

**User Guide to
Becoming a Test Certifier
HSNO Act 1996**

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Becoming a Test Certifier

1. What is a test certifier?

Test Certifiers are individuals who are authorised under the Hazardous Substances and New Organisms (HSNO) Act 1996 by the Environmental Risk Management Authority (the Authority) to issue test certificates.

When approving the import or manufacture of hazardous substances, the Authority may impose controls on a substance that include the requirement that users of the substance obtain a test certificate to verify that the location or facility complies with the certain controls.

The controls may also require the substance to be under the control of an ‘approved handler’. Handlers gain their approvals from a test certifier.

2. Approval

Sections 82 to 86 of the HSNO Act set out the requirements regarding the approval and monitoring of test certifiers. In approving a test certifier, the Authority must be satisfied that the applicant:

- has appropriate qualifications, sufficient knowledge and appropriate equipment
- is technically competent, and
- is covered by an approved scheme of insurance.

A test certifier is approved for a period of up five years. The Authority has power to conduct an inquiry into the conduct or ability of a test certifier. After completing its investigation, the Authority, may amend, or cancel the certifier’s approval.

The qualifications required for approval as a test certifier are specified in regulation 11 of the Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001. A copy of this regulation is appended to this guide as Appendix A.

3. How to apply

Section 83(3) of the HSNO Act determines what information is required from an applicant. This enables the Authority to decide whether or not the applicant has:

- appropriate qualifications
- sufficient knowledge of the relevant HSNO requirements, and
- the competency to test for the relevant requirements.

The applicant must complete an application form (TC1) and forward it to:

ERMA New Zealand,
PO Box 131,
Wellington.

This form is available on our website at www.ermanz.govt.nz or from the Hazardous Substances Group at ERMA New Zealand, phone 04 916 2426.

4. Filling in the application form

The application form should be completed in accordance with the following instructions.

4.1 Section 1 – Personal information

Name, postal address, phone, fax numbers and email address if available.

4.2 Section 2 – Type of approval

The application form can be used for the various types of test certifier applications.

Please indicate whether this application is for

- a new approval as a test certifier, or
- the renewal of an existing approval. If this is the case you need to indicate whether you want to apply to have changes made to the scope of your approval. Any proposed changes must be accompanied by supporting documentation, or
- the reinstatement of a lapsed approval. If this is the case, the reasons why the approval lapsed should be provided.

4.3 Section 3 - Scope of the approval

The scope of the approval describes the extent of the test certifier's registration. It sets out the provisions of the HSNO Regulations for which a certifier may issue test certificates.

You need to provide a scope of approval showing the provisions of the HSNO Regulations you seek approval for. The scope of the approval can be broad or narrow depending on your area of expertise, and you will need to demonstrate competence in all the matters you seek approval for.

The controls specifying test certificates and approved handlers will be derived from the HSNO Regulations. The following tables show the various HSNO provisions that prescribe test certificates and approved handlers. Test certificate and approved handler specifications extracted out of the Regulations are attached as Appendices B and C.

Test certificates for facilities: It should be noted that the table gives broad headings only. In your application you need to specify the type of facility and the hazardous substances involved. Any limitations to the scope of the approval you seek should also be given.

Approved handlers: It should be noted that the table gives broad headings only. In your application you need to specify the type of handler certificate, the substances (or substance involved) and the phases of their lifecycle that you have expertise in. Any limitations to the scope of the approval you seek should also be given.

