposure standard needs to be adjusted to compensate for the greater exposure during the longer work shift, and decreased recovery time between shifts.

Peak limitation or short term exposure limit exposure standards must not be adjusted. TWA exposure standards must not be adjusted (increased) for shorter work shifts.

9. Other hazardous substances

If there is a significant risk to a worker of exposure to another hazardous chemicals (not listed in Schedule 14 of the WHS Regulation) and there are suitable testing methods available such as cyclophosphamide, ethyl benzene and nickel, GVK Group will ensure suitable health monitoring is conducted.

10. Health Monitoring Records

Health monitoring reports must be developed for each affected worker. If the health monitoring report identifies the need for further medical treatment, this will be managed by GVK Group.

Any treatment programs for adverse health effects are to be discussed between the worker and their medical practitioner. If adverse health effects require changes to work practices, relevant management must be included in the review and implementation.

Health monitoring records, results and any recommendations must be kept confidential. They must not be disclosed without the worker's written consent except where the WHS Regulation requires records be given to any of the following:

- Any state or territory safety regulator
- A state or territory Dust Disease Board or equivalent
- Another person conducting a business or undertaking (PCBU) with a duty to provide health monitoring for the worker or whose work will, or has the potential to, impact identified affected workers or workgroups.

All records generated from this procedure will be maintained in accordance with GVK Group Document and Records Procedure.

11. Review

This procedure remains in force until such time as it is withdrawn or amended by way of undertaking a review and an updated version is issued. As a guideline, this procedure will be reviewed by senior management every two years.

12. Breach

Employees are required to comply with this procedure as a condition of their employment. Any breach of this procedure may lead to disciplinary action. Employees wishing to discuss any aspect of this procedure should contact their manager.

13. Relevant Acts and Regulations

Work Health and Safety Act 2011 (NSW)

Work Health and Safety Regulation 2017 (NSW)

Work Health and Safety Act 2011 (QLD)

Work Health and Safety Regulation 2011 (QLD)

14. Relevant Documents

Code of Practice: Managing noise and prevention hearing loss at work

SafeWork Australia – Working with silica and silica containing products guidance material

SafeWork Australia – Health monitoring: Guide for persons conducting a business or undertaking

AS/NZS 1269.1 Occupational noise management—Measurement and assessment of noise emission and exposure

AS/NZS 1270:2002 Acoustics – Hearing protectors