



June 2014

Working safely with hazardous substances in the metal finishing industry



This document has been written for managers of electroplating and galvanizing workshops. It walks you through five steps to help you safely manage the hazardous substances you use at work.

The Environmental Protection Authority thanks Perry Metal Protection, Wellington, for their assistance in allowing photographs to be taken at their premises. All photos used in this publication were taken at their workshop.

Hazardous substances are part of every-day life in metal finishing businesses. The work is hard and dirty and it can be easy to take the substances for granted. But they can be dangerous to your health when they're not used correctly.

Six-hundred to 900 New Zealanders die every year from work-related illnesses. Many of these deaths are from cancers resulting from exposure to hazardous substances at work.

It's easy to think it won't happen to you, but metal finishing shops use and store a range of hazardous substances on a daily basis – not only the metals, or metal alloys and powders derived from them, but also the products used during processing. These include substances used for soldering or welding (such as fluxes) but also components used in the preparation or maintenance of metals such as corrosion inhibitors and their additives, rust preventatives, film-formers and oxygen scavengers. They can be flammable, toxic or corrosive.

Managing these substances carefully is important to protect your and your staff's health, as well as the environment.

Hazardous Substances Toolbox

This guidance should be used alongside the *Hazardous Substances*

Toolbox. The Toolbox is a multi-media package to help employers who own or manage small industrial businesses safely manage hazardous substances. It includes a handbook (*Your Practical Guide*), an emergency flipchart, posters, a workbook, animated videos and an online calculator so you can work out which key HSNO controls that you need for your substances.

This guidance document touches on what you need for your metal-finishing workshop; you can read more in-depth information inside the handbook.

Order your free Toolbox online:
www.hazardoussubstances.govt.nz.



Person in charge

The person in charge is responsible for making sure that the hazardous substances under their control are managed according to the law. In metal finishing workshops with less than 15 employees, the person in charge will likely be the manager or owner of the business.

Your legal responsibilities are generally explained in this guidance:

- Get a safety data sheet for each hazardous substance and store the information together. Make sure the information is easily accessible.
- Make sure staff are not exposed to substances at levels that may harm their health.
- Train staff, provide the right safety gear and make sure they use it.
- Be prepared for an emergency.
- Keep information about how to dispose of substances properly.
- Keep tracking records for tracked substances.
- Make sure the right signs are posted in the right places.
- Get the test certificates needed at your business.
- Report any serious harm to WorkSafe NZ.

Train your staff

When training your staff, it's very important to teach them how to handle and use hazardous substances safely – including knowing the health effects of the substances they're working with, and how to protect themselves (see Step 2). **This is part of your legal responsibilities.**

The best way to protect staff is to avoid having hazardous substances altogether (see *Taking Action*, page 5). Wearing the right safety gear is the last line of defence before being directly exposed to hazardous substances.

Sit down and talk staff through why they need the right safety gear and how to use it; training needs to include *using* the safety gear, *cleaning* and *storing* it properly. The effectiveness of the gear is dependent on it being used correctly. If the wrong safety gear is used or it doesn't fit properly then it's unlikely to protect the wearer.

Staff also need to know what to do in an emergency. They must know where emergency equipment is held and how to use it so they can safely contain and recover small spills, or know what to do if a large spill or other emergency were to happen.

There is a checklist in the *Workbook* of the Hazardous Substances Toolbox that outlines what your staff need to know. You can also visit www.hazardoussubstances.govt.nz/videos and show your staff the animated videos highlighting key safety messages.

Step 1. Prepare your inventories

- Prepare your inventories
- Get your safety data sheets
- Use the HSNO Calculator

There's no one size fits all when it comes to working safely with hazardous substances. What you need to do will always depend on the substances you have, how much you have and how they're stored. So, preparing your inventory is the first step in the Five Steps to Safety.

If you're using the Hazardous Substances Toolbox, then your metal finishing shop will need to write two inventories: one for any hazardous substances in closed containers, and a second one for the hazardous substances stored in open baths or kettles. This is because there are greater risks when you have hazardous substances in open containers and the rules are different. On the EPA website, kettles are referred to as process containers.

