WORKSAFE NEW ZEALAND | MAHI HAUMARU AOTEAROA

HEALTH & SAFETY AT WORK ACT · HSWA

FACT SHEET

RESPIRATORY PROTECTIVE EQUIPMENT – ADVICE FOR PERSONS CONDUCTING A BUSINESS OR UNDERTAKING

This fact sheet is for persons conducting a business or undertaking (PCBUs). It explains some factors to consider when providing your workers with respiratory protective equipment (RPE).

DUTY TO MANAGE WORK-RELATED HEALTH RISKS

As a PCBU you must ensure the health and safety of workers, and that others are not put at risk from your work. You must eliminate risks so far as is reasonably practicable, and where this is not possible you must minimise them. You also have a duty to monitor the health of workers and workplace conditions to ensure workers aren't injured or made ill by their work so far as is reasonably practicable.

RESPIRATORY HAZARDS

Airborne substances hazardous to health can be in dust, mist, vapour or gas form (eg wood dust, welding fumes, solvent vapours). You may or may not be able to see these in the air. If workers or other persons at the workplace (eg visitors) inhale these they can become unwell. Depending on the substance, the effects can be immediate or long term. Common immediate effects can include headaches, feeling dizzy and sick, and eye and skin irritation. Long-term effects include cancer, organ damage and death.

Note about exposure monitoring: Under the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016 (GRWM Regulations), you must ensure that no-one at the workplace is exposed to a substance hazardous to health at concentrations above its prescribed exposure standard. If you are not sure whether workers or others are being exposed to a substance hazardous to health at levels above its prescribed exposure standard, you must arrange for exposure monitoring to be undertaken to determine what levels people are being exposed to. For exposure monitoring requirements, see Part 1 of WorkSafe's *General Risk and Workplace Management* interpretive guidelines.

However, even if you do not need to monitor under these regulations, you still have a primary duty to monitor workplace conditions, so far as is reasonably practicable, if exposure to a particular health risk warrants it.

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A qualified occupational hygienist or similarly competent professional must carry out the exposure monitoring. A common method of exposure monitoring involves workers wearing a sampling device while they are working. The results are compared to the relevant workplace exposure standard (WES). For advice about exposure monitoring contact an experienced occupational health professional.

MANAGING RISKS USING RPE

When managing risks arising from respiratory hazards, you should apply the most appropriate and effective control measures that are reasonably practicable. Give preference to control measures that protect multiple people at once. Personal protective equipment (PPE) such as RPE shouldn't be the first or only control measure you consider.

For substances hazardous to health, you must use the hierarchy of controls when deciding what control measures to use. For guidance on how to manage work risks and the hierarchy of controls, see WorkSafe's website: www.worksafe.govt.nz/worksafe/hswa/working-smarter/how-to-manage-work-risks

Providing workers with RPE is not a quick and easy fix – it can be costly to maintain and replace. Over time, engineering control measures such as local exhaust ventilation may be more cost-effective. However, if you intend to use RPE to minimise a work risk, there are factors that you should consider when selecting the most appropriate RPE in your circumstances.

PCBUs' DUTIES TOWARDS RPE

If you use PPE such as RPE to minimise health and safety risks, you have duties you must meet:

> PCBUs must not levy or charge workers for anything done or provided for health and safety – this includes RPE.

> The PCBU who directs the carrying out of work must provide RPE to workers, unless another PCBU provides it or the worker genuinely and voluntarily choses to provide their own RPE (and you are satisfied the RPE is suitable).

> The RPE must be suitable for the work (and its hazards), be a suitable size and fit, and be reasonably comfortable and compatible with other PPE that needs to be worn.

> The RPE must be kept clean, hygienic and in good working order. It must be maintained, repaired or replaced so it continues to minimise the risk.

> PCBUs must provide information, training or instruction to workers about how to correctly use, wear, store and maintain the RPE.

You must ensure, so far as is reasonably practicable, workers or other persons at the workplace use or wear the RPE. The workers or other persons must use or wear the RPE in accordance with any information, training or reasonable instruction given by you.