	Test Certificate Requirements	
<i>Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</i>	Facility/Location	Code
24	Design of containers securing Class 1 substances (explosives)	TC 1
24	Containers securing Class 1 substances (explosives)	TC 2
30	Locations where Class 1 substances (explosives) present	TC 3
32(5)	Detonation or deflagration of a Class 1 substance (explosive) in the hours of darkness	TC 4
34(2)	The level of blast overpressure and heat radiation in the detonation or deflagration of a Class 1 substance (explosive)	TC 5
40	Outdoor pyrotechnic displays	TC 6
46(3)	Transfer of Class 1 substances (explosives)	TC 7
81	locations where Class 2.1.1, 2.1.2 or 3.1 substance (flammable gas, aerosol or liquid) present	TC 8
82	Locations where Class 3.2 or 4 substance present	TC 9
98	Locations where Class 5.1.1 or 5.1.2 substance (oxidiser) present	TC 10
120	Locations where Class 5.2 substance (organic peroxide) present	TC 11
<i>Hazardous Substances (Fireworks) Regulations 2001</i>		
10	Fireworks	TC 12
	Approved Handler Requirements	
<i>Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</i>	Approved Handler	Approved Handler
13	Class 1 substance (explosive)	AH 1
32	Detonation or deflagration of Class 1 substance (explosive)	AH 2
35	Outdoor pyrotechnic displays	AH 3
44	Indoor special effects displays	AH 4
48	Transfer of Class 1 substance (explosive) from one type of transport to another	AH 5
51	Class 1 substance (explosive) being transported by road or rail	AH 6
56	Class 2, 3 and 4 substances (flammables)	AH 7
60(2)	Class 2.1.1, 2.1.2 and 3.1 substances (flammable gases, aerosols or liquids)	AH 8
89	Class 5.1.1 and 5.1.2 substances (oxidisers)	AH 9
107	Class 5.2 substances (organic peroxides)	AH 10
<i>Hazardous</i>		

Substances (Classes 6,8, and 9 Controls) Regulations 2001		
9	Class 6, 8 and 9 substances (toxins, corrosives and ecotoxins)	AH 11

Qualifications

The onus is on the applicant to supply the Authority with sufficient evidence of their competence. The competency requirements are specified in Regulation 11 of the *HSNO (Personnel Qualifications) Regulations 2001*. The following sections describe these requirements and how they may be demonstrated.

4.4 Section 4 – Experience

In order for the Authority to approve you as a test certifier you must have either:

- a) a minimum of two years practical experience of actively undertaking testing, inspection, enforcement, or handling duties, under one or more of the Animal Remedies Act 1967, the Dangerous Goods Act 1974, the Explosives Act 1957, the Health and Safety in Employment Act 1992, the Pesticides Act 1979, the Toxic Substances Act 1979, and the Land Transport Act 1998 in respect of:
 - (i) substances or equipment regulated under the HSNO Act 1996, or
 - (ii) the operation of systems or equipment for which you may issue test certificates;

OR

- b) a minimum period of between three months and 24 months of practical experience under the supervision of a test certifier covering the types of equipment or qualifications or situations for which you will issue test certificates. The adequacy of the length of experience will be determined by the Authority on a case-by-case basis.

Evidence that you have the relevant experience must be supplied.

Suitable evidence in the case of 4.4(a), is a written record signed by your supervisor or an enforcement officer, or included in a statutory declaration by you describing your practical experience.

Suitable evidence in the case of 4.4(b), is a written record signed by your supervisor describing your practical experience.

4.5 Section 5 - Knowledge of the Act and Regulations

Before being appointed as a test certifier, you must know and be able to describe your obligations and liabilities under the Act, including:

- the purpose and principles of the Act
- the offence and defence provisions of the Act
- the penalties and liabilities imposed by the Act

- the effect of a compliance order, and
- the provisions applicable to test certificates.

This knowledge may be demonstrated by previous qualifications, competence in relevant unit standards, completion of a training course or through previous work history. To demonstrate that you have the required knowledge and skills you should provide a written record signed by a person who has trained or assessed you, describing the method of assessment of your knowledge, and the results of that assessment.

Please attach copies of any further information, (qualifications, training certificates, certificates of attendance) that supports your application.

4.6 Section 6 - Hazardous substance knowledge

In order for the Authority to approve you as a test certifier you must know and be able to describe:

- the hazard classifications of any hazardous substances you will issue test certificates for
- the adverse effects that could be caused by each substance
- the controls that are imposed under the Act on those substances
- any codes of practice relating to hazardous substances you will issue test certificates for.

This knowledge may be demonstrated by previous qualifications, competence in relevant unit standards, completion of a training course or through previous work history. To demonstrate that you have the required knowledge you should provide a written record signed by a person who has trained or assessed you, describing the method of assessment of your knowledge, and the results of that assessment.