An inventory template with instructions on how to complete it can be found in the Workbook of your Hazardous Substances Toolbox. You can also print one from the Toolbox website.

Completing the inventories prepares you for using the HSNO Calculator where you can enter your workshop's details and work out the key HSNO controls you must comply with.



HSNO controls

Controls are rules put in place to prevent or manage the adverse effects of hazardous substances. The controls for substances differ depending on how hazardous they are (their classification).

A worker in the metal finishing industry may use and handle flammable, toxic, oxidising and corrosive substances, such as:

- acetic acid
- acetone
- acetylene
- ammonium hydroxide
- chromates
- hydrofluoric acid
- hydrochloric acid
- LPG
- nitric acid
- oxygen
- sulphuric acid and
- trichloroethylene (TCE).

Get a safety data sheet from your supplier

The best way to learn about the dangers of the hazardous substances you use is to check each one's safety data sheet (SDS). For information specific to your products, read both the label and SDS.

You must have a SDS for every hazardous substance at your workshop. Ask your supplier for one if any are missing or if it's more than five years old. SDSs have important information about first aid, safe storage, cleaning up spills and what personal protective equipment should be worn by people using that product.

You are legally required to have SDSs for the substances in your workplace. Your test certifier will check you have them before issuing your location test certificate (page 10).

Step 2. Assess the health risks

Think about the immediate and long term health risks, then think about whether you can:

- Eliminate the use of hazardous substances
- Isolate their use away from people
- Minimise exposure and wear the right safety gear.

Many of the products used in the metal finishing industry can seriously damage your health if they aren't used safely.

There's the obvious and immediate dangers, such as burns from the high temperature metals, but you also need to think about the long-term chronic effects of exposure. These can be harder to see and can also be more serious.

Hazardous substances exposure affects everybody differently. Talk to your staff about the dangers of using the products. Let them know that taking shortcuts on safety puts them and their workmates at risk and simply isn't acceptable. It's particularly important for you to spend extra time discussing the dangers with people where English isn't their first language to make sure they understand.



Due to the nature of the business, workshops are often open environments so even if a staff member is degreasing at the other end of the workshop, they may still be exposed to the fumes and gases created at the galvanizing station and from other kettles.

Your health, your future

Exposure to the gases, fumes, dust, mist and vapour being continuously released into the workshop will damage your staff's health.

Acids, bases and metal compounds

Acids and bases in the kettles of your workshops are corrosive – they need to be to do their job. However, even kettles holding low concentration substances can affect your staff. They can suffer from headaches, fatigue, skin and eye irritation, respiratory irritation, chemical burns and difficulty breathing.

Electroplating workshops often use metal compounds to minimise wear and tear and to improve appearance; these are often used when plating marine industry parts. Staff are usually exposed to its hazards by breathing in the fumes, getting it on their skin or ingesting it. Along with the immediate health affects above, metal compounds can cause cancer, infertility and birth defects.

Once you become sensitised to some substances, such as nickel coatings that are used for their magnetic characteristics, then any exposure can cause an allergic reaction. Exposure to nickel comes from breathing it in or ingesting it - long-term exposure may lead to asthma and lung cancer.



Metal fume fever

Metal fume fever/galvaniser's poisoning/Monday morning fever can occur in metal finishing workshops and is caused by exposure to some fumes, such as zinc and chromium. Staff will usually notice the symptoms on a Monday, which are similar to the flu or a cold – fevers, nausea, headaches, aches, coughs and chest pain. They often ease over the next one to two days as your body adjusts to the exposure.

Metal fume fever is often one of the first signs that workshop ventilation is not adequate and that your staff are being affected by hazardous substances exposure. It is often missed unless occupational history is asked or mentioned during diagnosis. Ultimately, this exposure can cause chronic respiratory diseases such as asthma, and can lead to cancer.