SELECTING SUITABLE RPE

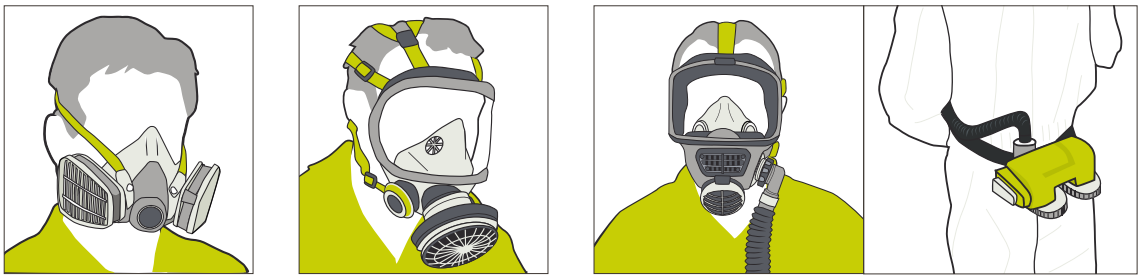
Types of respirators include:

> Respirators that use filters to remove contaminants from the air the wearer breathes.

> Powered air purifying respirators (PAPRs) where contaminated air is forced by a powered fan through filters to provide purified air for the wearer.

> Supplied air respirators that provide a supply of clean air from a source such as a cylinder or air compressor.

Figure 1 shows common types of RPE.



Reusable half-face respirator

Full-face respirator (cartridge)

Full-face powered respirator (cartridge)

Figure 1: Common types of RPE

The RPE that you provide workers must be suitable and fit the worker.

The selection of RPE will usually require expert help. When selecting RPE think about:

> What type of RPE will protect against the substance hazardous to health?

> Is the RPE suitable for the form of the contaminant (eg mist, gas or solid)?

> Is the RPE suitable for the work (light or heavy work, short or long duration, confined space, ventilation)?

> The needs of each worker. For example, is the RPE the right size? Is it compatible with other PPE that workers need to wear? If the RPE needs to be worn for extended periods, what are the reasonably comfortable options?

> What control measures does the Safety Data Sheet (SDS) for the substance you are working with recommend?

Selecting the right RPE can be confusing; you can get advice from occupational hygienists and suppliers of RPE to make sure you provide your workers with the right protection.

Talk to workers to get their views on which RPE to choose.

FIT TESTING

Fit testing ensures that workers are wearing proper fitting RPE. As facial characteristics vary from person to person, it's unlikely that one model or size of RPE will fit everyone. The RPE must be appropriate for the size of the face. In addition, some types of RPE (such as negative pressure respirators – those where you suck air through a filter cartridge) must gave a tight seal around the face to be effective.

Fit testing can be either qualitative (smell or taste tests) or quantitative (involving specialised equipment). Fit testing can also be a useful training exercise to teach workers how to wear their RPE correctly.

You should:

> arrange for fit testing if your workers are using respirators that need a tight seal between the face and the respirator to be effective

> undertake fit testing when you first provide RPE to workers

> ensure every worker has a fit test for each piece of RPE they use
> engage a competent person to conduct a qualitative fit test. You can usually arrange these with your RPE supplier. Testing is often included in the RPE price
> complete testing at least yearly or if there is a significant change in the wearer's facial characteristics (change in weight, substantial dental work).

Note: Facial hair and stubble (even one day's growth) make it almost impossible to get a good seal. If your workers have beards you will need to consider providing other forms of RPE that do not rely on a tight face fit. Jewellery, glasses, long hair and makeup can also compromise face fit.

USING RPE

Workers must use or wear the RPE in accordance with any information, training or reasonable instruction given by you.

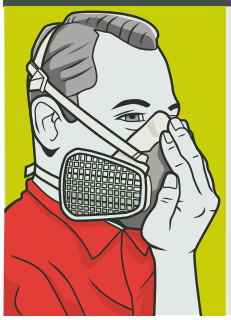
Workers should visually check their RPE for signs of damage before each use. Workers must tell you of any RPE damage or defect that they become aware of. Workers must tell you when they become aware the RPE needs to be cleaned or decontaminated.