Please attach copies of any further information, (qualifications, training certificates, certificates of attendance) that supports your application.

4.7 Section 7 - Knowledge of operating equipment and systems

In order for the Authority to approve you as a test certifier you must demonstrate that you have knowledge of, and skills to use, the commonly used operating equipment and systems (including protective clothing and equipment) that is necessary to meet any requirement for which a test certificate is to be issued.

This knowledge and skills may be demonstrated by previous qualifications, competence in relevant unit standards, completion of a training course or through previous work history. To demonstrate that you have the required knowledge and skills you should provide a written record signed by a person who has trained or assessed you, describing the method of assessment of your knowledge, and the results of that assessment.

Please attach copies of any further information, (qualifications, training certificates, certificates of attendance) that supports your application.

4.8 Section 8 - Issuing test certificates for locations, equipment, procedures, fireworks

In order for the Authority to approve you as a test certifier for locations, equipment, procedures or fireworks, you must demonstrate that you have the knowledge of, and skills required, to use the testing equipment and procedures (including normal operations, calibration and record keeping) required to issue such test certificates.

Test certificates for locations, equipment, procedures, and fireworks will require you to show you know how to assess whether the controls applied by the Authority are being complied with.

The knowledge and skills can be demonstrated for example by previous qualifications, competence in relevant unit standards, completion of a training course or through previous work history. You should provide a written record signed by a person who has trained or assessed you, describing the method of assessment of your knowledge and practical skills, and the results of that assessment.

Please attach copies of any further information, (qualifications, training certificates, certificates of attendance) that supports your application.

4.9 Section 9 - Handler assessment expertise

In order for the Authority to approve you as a test certifier of approved handlers, you must demonstrate that you have the knowledge of, and skills required, to use testing procedures (including normal operations, calibration and record keeping) required to issue such test certificates.

In order for the Authority to approve you as a test certifier of approved handlers you must demonstrate that you have the skills required to assess adults.

The knowledge and skills can be demonstrated by previous qualifications, competence in relevant unit standards, completion of a training course or through previous work history. A demonstration of the knowledge and skills through previous work history is likely to require referees or references, for example you may have a polytechnic adult learning and assessment certificate, or you may be competent in unit standard 4098, or you may have a work history of assessing adults.

Please state your evidence that demonstrates that you meet the above requirements.

You should provide a written record signed by a person who has trained or assessed you, describing the method of assessment of your knowledge and practical skills, and the results of that assessment.

Please attach copies of any further information, (qualifications, training certificates, certificates of attendance) that supports your application.

4.10 Section 10 - Maintenance of test certifier expertise

As a test certifier it is important that you maintain your knowledge and skills in:

- the hazardous substance(s) you are approved for
- any changes to the Act or Regulations, controls and Codes of Practice
- assessment expertise.

Please state your evidence that demonstrates that you have a system in place to ensure that you will maintain your knowledge and skills.

If you are applying for continuation or renewal of an approval for the same requirements, you should either confirm that the previously supplied information still applies, or describe any changes to the information that was provided with the earlier application(s).

4.11 Section 11 - Record keeping system

In order for the Authority to approve you as a test certifier you must demonstrate that you have in place an electronic record keeping system that:

- will maintain accurate data on all test certificates that are issued by you
- will maintain accurate data on all approved handlers who are issued test certificates by you, ie records the name of approved handler, residential and work contact details, date of issue, hazardous substance(s) the test certificate is issued for
- allows for annual electronic reports to ERMA New Zealand
- allows ERMA New Zealand or an enforcement officer to request information about specific test certificates
- allows ERMA New Zealand or an enforcement agency to request information about hazardous substance locations in a specific area
- allows ERMA New Zealand or an enforcement officer to request information about an individual approved handler
- allows an approved handler to request information about themselves
- complies with the Privacy Act.

Please provide evidence that your record keeping system meets the above requirements.