High rate of cancer

Workers in metallurgy industries can be exposed to large amounts of cancer-causing substances every day, so may have an increased risk of getting cancer. Take steps to prevent exposure and make sure staff wear the right gear to protect themselves.

Chromate exposure

Chromium is a known, highly hazardous substance and exposure can cause cancer. Exposure just once can cause nose, eye and skin irritation and difficulty breathing. When exposed repeatedly, staff can suffer allergic reactions, kidney damage, lung inflammation, damage to the nose, including holes and ulcers in the nasal septum (tissue between your nostrils), lung cancer and fertility problems.

Staff who have been exposed can have raised levels of chromium in their blood, urine and some body tissues. With your staff's permission, you should monitor their health with regular health checks. Health monitoring is usually done by a health service provider such as an occupational health nurse or general practitioner with a qualification in occupational health.

Cyanide compounds

Cyanide compounds are used in electroplating baths because they cater to a wide range of electrical currents, strip unwanted films and marks from metals and form metal deposits with a lower sensitivity to the bath's impurities. They can also be poisonous – they can quickly interfere with the metabolic system and can cause death. Staff can be exposed to cyanide compounds through breathing, getting it on their skin or ingesting it.

Evaluating exposure

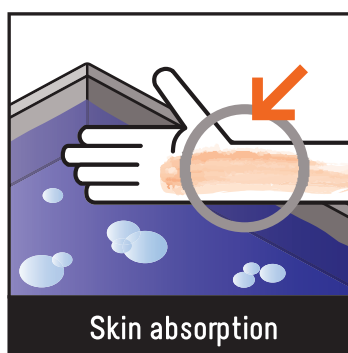
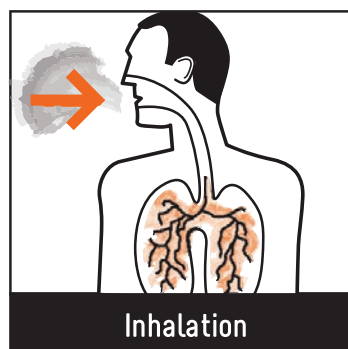
Due to the seriousness of the health effects that can be caused from the hazardous substances used in the metal finishing industry, you must determine the extent of the risk to staff and others from exposure. It's only after a full assessment has been done that the appropriate control measures, training and monitoring can be put in place.

Who could be exposed?

Think about which staff work directly with the hazardous substances, as well as those who come into contact by being in the surrounding work stations. Also think about who may come into contact with contaminated areas, such as the handrails around the tanks.

How are people exposed?

Exposure to hazardous substances can happen in three ways: inhalation, skin absorption and ingestion. Have a look around the workshop and watch how your staff work – are they breathing in the mist, dust, gas or fumes? Do they have exposed skin? Do they wash their hands thoroughly before eating, drinking or smoking?



What's the degree of exposure?

You need to find out the concentration of your substances during exposure, how people are being exposed and for how long. You will most likely need expert help as the assessment usually involves measuring air concentrations or hazardous substances in blood or urine. Check the yellow pages for occupational hygienists (under health and safety consultants) in your area.

You should also set up a health surveillance programme for your staff. This programme needs to be carried out by a nurse and/or doctor who understands your workshop and the problems you have in your industry.

Health surveillance includes:

- collecting, maintaining and reviewing health records
- checking for signs of disease
- pre-employment enquiries, for example, is there a past history of asthma
- pre-placement medicals when an employee first begins at your workshop.

Taking action: eliminate, isolate, minimise

Once you've evaluated the exposure and risk, you can take action to eliminate, isolate and minimise the hazards. Look at your substances and work out the best option below for each one.

Eliminate hazardous substances

Getting rid of hazardous substances and replacing them with ones that are non-hazardous is the most effective way of protecting your staff.

It's generally difficult to eliminate metal finishing substances or processes altogether so it's important that you isolate and minimise the risks by taking the steps below.

Isolating their use

Isolate the use of the hazardous substances away from people. For example, staff should stand inside a booth to protect themselves from zinc splattering during galvanizing.

