



Environmental  
Protection Authority  
*Te Mana Rauhi Taiao*

# Performance Standard for Signage

For Test Certifiers

JULY 2012



## PERFORMANCE STANDARD

## Preface

This standard is one of a series produced by the Environmental Protection Authority (EPA) to assist test certifiers in their certification work. The EPA expects all test certifiers to adhere to the information given. The performance of test certifiers will be audited against this standard, as will any complaint made against a test certifier.

This document is not intended to be a comprehensive review of the relevant regulations. It covers those items subject to test certification. If in doubt, refer to the appropriate regulations or site and storage document.

This standard does not address the test certification of class 1 explosive substances.

This document includes checklists and supporting forms for test certifiers to use. These checklists (or equivalent) must be completed and kept for future reference and audit.

This standard was updated in 2012.

## Introduction

This standard establishes the test certificate requirements for signage under the location and stationary container system test certificate provisions of the Hazardous Substances and New Organisms (HSNO) Act, 1996.

Test certificates must be held for:

- locations where flammable and oxidising classes<sup>1</sup> of hazardous substances are present, and
- stationary container systems where combustible<sup>2</sup>, toxic, corrosive or ecotoxic<sup>3</sup> substances are present

The test certifier must certify that the hazardous substance location or stationary container system has signage in place, as required by Part 3 of the identification regulations and Part 4 of the emergency management regulations.

Any non-compliance must be noted and the person in charge advised of the shortcomings. Non-compliances must be rectified before the test certificate may be issued or renewed. If a certificate cannot be issued, you must notify the enforcement agency, the Ministry of Business, Innovation and Employment (MBIE).

This standard is designed to:

- set out the criteria specified in the legislation to ensure compliance with the signage requirements that are subject to test certification
- advise test certifiers of the signage components of the test certificate
- ensure assessments are consistent and that the test certifier is able to identify the reason for issuing or not issuing a test certificate
- provide test certifiers with a record of their assessment
- provide a point of reference against which the performance of test certifiers may be audited
- provide a point of reference for the investigation of any complaint levelled against a test certifier

It refers to relevant parts of:

- Hazardous Substances (Identification) Regulations 2001, referred to as identification regulations
- Hazardous Substances (Emergency Management) Regulations 2001, referred to as emergency management regulations
- Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001, referred to as classes 1 to 5 controls regulations
- Hazardous Substances (Classification) Regulations 2001, referred to as classification regulations
- Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances) Transfer Notice 2004, referred to as the Transfer Notice
- Group Standards
- Site and storage conditions for group standards<sup>4</sup> referred to as site and storage conditions

---

<sup>1</sup> Classes 2, 3, 4, or 5

<sup>2</sup> Class 3.1D

<sup>3</sup> Classes 6, 8 and 9.

## Approved codes of practice

Codes of practice may be approved by the Authority under Sections 78 and 79 of the HSNO Act. Approved codes of practice are documents that tell you how to meet the requirements of the hazardous substance legislation in a way that is legally defensible.

The approved code of practice *Signage for Premises Storing Hazardous Substances and Dangerous Goods (HSNOCOP 2-1)* is one such approved code and is available from Responsible Care (formerly the New Zealand Chemical Industry Council).

Signs may be measured against this code. However, complying with the code is not mandatory. If the person in charge has another way of meeting the requirements of the regulations, they can adopt that instead.

## Hazardous substance location test certificates

A hazardous substance location test certificate must be issued where flammable and oxidising classes of hazardous substances are held in quantities that exceed their respective thresholds. The threshold limits for a hazardous substance location are set out in Schedule 3, Table 4 of the classes 1 to 5 controls regulations or in the site and storage conditions. Toxic, corrosive and ecotoxic substances are not part of the location test certificate and do not need to be examined.

The test certificate must list the hazardous substance locations that have been certified at a place as well as the classifications involved so that the person in charge is in no doubt as to what the location test certificate covers.

## When does signage need to be test certified?

The general thresholds for quantities of hazardous substances requiring signage are set out in:

- Schedule 3 of the identification regulations, and
- Schedule 5 of the emergency management regulations, or
- a group standard

However, you need to check the approvals for the substances held to see if the threshold quantity and controls have been varied. Variations to controls will be found in the register of hazardous substances, available from the EPA website.