4.12 Section 12 – Insurance

The Authority requires that test certifier applicants have in place professional liability insurance as one of the conditions of a test certifier approval (s84 (5)(b)). The minimum specifications that any professional indemnity insurance cover must meet are set out below. The Authority stresses that these are minimum requirements only and it is up to individual test certifiers to determine the extent and nature of the cover that best suits their own circumstances.

The Authority requires that the insurance cover be renewed and maintained on an annual basis for at least the duration of the period of the test certificates. If a test certifier ceases to practice then he or she must maintain the professional indemnity coverage on a ‘run off’

basis annually for at least the duration of the final period of any test certificates that may have been issued prior to the cessation of practice.

Section 84(5)(b) exempts employees of territorial authorities from the insurance requirements provided that, in issuing a test certificate, you are acting as an agent of a territorial authority and are covered by appropriate insurance cover held by that authority.

The recommended minimum insurance specifications are as follows:

- A limit of indemnity for professional indemnity insurance for a test certifier of not less than \$500,000 for any one claim under a 'civil liabilities' contract of insurance for the available insurable risks.
- The policy is to be 'fully retroactive' from the date of issue of the first test certificate.
- The policy must be exclusive for the services involved as a test certifier and must not include liabilities for any other forms of consulting work.
- The policy is subject to at least one automatic reinstatement of the amount of insurance.
- There are to be no exclusions for pollution or environmental risks.

It is apparent that obtaining such insurance can be difficult and expensive for many applicants so to assist Test Certifiers get reasonable PI insurance ERMA New Zealand has arranged a group insurance scheme in conjunction with its PI insurers. Potential test certifiers may find out more details of this group scheme by contacting ERMA New Zealand.

5. Procedures

5.1 Applications

Applications are to be made using the Authority's form.

5.2 Preliminary Checking

When an application is received it will be checked for obvious errors and omissions and if necessary returned for correction. In some cases, for example, where the applicant clearly has inadequate experience or inappropriate qualifications, the application may be declined at this stage.

5.3 Information

ERMA New Zealand may require more information.

5.4 Considering the application

The application is to be considered by the Chief Executive of ERMA New Zealand acting under delegation from the Authority within 20 days of the receipt of all information

required. The Chief Executive may request that the applicant attends a consideration meeting. The applicant, in addition, has the right to attend a meeting if he or she wishes.

We do not expect to hold consideration meetings for most cases. We expect that applications will be considered on the basis of the documentation supplied, and that the attendance of the applicant will only be required if there is material uncertainty about whether the applicant meets the required qualifications.

If attendance at the consideration is required, it will generally be by teleconference.

5.5 Issuing approvals

If your application is successful, the Authority will advise you accordingly and make the appropriate entry on the register of test certifiers.

If the Authority decides to decline an application, it will notify you in writing, specifying the reasons. Under section 125(1)(e) an unsuccessful applicant will have a right of appeal to the district court against the decision.

6. Expiry and renewal of approvals

An approval will expire on the fifth anniversary of its date of approval or on an earlier date specified by the Authority.

An application to continue a registration for the same HSNO requirements may take the form of a simple request accompanied by the appropriate fee. However, if the test certifier concerned wishes the Authority to take account of any additional qualifications acquired since the previous application, or wishes for any change in the specialisations and limitations concerned, then the application for continuation should be accompanied by the appropriate supporting documentation.

If a test certifier wishes to renew a registration that has lapsed, the reasons why the approval lapsed should also be provided.

7. Fees

For information on the fee structure refer to ERMA New Zealand's *Schedule of Fees and Charges* which can either be obtained from our website at www.ermanz.govt.nz or by contacting us on ph 04 916 2426.