As workshops are being converted to streamline production and increase efficiency, look at how you can completely automate and enclose the processes within shields so staff aren't exposed to the fumes and splashes from open acid tanks. Can you use pump systems instead of manually transferring your substances?

Minimise their risk

If you can't remove or isolate the hazardous substance, you must minimise exposure. There are generally three ways of doing this: engineering and administrative controls and wearing the right safety gear.

Engineering: Your kettles continuously release fumes, which are unhealthy to inhale and could cause an explosion if accidentally ignited. Opening workroom doors is important to improve natural ventilation, but is not enough. You may also need a ventilation system installed. Along with helping to minimise exposure to gases, fumes, dust, mist and vapour, proper ventilation will dilute the toxic vapours and gases in the air. It is important that your ventilation systems get regular maintenance checks.

Administration: You can alter your business' work processes to minimise exposure to hazardous substances. For example, introducing job rotation across work stations not only up-skills your staff but also reduces the length of time one person is directly exposed to the most hazardous of your substances.

You must provide access to a lunch space or room with a sink. Staff are restricted from eating, drinking and smoking around the hazardous substances and must be able to wash their hands thoroughly so they don't unintentionally ingest the substances.



Wear the right safety gear

Wearing the right safety gear (personal protective equipment, or PPE) is the last line of defence before being directly exposed to hazardous substances. After you have isolated and minimised exposure to your substances, safety gear is used to protect against the remaining residue.

Staff must have suitable safety gear to do their job safely. It is your responsibility to provide it.

Safety data sheets should include information about the right safety gear to wear. However, if you're unsure, ask your supplier or contact WorkSafe NZ or an occupational health specialist for advice.



Use respirators

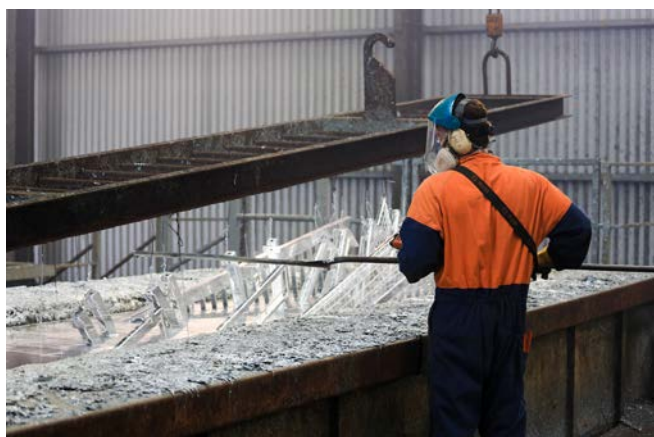
Your baths and kettles release gases, mists, fumes and vapours. Ventilation will help to reduce the amount of fumes however, it is very important to remember to use full-face respiratory protective equipment (RPE) when working.

Dust masks will not provide protection against the corrosive acids or solvents and will give staff a false sense of security about their health. Some substances, for example, cyanide, acid gas and ammonia, will require specific cartridges - your safety data sheet will describe which one you need.

Your RPE needs to fit properly so that it seals securely against the face - the air you breathe in must go through the filters and cartridges. As with all safety gear, respirators need to be maintained over time; filters wear out and will need to be replaced.



Staff must wear respirators when chopping and dagging the ash between hot dip galvanizing. To protect the worker properly, make sure the respirator fits properly. Men need to be clean shaven and the mask needs to be tight-fitting. Clean the mask regularly so that your staff can see what they're doing, and store the respirator in a clean and dry place - if possible inside a locker.



Wear gloves, coveralls and boots

There's no question - metal finishing is hard work. Gloves, coveralls and boots will not only help protect your staff from abrasions, but also from the hazardous substances they're working with being absorbed through their skin. They should be flame-resistant and should also protect your staff from molten metal splashes, solvents, acids, oil and grease. Electroplating staff working with nickel should wear nitrile gloves.