You need to assess and test certify signage only if the threshold quantities are exceeded. The threshold quantities for a location test certificate are set out in the classes 1 to 5 controls regulations, notably Schedule 3, Table 4 and regulations 98 and 120, or in a group standard.

---

<sup>4</sup> In general, the rules in the *Site and Storage Conditions for Group Standards* will reflect the controls set out in the emergency management regulations and the identification regulations.

## Which regulations must be certified?

The requirements for a location test certificate are found in the classes 1 to 5 controls regulations (regulations 81, 82, 99, 100, 121 and 122). There are corresponding requirements in the site and storage conditions.

To satisfy the location test certificate, the regulations require that:

- a test certificate covers all the hazardous substance locations that are required to be established for flammable and oxidising substances. Note that the locations of substances with other classifications (i.e. toxic, corrosive and ecotoxic) are not subject to location test certification
- the hazardous substance location has signage in place as required by the identification regulations and emergency management regulations, or Part 8 of the site and storage conditions

The reference to “signage” in the identification regulations is in regulations 51 and 52<sup>5</sup>, and in the emergency management regulations it is in regulation 42.

## What if there is more than one substance present?

Where there is more than one substance of the same class present at a location, the calculation of the threshold is not specified in the identification or emergency management regulations. In these circumstances, use the quantity ratio set out in regulation 6(1) of the classes 1 to 5 regulations<sup>6</sup>.

For example for flammable liquids:

Classification	Threshold	Example 1		Example 2	
		Quantity	Ratio	Quantity	Ratio
3.1A	50 litres	20 litres	0.40	25 litres	0.50
3.1B	250 litres	100 litres	0.25	200 litres	0.80
3.1C	1,000 litres	250 litres	0.25	250 litres	0.25
<b>Total</b>			<b>0.90</b>		<b>1.55</b>

Signage is required when the quantity ratio is equal to or greater than 1.0. Example 1 does not require class 3 signage, example 2 does. The signage for example 2 should recognise the highest degree of hazard of the substances present, which in this example is class 3.1A.

<sup>5</sup> Reference is made to identification regulations 34(1) and (2) and 35(1), (3) (where the distance is set at 10 metres) Regulation 51(3) mirrors 34(4). The emergency management regulations refer to information regulations 34 and 35 in their entirety with no reference to the distance being set at 10 metres

<sup>6</sup> This approach is not appropriate for classes 6, 8 and 9.

For an oxidising substance:

Classification	Threshold	Example 3		Example 4	
		Quantity	Ratio	Quantity	Ratio
5.1.1A	50 l	20 l	0.40	25 l	0.50
5.1.1B	500 l	50 l	0.10	200 l	0.40
5.1.1C	1,000 l	200 l	0.20	250 l	0.25
5.1.2A	500 m <sup>3</sup>	100 m <sup>3</sup>	0.20	100 m <sup>3</sup>	0.20
<b>Total</b>			<b>0.90</b>		<b>1.35</b>

Signage is required when the quantity ratio is equal to or greater than 1.0. Example 3 does not require class 5.1.1 signage, example 4 does. The signage for example 4 should recognise the highest degree of hazard of the substances present, which in this example is class 5.1.1A.

## Where must signage be positioned?

The test certifier must be satisfied that the intent of the legislation is being met. The purpose of signage is primarily to alert people and emergency responders that they are approaching an area where hazardous substances are present. This is a consideration when evaluating the position of the signage. No signage should be so far away from the location of the substance that its significance is lost, or so close that harm may result before it can be read.

Regulation 52 of the identification regulations distinguishes between substances stored inside a building, in a particular room or compartment in a building, and in an outdoor area.

Where substances are stored in a building, signage must be positioned at:

- every vehicular and pedestrian access to the land where the building is located
- every vehicular and pedestrian access to the building, and
- the entrance to the particular room or compartment where the substance is stored

Where there are several points of entry to a building or place, a measure of judgment should be exercised. The intent of the legislation is met if the signage warns people and makes them aware that hazardous substances are present before they enter the building or place. It must be obvious that a building contains hazardous substances that may affect people's safety, and that certain precautions are necessary.

If the hazardous substance is located in an outdoor area, signage must be positioned immediately next to that area. In this instance, the location of vehicular or pedestrian access is irrelevant.