Appendix A : HSNO (Personnel Qualifications) Regulations 2001

Qualifications for test certifiers

1. Before being appointed as a test certifier, a person must know and be able to describe the following matters:
 - a) the hazard classifications of any hazardous substances in relation to which he or she issues test certificates
 - b) the adverse effects that could be caused by each of those substances
 - c) the controls that are imposed under the Act on those substances
 - d) his or her obligations and liabilities under the Act, including:
 - i) the purpose and principles of the Act,
 - ii) the offence and defence provisions of the Act,
 - iii) the penalties and liabilities imposed by the Act,
 - iv) the effect of a compliance order, and
 - v) the provisions applicable to test certificates.
 - e) the requirements or conditions imposed in accordance with Part III of the Third Schedule of the Act for which the test certifier may issue a test certificate.
 - f) any Codes of Practice relating to any hazardous substances for which he or she issues test certificates.
2. The person must also know and be able to describe and demonstrate:
 - a) the use of any testing equipment or procedures (including normal operations, calibration, and record keeping) required for the issue of test certificates, and
 - b) the use of commonly used operating equipment and systems (including protective clothing and equipment) that is necessary to meet any requirement for which a test certificate is to be issued.
3. The person must also have either:
 - a) a minimum of two years practical experience of actively undertaking testing, inspection, enforcement, or handling duties, under one or more of the Animal Remedies Act 1967, Dangerous Goods Act 1974, Explosives Act 1957, Health and Safety in Employment Act 1992, Pesticides Act 1979, Toxic Substances Act 1979, and Land Transport Act 1998 for:
 - i) substances or equipment regulated under the Hazardous Substances and New Organisms Act 1996; or
 - ii) the operation of systems or equipment for which the test certifier may issue test certificates; or
 - b) a minimum period of between three months and 24 months (to be specified by the Authority) of practical experience under the supervision of a test certifier covering the types of equipment or qualifications or situations for which the person will issue test certificates.

4. In deciding whether or not to approve a person as a test certifier, the Authority may regard as sufficient evidence a written record:
 - a) in the case of the requirements specified in subclause (1) or (2), signed by a person who has trained or assessed the person and describing the method of assessment of the knowledge and practical skills of the person, and the results of that assessment; or
 - b) in the case of the requirements specified in subclause (3)(a), signed by the person's supervisor or an enforcement officer, or included in a statutory declaration by the person describing the person's practical experience; or
 - c) in the case of the requirements specified in subclause (3)(b), signed by the person's supervisor describing the person's practical experience.

Appendix B : Test Certificate Specifications

The controls to be placed on hazardous substances will be generated from the relevant HSNO Regulations.

These Regulations include the requirement that users of hazardous substances obtain test certificates to verify compliance with the HSNO controls.

The specifications included in this document are extracted from the *Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001* and the *Hazardous Substances (Fireworks) Regulations 2001*.

Note: In issuing an approval for a substance, the Authority may vary the controls attached to that substance. Thus the need and specifications for a test certificate may, in specific instances, be different from that indicated in the Regulations. You should consult the controls applying to the specific substances.

	Test Certificate Requirements	
<i>Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</i>	Facility/Location	Code
24	Design of containers securing Class 1 substances (explosives)	TC 1
24	Containers securing Class 1 substances (explosives)	TC 2
30	Locations where Class 1 substances (explosives) present	TC 3
32(5)	Detonation or deflagration of a Class 1 substance (explosive) in the hours of darkness	TC 4
34(2)	The level of blast overpressure and heat radiation in the detonation or deflagration of a Class 1 substance (explosive)	TC 5
40	Outdoor pyrotechnic displays	TC 6
46(3)	Transfer of Class 1 substances (explosives)	TC 7
81	Locations where Class 2.1.1, 2.1.2 or 3.1 substance (flammable gas, aerosol or liquid) present	TC 8
82	Locations where Class 3.2 or 4 substance present	TC 9
98	Locations where Class 5.1.1 or 5.1.2 substance (oxidiser) present	TC 10
120	Locations where Class 5.2 substance (organic peroxide) present	TC 11
<i>Hazardous Substances (Fireworks) Regulations 2001</i>		
10	Fireworks	TC 12

TC 1 Requirements for test certificates for the design of containers securing Class 1 substances (explosives)

Relevant Regulations

Regulation 24 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

The design of any container securing Class 1 substances (explosives) whose construction is started after the commencement of these Regulations must have a test certificate certifying that the design meets the requirements for compressive, shear, and tensile strength specified in regulation 23(1).

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the HSNO Regulations above and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

The requirements do not apply to containers that are subject to an existing licence under the Explosives Act 1957.