If you incorporate job rotation within your workshop, think about having high-visibility coveralls so that staff can see each other along the processing line and when driving forklifts around the yard.

Step 3. Use and store your substances safely

- Store only what you need
- Decant your substances carefully
- Dispose of used substances properly
- Cover your baths/kettles whenever possible

Less is more: lean business protocols

Keeping your stock levels to a minimum increases your cash flow, and makes it easier to manage what you have. It may also reduce your compliance requirements and costs. When you're ordering in bulk, ask your supplier if you can buy the product at a lower concentration (rather than diluting it yourself) as having less hazardous stock on site may reduce your compliance needs.

Disposing of hazardous substances

Substances such as sodium and potassium hydroxides, hydrochloric and sulphuric acids, zinc chlorides and dichromates are all toxic to the environment; responsible disposal is very important.

Read your safety data sheets carefully (Section 13 in a typical sheet) to see how to properly dispose of each substance once they've finished their useful shelf life.

For some substances, such as zinc, it may be possible to on-sell the ash and dross by-products produced during galvanising and, therefore, reduce the disposal cost to your business. Other substances, such as pickling paste, must be disposed of through a reputable hazardous waste company. Check your yellow pages for businesses in your area.



Step 4. Get ready for an emergency

- Assess the type of emergencies that may happen
- Make sure staff know their roles
- Have an emergency response plan with equipment easily available
- Be prepared for a spill
- Have an annual emergency drill (not just a fire drill)

Because of the corrosive and toxic nature of the substances used in metal finishing workshops, it's important to be prepared for an emergency.



It's important that you check with your local and regional council to make sure that you are also complying with any resource management laws specific to your region.

Emergency response plans

Your response plan must cover all the foreseeable emergencies that might happen with your hazardous substances, and must be practiced with your staff.

For spills, this includes being able to contain and recover your substances. If your workshop has the equipment to safely recover your substances from the secondary containment after the spill, then include this in your emergency response plan. The substances in metal finishing workshops are hazardous so if your workshop doesn't have the right equipment then you should contact professionals to help you recover the substance. Everybody in your emergency response plan needs to know their responsibilities. If you have named specific professionals to help you then they must have a copy of your plan, with their responsibilities clearly outlined.

If you eliminate a substance from your workshop or your inventory changes, or if there are changes to staff who hold responsibilities, then you must update your plan and test it within three months.

You will find the Emergency Response flipchart, inside your Hazardous Substances Toolbox, or you can order a free copy by calling the EPA on 0800 376 234. The flipchart helps you to have a basic emergency response plan with necessary information kept in one place.

Be prepared

1. Work out what hazardous substances you have on site and how much of those products you have (Step 1 in the Five Steps to Safety).
2. Think about which foreseeable adverse events could happen with your business and plan for each of these by identifying the equipment and training needed for staff. They need to be able to safely and quickly contain, clean up, recover or dispose of small spills, and know how to safely slow or stop a leak in a tank so experts can safely come in and repair it as required.
3. Train your staff so they know what to do in a hazardous substances emergency. They need to know where emergency equipment is kept and how to use it.

Equipment needed

You'll see from using the HSNO Calculator that you will need fire extinguishers, signs and an emergency response plan (see Step 5 for more details). You'll also need a spill kit available to clean up small spills. The spill kit should have:

- personal protective equipment to protect the person cleaning up the spill
- spill containment equipment. This could be drip pans and drain guards or barriers, or your secondary containment system
- absorbent material
- spill handling equipment to either recover or dispose of the substance
- a leak-proof disposal container to put the waste in if the substance is being disposed of.

You also need first aid equipment, which includes showers and eye wash. These must be close to where corrosive substances are stored and used. You may need calcium gluconate gel if you are holding hydrofluoric acid or pickling paste. Check your safety data sheets to see the specific requirements for your substances.

Large spills

You must be prepared to act on a large spill or leak from your tanks. Each tank needs its own secondary containment system (see page 11) and your team need to be confident and capable in their spill response responsibilities outlined in your emergency response plan.