## What must the signage show?

If hazardous substances are located in a building, the signage must state:

- that hazardous substances are present, and
- the general type of hazard of each of them. General type means a general indication of the subclass<sup>7</sup> (for example, “dangerous when wet”), whether given in words or by any other means

In addition, when the hazardous substances are located in a particular room or compartment within a building, or if located in an outdoor area, the signage must state:

- the hazardous property of each of hazardous substance<sup>8</sup>
- (in the case of flammable substances), the precautions necessary to prevent unintended ignition and
- (in the case of oxidising substances or organic peroxides), the precautions necessary to prevent unintended combustion, acceleration of a fire, or thermal, and
- the actions to be taken in an emergency

## What format must be adopted?

The format of signage is not prescribed in the regulations. A measure of judgement is therefore available to the person in charge. However, the test certifier has to certify that the content of the sign satisfies the requirement of the regulations.

It is essential that any signage required by the regulations must be positioned in such a manner that the signs remain fully visible at all times. Signage should not become obscured behind or on doors that would normally be raised or remain open for long periods, or on gates that either slide or fold back on themselves. In such examples, an adjacent more suitable position for the sign needs to be selected.

---

<sup>7</sup> The subclass statements may be found Schedule 7, Table 1 of the classification regulations.

<sup>8</sup> The classes of hazardous properties are set out in regulation 5 of the classification regulations.

## How to comply with what must be shown on the signage?

### Hazardous substances are present

The word “HAZCHEM” is internationally recognised and provides a suitable indication that hazardous substances are present on a site. HAZCHEM is used for flammable and oxidising substances.

The Globally Harmonized System of Classification and Labelling of Chemicals (GHS),<sup>9</sup> permits the use of a “Signal Word”<sup>10</sup> when hazardous substances are present such as DANGER or WARNING. These may be augmented with a suitable pictogram or hazard words from the GHS system.

### The hazardous properties of each substance

The classes of hazardous properties are:

- class 2 flammable, gases
- class 3 flammable, liquids
- class 4 flammable, solids
- class 5 capacity to oxidise

### The general type of hazard

The general type of hazard is an indication of the subclass and may be given in words or pictorial form. GHS pictograms may be considered as an appropriate pictorial form of providing a general indication of all of the subclasses for a given hazard classification, and may also signal that a hazardous substance is present (refer 3.7.1).

When using words, these should reflect the applicable subclass descriptions as set out in the classification regulations, Schedule 7, Table 1.

### Steps to prevent unintended explosion or ignition or combustion

For classes 2, 3, 4 and 5 substances, signs must include the steps to be taken to prevent unintended explosion, ignition or combustion (acceleration of a fire, or thermal decomposition).

There are standard words as well as a number of recognised symbols that cover these needs. Reference should be made to the GHS Precaution Statement or alternatively use of standards such as *NZS/AS 1319:1994 Safety signs for the occupational environment*.

---

<sup>9</sup> GHS proposes harmonized hazard communication words at national, regional and international level. It covers among other things labels and safety data sheets

<sup>10</sup> These are available from the *Labelling of Hazardous Substances: Hazard and Precautionary Information*.

Table 1: Examples of recognized symbols

Words	Pictogram
No naked flames Turn out gas pilot lights	
No smoking	
Beware of static electricity	
Turn off mobile phone and other electronic devices	

### Action to be taken in an emergency

As the location test certificate relates to classes 2 to 5 substances, the actions to be taken in an emergency relate to events such as fire, explosion or loss of containment. For example, call:

- Fire, Police, Ambulance 111
- Company contact phone number
- National Poisons Centre, 0800 POISON (0800 764 766)
- Technical information helpline, e.g. 0800 CHEMCALL (0800 243 622)
- Local Authority pollution hotline

The HAZCHEM Emergency Management Action Code, (for example, “3WE”, “2X”, “3Y”), identifies the required response from emergency services. The use of these codes is to be encouraged but the codes are designed for emergency service professionals and may not effectively warn staff, visitors or the public of the action required. Therefore, the word “HAZCHEM” and the HAZCHEM Code should not be used as the only source of information.