Requirements for test certificate

A test certificate is required to certify that the container design meets the following requirements:

It must have the following:

- a) an outer case with:
 - i) a compressive strength of at least 500 kN/m²; and
 - ii) a shear strength of at least 750 kN/m²; and
- (b) locking arrangements, for any entry into the container or for those parts of the container through which access is gained to the contents, that have a tensile strength of at least 1250 kN/m².

See also:

Test certificate requirements:

- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) are present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail.

TC 2 Requirements for test certificates for containers securing Class 1 substances (explosives)

Relevant regulations

Regulation 24 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Before being used to secure a Class 1 substance (explosive), a container must have a test certificate certifying that the container is constructed according to certain design specifications.

Hazardous Substances (Classification) Regulations 2001
Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

The requirements do not apply to containers that are subject to an existing licence under the Explosives Act 1957.

Duration of test certificate

A test certificate must be obtained at five yearly intervals, certifying that the container continues to meet the design specification.

Requirements for test certificate

A test certificate is required to certify that the container is constructed according to a design specification which has a test certificate certifying that the design meets the following requirements:

It must have the following:

- a) an outer case with:
 - i) a compressive strength of at least 500 kN/m²; and
 - ii) a shear strength of at least 750 kN/m²; and
- b) locking arrangements, for any entry into the container or for those parts of the container through which access is gained to the contents, that have a tensile strength of at least 1250 kN/m².

The design specification will specify the material type to be used in making the container, its dimensions, and its components, including any part of the container through which access is gained to the contents, the locking arrangements for any such entry, and the arrangements for securing the container against removal.

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

TC 3 Requirements for test certificates for locations where Class 1 (explosive) substances present

Relevant Regulations

Regulation 30 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Locations where Class 1 substances (explosives) are present must have a test certificate to certify that the requirements of regulations 21, 22, 26(2), 26(3) and 27 are being met.

Hazardous Substances (Classification) Regulations 2001
Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

Requirements do not apply to an area where the substances are located for less than two hours.

The test certificate requirements do not apply to a hazardous substance locations where the only Class 1 substances (explosives) present are in amounts less than the following quantities:

<i>Hazard classification</i>	<i>Quantities</i>
1.1B, 1.2B, and 1.4B	5 kg
1.1 (other than 1.1B or 1.1C), 1.2, and 1.5	50 kg
1.1C and 1.3 (other than 1.3G)	100 kg
1.3G and 1.4 (other than 1.4S)	200 kg
1.4S	1 000 kg

Requirements for test certificate

A test certificate is required to certify that the location where Class 1 substances are present meets the following requirements:

Class 1 substances (explosives) must be located in accordance with the segregation requirements set out in Regulation 21.

When a Class 1 substance (explosive) is not under the personal control of an approved handler as required in Regulation 13, that substance must be secured in a container that meets the requirements of either Regulations 23 and 24, or Regulation 25.

The person in charge of the hazardous substance location must notify an enforcement officer responsible for the enforcement of the Act in the area where the hazardous substance location is situated, at least 30 working days before the commissioning of the hazardous substance location as an area for accommodating Class 1 substances (explosives) of:

- a) the street address of the place in which the hazardous substance location is situated; and
- b) the maximum quantity and hazard classification of each Class 1 substance (explosive) that the hazardous substance location is designed or constructed to accommodate.

The person in charge of the hazardous substance location must ensure that, where Regulation 13 requires Class 1 substances (explosives) to be under the control of an approved handler:

- a) they personally are an approved handler for such substances, or can demonstrate that a person is available who is an approved handler for such substances; and
- b) any container or building used to hold the substance is secured as required by Regulation 22.

The requirements to reduce likelihood of unintended initiation at hazardous substance location are met (Regulation 27).

Duration of certificate

Where a test certificate is required for a hazardous substance location that test certificate must be renewed at intervals of not more than 12 months, unless on request of the person or persons required to obtain the test certificate the Authority specifies a longer time limit for the test certificate.

The longer time limit specified by the Authority may not exceed 36 months.