Your safety data sheet (Step 1) will include spill and accidental release information (Section 6 in a typical SDS).

Step 5. Key HSNO controls

Use the HSNO Calculator (Step 1) to work out which key HSNO controls you need for your workshop. Be aware that stationary container system test certificates and tracking (see page 10) are not included in the calculator. You will need to manage these in your workshop; talk to your test certifier for more information.



Your Practical Guide (inside the Hazardous Substances Toolbox) has more information on all key controls.

A quick-assist table on page 12 shows which commonly used substances need to be tracked or require an approved handler or location test certificate.



Test certificates are issued by test certifiers. A test certifier is an independent service provider who has been approved by the Environmental Protection Authority (EPA) to issue test certificates.

There is a register of test certifiers on the EPA website. To find a test certifier in your area, go to www.epa.govt.nz. At the top of the homepage is a tab called *Search our records*. Place your cursor on that tab and click on *HSNO Test Certifiers*.

Fire extinguishers

Fire extinguishers are used to put out fires before they reach your hazardous substances so to prevent a more serious situation from happening. You need fire extinguishers when you hold amounts of flammable or oxidising substances over certain limits.

Your fire extinguishers must be within 30 metres of your flammable and oxidising substances, and of a sufficient rating. Generally, fire extinguishers with a 30B rating will be suitable; ask your equipment supplier for help if you're unsure.

Test certifiers will check your fire extinguishers before they issue your location test certificate.

Large tanks holding flammable liquids may also need extra fire-fighting equipment. This will be covered under your stationary container system test certificate (page 10) and a test certifier can help advise you on what you need.



Signs

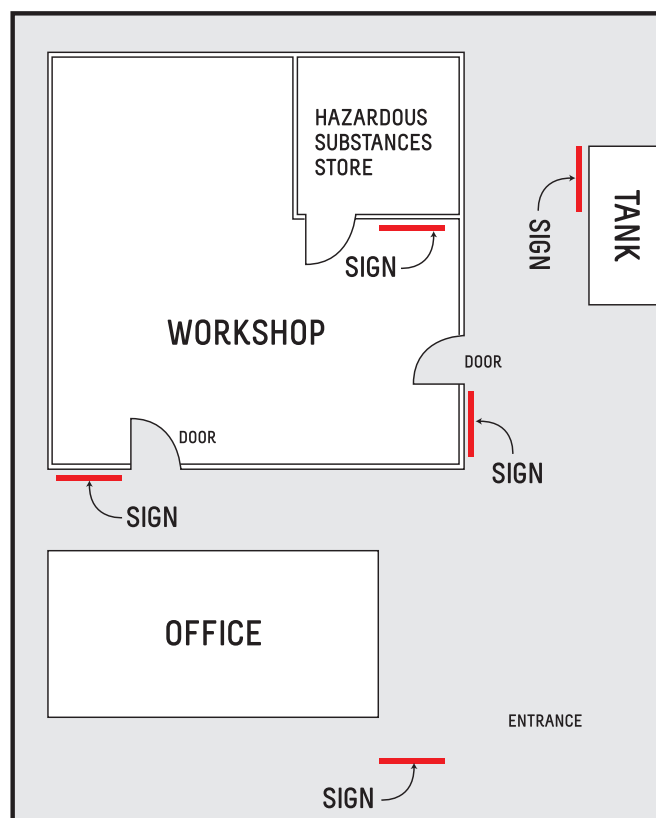
You will need signs at your workshop to warn staff, visitors and emergency services that hazardous substances are present. Emergency services rely on them when they respond to any problems to decide on their course of action and what safety gear they will wear.

Signs must be made out of a durable material and clearly show in plain English or in pictograms:

- that hazardous substances are present
- the type of hazard of each substance present
- precautions such as 'keep away' or 'no smoking'
- emergency actions such as "Call Emergency Services – Dial 111".