The use of the word “HAZCHEM” and the accompanying HAZCHEM Code have been specified by the writers of the HAZCHEM system. In order to conform, these letters and numerals should appear in the specified manner: black capital letters on an orange background.

Following an approved code of practice<sup>11</sup> for signage for premises storing hazardous substances provides an assured means of compliance.

<sup>11</sup> The Responsible Care *Signage for Premises Storing Hazardous Substances and Dangerous Goods (HSNOCOP 2-1)* is one such code.

## What is meant by “as required by the identification regulations”?

While content is a consideration of the test certificate, understanding and clarity of text and symbols are not. However, the test certifier must be aware that signage must be visible under poor conditions, for example, at a distance of more than 10 metres from the sign and under moderate lighting levels.

### Comprehensibility

Comprehensibility is set out in regulations 51(1)(c) of the identification regulations. Signage must be readily understandable and be in plain English, using words that are in common use with no abbreviation or acronym that has not already been identified on the signage.

Signage designed using authoritative sources for the expressions used will meet the requirements for comprehensibility. These sources include:

- Labelling of Hazardous Substances: Hazard and Precautionary Information
- Signage for Premises Storing Hazardous Substances and Dangerous Goods (HSNOCOP 2-1), and
- NZS/AS 1319:1994 Safety signs for the occupational environment

### Clarity

Clarity is set out in regulations 51(2) of the identification regulations. The signage must be easily read at the minimum prescribed distance of at least 10 metres.

## Stationary container system test certificates

The emergency management signage must be certified where a stationary tank contains a combustible, toxic, corrosive or ecotoxic substance that does not have another flammable or oxidising classification. The requirement references Part 4 of the emergency management regulations, set out in Schedule 8, clause 92(2)(d) of the Transfer Notice<sup>12</sup>.

A stationary container system includes:

- a tank that is below ground
- a tank that is above ground with a capacity of more than 5,000 litres
- a process container that is below ground
- a tank that is above ground with a capacity of more than 1,000 litres

The requirements for signage are covered above. The stationary container system test certificate only refers to the emergency management regulations.

---

<sup>12</sup> Hazardous Substances (Dangerous Goods and Scheduled Toxic Substances), Transfer Notice.

## Variations for specific facilities

Some facilities may have signage that varies from the requirements set out earlier in this standard.

### Service Stations – dispensing petrol and diesel

The EPA, MBIE and the Oil Industry wholesalers, have agreed variations for signage of service stations. The acceptable level of signage for a Service Station is set out in Appendix 1.

### LPG storage facilities

LPG stored in a stationary container will require the general degree of hazard to be identified (identification regulation 29), although these regulations are not part of the location test certificate. LPG requires the words “flammable gas high hazard” as a “general indication of the subclass”. For LPG the practice prior to HSNO was to use the words “flammable gas”. This may be considered acceptable for existing facilities, but should be corrected when a sign needs to be changed.

## Appendix 1: Signage for service stations dispensing petrol and diesel

The signage requirements for service stations do not rigorously follow those set out in identification regulations 51 and 52, emergency management regulation 42 and identification regulation 29 (alternative information in certain cases). The latter regulation applies to the information requirement for a container fixed in one place, i.e. a stationary tank.

Petrol is classified 3.1A, 6.1E, 6.3B, 6.7B, 9.1B and diesel 3.1D, 6.1E, 6.3B, 6.7B, 9.1B. For a service station that has both petrol and diesel, the identification and signage requirements are as follows.

### Item 1 - Verifying the hazardous substances present

The word HAZCHEM is generally accepted as indicating hazardous substances are present. The HAZCHEM code is useful for emergency services but is not readily understood by others. Alternatively, the appropriate GHS pictogram or signal words are sufficient to indicate that hazardous substances are present.

### Item 2 - Verifying the hazardous property of each substance and the degree of hazard

The hazardous properties are:

- class 3, flammable
- class 3.1 flammable liquid

*The general degrees of hazard are:*

- Petrol - very high hazard, or extremely flammable liquid.
- Diesel - low hazard, or combustible liquid

GHS pictograms may be used to indicate the hazardous property, the general type of hazard and the degree of hazard. Refer to an approved Code of Practice<sup>13</sup> or NZS 5433:2007<sup>14</sup> for a list of pictograms.