RPE should not be taken off when inside a hazardous area – even if only for a short time.

RESPIRATORS THAT NEED A TIGHT FIT

If your workers are using RPE that needs a tight fit, ensure they check it fits properly before entering a hazardous area. There are two 'fit checks' they should do.

FIT CHECKS FOR HALF MASK AND FULL FACE RESPIRATORS



Positive pressure fit check

1. Block the exhalation valve with the palm of your hand.
2. Gently breathe out and hold for about 10 seconds.
3. Check to see if the respirator is bulging slightly.
4. If the respirator remains bulging and there are no leaks between the face and the respirator, the respirator fits properly. If leaks are detected, readjust the straps and check again for a proper fit.

Negative pressure fit check

1. Block the cartridges/filters with the palm of your hand.
2. Gently inhale and hold for about 10 seconds.
3. Check to see if the respirator is collapsing slightly.
4. If the respirator remains collapsed and there are no leaks between the face and the respirator, the respirator fits properly. If leaks are detected, readjust the straps and check again for a proper fit.

Figure 2: Fit checking

If the wearer's safety glasses fog up, there is a leak on the top of the respirator.

TRAINING

Your workers must be trained to use and look after (eg clean, maintain and store) their RPE properly. Get a competent person such as a consultant, an experienced in-house worker or a representative from a RPE manufacturer or supplier to deliver the training. Regularly review training to ensure worker awareness remains high.

Training should refer to the manufacturer's instructions and cover the following topics:

> the hazards, risks and effects of exposure to the harmful substance, and why workers need RPE
> how it works
> why fit testing is necessary
> how to wear and fit check RPE
> when and how to replace filters/cartridges
> how to clean and store RPE (**Note**: Disposable RPE should not be cleaned.)
> workers' health and safety responsibilities.

Workers should be told what the limitations of the RPE are.

HEALTH MONITORING

Health monitoring is a way to check if the health of workers is being harmed from exposure to hazards while carrying out work, and aims to detect early signs of ill-health or disease. Health monitoring can show if control measures are working effectively. Monitoring does not replace the need for control measures to minimise or prevent exposure.

The GRWM Regulations require health monitoring in certain circumstances. You must monitor workers' health when:

> a worker is carrying out ongoing work involving a substance hazardous to health (if that substance is specified in a safe work instrument as requiring health monitoring) and
> there is a serious risk to workers' health because of exposure to that substance.

For health monitoring requirements, see Part 1 of WorkSafe's *General Risk and Workplace Management* interpretive guidelines.

However, even if you do not need to monitor under these regulations, you still have a primary duty to monitor worker health, so far as is reasonably practicable, if exposure to a particular health risk warrants it. Health monitoring is important for workers who wear PPE/RPE to check that they are not being exposed to a health risk.

Talk to your workers to get their views about health monitoring.

For advice about health monitoring contact an experienced occupational health professional.

PCBU CHECKLIST

- [ ] Have you undertaken a risk assessment for your work?
- [ ] Have you put control measures in place?
- [ ] Do you have a system for reviewing risks and ensuring the control measures are working?
- [ ] Do you involve your workers in risk management?
- [ ] Do your workers know about the risks associated with the substances they work with or that are generated by the work?
- [ ] Have you assessed the nature of the risks identified and had a qualified person determine the exposure?
- [ ] Have you carried out fit testing for your workers who will be wearing RPE?
- [ ] Have you trained workers on the correct use of the RPE (with reference to manufacturer's guidelines)?
- [ ] Have you documented this in their personnel record?
- [ ] Do you have a process in place for the issue and maintenance of RPE?

FURTHER INFORMATION

> WorkSafe's fact sheet *Respiratory Protective Equipment – Advice for Workers*.

> For exposure and health monitoring requirements, see Part 1 of WorkSafe's *General Risk and Workplace Management* interpretive guidelines or WorkSafe's related fact sheets.

> *AS/NZS 1715 Selection, Use and Maintenance of Respiratory Equipment* – includes information on RPE selection, issuing, fit testing, training and maintenance.

> *AS/NZS 1716 Respiratory Protective Devices* – includes information on the various types of respirator available.

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