You need signs at the entrances to your property, at each entrance to your workshop, and immediately next to each tank. If you hold hazardous substances in rooms inside your workshop you must also have a sign at the entrance to that room.

Test certifiers will check your signs are correct and in place before they issue your location test certificate. Your safety supplier will be able to help you get the right signs for your substances.



Tracked substances

The most hazardous substances need to be tracked, for example, some hydrofluoric acid solutions that are used in pickling paste. Your supplier will tell you which substances must be tracked. If practical, you should eliminate tracked substances as they have higher risks and add compliance costs to your business. To buy a tracked substance your supplier will need to confirm there is an approved handler available. You may also need a location test certificate.

Approved handler test certificates

It's important that hazardous substances are handled and managed safely and that they do not harm people or the environment. An approved handler is someone who has specific training, knowledge and experience on how to use particular substances properly.

Use the Hazardous Substances Calculator (Step 1) to work out if you need an approved handler, or check your safety data sheets. In the case of highly toxic, carcinogenic or corrosive products (such as sodium dichromate), the approved handler must be available while the product is being handled. Use the quick-assist table on page 12 to see which commonly used substances in metal finishing workshops require an approved handler.

The approved handler may also need to be available when hazardous substances are being delivered to the workshop, unless the substances are being delivered into a store that will be locked after delivery.

Becoming an approved handler

Approved handler test certificates are issued by test certifiers. To get an approved handler test certificate, you must demonstrate to a test certifier that you have:

- practical skills (competency) to safely handle and use the products
- knowledge of the products you will be handling
- knowledge of the HSNO legislation.

The evidence for this is usually a written record from a training provider or an assessment of practical handling skills and experience from a work supervisor.

Location test certificate

A location test certificate certifies that the place hazardous products are used and stored is safely managed, according to the rules. It is likely you will need a location test certificate – check the quick-assist table on page 12 to see which commonly used substances require one.

Location test certificates are issued for one year by test certifiers. You can apply for an extension to three years – talk to your test certifier about this.

Site plan

If you need a location test certificate you must have a site plan (or plans) that shows:

- the site boundary
- the location of all hazardous substances present in relation to the site boundary
- the scale of the site plan.

It's also good practice to show:

- buildings located within the site boundary
- openings into buildings
- the date the plan was drawn
- the location of emergency response equipment
- site identification, including the address of the site.

Emergency response plan

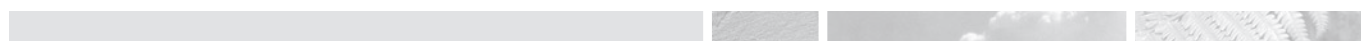
As your workshop may hold a lot of hazardous substances, you'll need to have a HSNO emergency response plan; it's important that everyone knows what to do in an emergency. See Step 4 for details.

Secondary containment (bundling)

Spill kits are not enough if your tanks leak or spill. You must have secondary containment (bundling) around each tank to capture the spill and to help minimise its extent. It will also help you to recover the spilled substance.

Your above-ground tanks with capacities of 450 L or more must have a system in place which holds at least 110% of the capacity of the tank. For example, a 500 L tank must have bunding which will contain 550 L of the substance.

Test certifiers will check your secondary containment before they issue your location test certificate and secondary containment test certificate.



Prep for the check

Use the checklist below to make sure you're ready before your test certifier comes.

Before issuing a location test certificate, the test certifier will check that you have:

- ☐ a list (inventory) of hazardous substances that require a location test certificate
- ☐ a site plan of your workplace showing:
 - all hazardous substance locations
 - hazardous atmosphere zones, and
 - controlled zones
- ☐ fire extinguishers available, if needed, and:
 - you have the correct number
 - you have the correct type, and
 - they are located no more than 30 metres away from where your oxidising or flammable products are stored
- ☐ stored your hazardous substances safely and any substances that are incompatible are stored separately
- ☐ an approved handler available, if needed
- ☐ procedures in place to avoid a fire from starting, if you store flammable or oxidising substances
- ☐ signs in place
- ☐ prepared an emergency response plan
- ☐ secondary containment in place and
- ☐ told your local Worksafe NZ office where your workplace is and what hazardous substances and amounts of those substances are used and stored there.