### Item 3 - Steps to prevent unintended ignition

There are standard words as well as a number of recognised symbols that cover the steps to be taken to prevent unintended explosion, ignition or combustion. See Table 2 on page 14.

### Item 4 - Action to be taken in an emergency

The appropriate action to be taken in an emergency would be to contact Emergency Services. "Phone 111 Fire Service" would suffice.

---

<sup>13</sup> There is one code at present, Signage for Premises Storing Hazardous Substances and Dangerous Goods developed by Responsible Care.

<sup>14</sup> New Zealand Standard NZS 5433:2007 Transport of dangerous goods on land.

## Position of the signage

The signage must be visible and appropriately positioned. At a Service Station signage is to be placed at or near the dispenser. In view of its proximity to the public, who are likely to dispense fuel, the requirement to be able to read the signage at the point of dispensing is considered appropriate.

## Toxic and ecotoxic signage

Toxic and ecotoxic classifications are not part of the location test certificate or stationary container system test certificate. However, the oil industry has agreed to the standard set out in Table 2 on page 14.

Table 2 - Standard signage for petrol and diesel<sup>15</sup>

Item 1 & 2		<b>Flammable Liquid</b> HAZCHEM
		<b>May be harmful if swallowed and enters airways</b> <b>(Mildly irritating to the skin)*</b> <b>Suspected (human)* carcinogen</b>
		<b>Toxic to aquatic life</b>
Item 3		<b>No smoking</b>
		<b>Stop your engine</b>
		<b>No ignition sources</b> <b>No naked flames (including pilot lights)*</b> Turn out gas pilot lights
		<b>Turn off mobile phone and other electronic devices</b> Do not use cell phones Leave electronic devices in vehicle Turn off mobile phone
		<b>Beware of static electricity</b> Discharge your Static Electricity before refuelling To minimise static electricity risks touch metal on vehicle away from fuel cap area before handling fuel nozzle Never re-enter the vehicle while fuelling
		<b>Approved containers only</b> <b>Fill portable containers on the ground</b> Fill and store petrol in approved containers Place fuel tanks on the ground
		No sitting or straddling while refuelling No refuelling by persons under 15 years of age Never allow children to use pump During filling never jam nozzle open Never leave nozzle unattended Do not leave pump unattended when refuelling
Item 4		<b>Phone 111 Fire Service</b> HAZCHEM 3[Y]E

<sup>15</sup> There will be alternative words conveying the same meaning as the items in bold. The information may be located near the dispensers

\* words in ( ) may be omitted.

## Appendix 2: Signage Checklist

This assessment is to evaluate the signage element of a location test certificate.

Test certifiers should complete this checklist as part of their assessment when certifying a location. If any of the controls are not met a test certificate must not be issued. The test certifier must advise the client and MBIE of any deficient items.

Care must be taken to ensure that a conflict of interest does not arise as a result of any recommendations or advice given by a test certifier in the event a test certificate is not issued.

<b>Premises/Company:</b>	
<b>Contact Name:</b>	
<b>Physical Address:</b>	
<b>Date of Assessment:</b>	
<b>Test Certifier:</b>	
<b>Notes:</b>	

## Signage Required?

Item	Requirement	Complies Yes/No	Evidence of Compliance
1.	The facility has an inventory of hazardous substances		
2.	The threshold quantities for signage have been established		
3.	Locations that exceed the thresholds for signage	N/A	<p><b>List Classifications</b></p>

Location being assessed: \_\_\_\_\_

Item		Complies Yes/No	Evidence of Compliance
1.	Hazardous substances are present		
2.	General type of hazard		
3.	Preventing unintended ignition		
4.	Action to be taken in an emergency		

Location being assessed: \_\_\_\_\_

Item		Complies Yes/No	Evidence of Compliance
1.	Hazardous substances are present		
2.	General type of hazard		
3.	Preventing unintended ignition		
4.	Action to be taken in an emergency		

Location being assessed: \_\_\_\_\_

Item		Complies Yes/No	Evidence of Compliance
1.	Hazardous substances are present		
2.	General type of hazard		
3.	Preventing unintended ignition		
4.	Action to be taken in an emergency		



Environmental  
Protection Authority  
*Te Mana Rauhi Taiao*

Level 10, 215 Lambton Quay, Wellington 6011, New Zealand