Stationary container system test certificates

A stationary container system test certificate certifies that your baths and kettles, and their pipework and fittings are manufactured and maintained according to the rules. These test certificates are renewed annually.

Contact your test certifier to get a stationary container system test certificate.

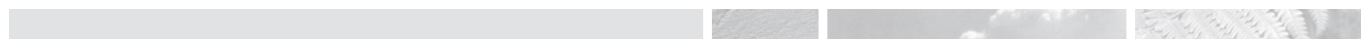
More information: Codes of Practice

EPA codes of practice are an approved means of complying with the legislation. They are designed to provide guidance on how to legally comply with HSNO legislation.

These are general codes that offer specific information; they may be helpful to the metal finishing industry. They can be found on the EPA website: www.epa.govt.nz

- Signage for Premises Storing Hazardous Substances
- Hazardous Substance Storage
- Incompatible Hazardous Substances Separation- Locations
- Preparing for a Chemical Emergency

The Galvanizing Association of New Zealand Inc. released their Code of Practice in 2010 specific to the galvanizing industry. www.galvanizing.org.nz



Quick-assist table

This table is indicative only – please check your substance's safety data sheet for comprehensive information on your requirements.

Chemical name	Location test certificate	Approved handler	Tracking
Acetic acid >80% solutions in water	Yes ≥500 litres in large closed containers*	No	No
Acetic acid up to 80% solutions in water	No	No	No
Acetone	Yes ≥100 litres in large closed containers*	Yes ≥250 litres (container >5 litres)	No
Ammonium dichromate	Yes ≥500 kg	Yes (any quantity)	Yes
Chromium oxide	Yes ≥500 kg	Yes (any quantity)	Yes
Cyanide solutions	No	Yes	Yes
Nickel	No	No	No
Nitric acid >70% (not fuming)	Yes ≥1,000 litres	Yes (any quantity)	No
Hydrofluoric acid, >1% solutions in water	No	Yes (any quantity)	Yes
Hydrofluoric acid up to 1% solutions in water	No	No	No
Phosphoric acid	No	No	No
Potassium dichromate	No	Yes (any quantity)	Yes
Sodium dichromate	Yes ≥500 kg	Yes (any quantity)	Yes
Sodium dichromate, dihydrate	No	Yes (any quantity)	Yes
Sulphuric acid - fuming	No	Yes (any quantity)	Yes
Trichloroethylene (TCE)**	No	Yes ≥10 litres	No

* i.e. containers that are larger than 5 litres, this includes containers that are open occasionally for the contents to be removed. Note: If you have more than one substance that requires a location test certificate or an approved handler it is the total (aggregate) quantity of all those substances that will determine whether a test certificate is needed. Please contact a test certifier for advice.

** Trichloroethylene can cause cancer. Think about substituting this product for a safer alternative.

Contacts for further information

➤ Your supplier

If you have questions about any of your products, check the safety data sheet and talk to your supplier.

➤ Galvanizing Association of New Zealand

If you are a member, or interested in joining, contact your local representative of the Galvanising Association of New Zealand. www.galvanizing.org.nz

➤ WorkSafe New Zealand

Phone Worksafe New Zealand on 0800 030 040 during business hours, or search check their website: www.worksafe.govt.nz

➤ Environmental Protection Authority

For information on complying with HSNO call our compliance information line during business hours on 0800 376 234, or email hsinfo@epa.govt.nz

Disclaimer

This document is guidance only and does not cover every aspect of the law. What you need to do depends on the types and amounts of hazardous substances you use and store. There may also be additional rules set by your local and regional councils that you need to follow.

We have tried to make the information in here as accurate and current as possible. However, it is not a legally defensible document.

If you find any information in this document that you believe may be inaccurate, or you would like to provide any feedback, please email hsinfo@epa.govt.nz