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

TC 4 Requirements for test certificates for the detonation or deflagration of an explosive substance in the hours of darkness

Relevant Regulations

Regulation 32(5) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

The person in charge of detonation or deflagration must not detonate or deflagrate a Class 1 substance (explosive) during the hours of darkness unless that person has obtained a test certificate to certify that the documented procedures for the detonation or deflagration meet the requirements of the Regulations without natural lighting.

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

The designated use zone, notification, and exclusion of personnel requirements do not apply where the only Class 1 substances (explosives) being detonated or deflagrated in any one firing do not exceed the following quantities:

<i>Hazard classification</i>	<i>Quantities</i>
1.1B, 1.2B, and 1.4B	5 kg
1.1 (other than 1.1B or 1.1C), 1.2, and 1.5	50 kg
1.1C and 1.3 (other than 1.3G)	100 kg
1.3G and 1.4 (other than 1.4S)	200 kg
1.4S	1 000 kg

or to the use of a Class 1 category G substance in a pyrotechnic or special effects display.

Requirements for test certificate

A test certificate is required to certify that the detonation or deflagration of a Class 1 (explosive) substance during the hours of darkness will follow documented procedures which ensure that the following requirements can be met without natural lighting.

- 1. Approved handler*
The person in charge of the detonation or deflagration ensure that there is an approved handler personally in control of the substance, or that the substance is secured as specified in Regulation 22.
- 2. Designated use zone*
The person in charge of the detonation or deflagration must establish a designated use zone within which such substances are to be detonated.
- 3. Notification of enforcement officer*

At least three working days before the first firing occurs at the place, the person in charge of the detonation or deflagration must:

- (a) notify an enforcement officer of the place where the firing is to occur, the date of the firing, and the time and number of firings, and
- (b) in the case where regular firings are to occur at the place, notify an enforcement officer of the likely frequency of firings per year, and at 12-monthly intervals reconfirm or modify this notification, and
- (c) give the officer sufficient information to enable the officer to contact the person in charge of the detonation and deflagration and the approved handler during normal business hours.

4. *Excluding personnel*

The person in charge of the detonation or deflagration must ensure that all persons not specifically authorised by the approved handler to be in the designated use zone are excluded, using the following methods:

- a) information must be displayed that:
 - i) warns that a substance is being detonated and that entry is prohibited; and
 - ii) is visible from all points that are 5m from the outer side of the perimeter of the designated use zone; and
 - iii) meets the level of comprehensibility and clarity required for signage in *Part III of the Hazardous Substances (Identification) Regulations 2001*; and
- b) one minute before firing, a distinctive warning sound must be generated that is of sufficient volume to be heard throughout the zone, and at all points that are 5m from the outer side of the perimeter of the zone, by a person with normal hearing; and
- c) a visual check must be made of the zone immediately before firing to ensure that all people not directly involved with the firing have been excluded.

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)

AH 6: Class 1 substances (explosives) being transported by road or rail

TC 5 Requirements for test certificates for the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance

Relevant Regulations

Regulation 34(2) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Test certificates are required to certify that, if documented procedures are followed, an authorised person who is directly involved with the detonation or deflagration of a Class 1 substance (explosive) could be subject to a maximum levels of blast overpressure and heat radiation.

Hazardous Substances (Classification) Regulations 2001
Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Requirements for test certificate

A test certificate is required to certify the level of blast overpressure and heat radiation that an authorised person who is directly involved with the detonation or deflagration could be subject to.

Blast overpressure

The authorised person may be subject to a blast overpressure up to 24 kPa.

Heat radiation

The authorised person may be subject to up to 80% of the heat radiation described by the formula $Q = 1.7 + 60t^{-0.9}$

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)

AH 6: Class 1 substances (explosives) being transported by road or rail

TC 6 Requirements for test certificates for outdoor firework displays

Relevant Regulations

Regulation 40 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

The person in charge of any outdoor pyrotechnic display involving Class 1 category G (pyrotechnic) substances must obtain a test certificate prior to the display to certify that the planning for the proposed display provides that the requirements set out below are met.

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Requirements for test certificate

A test certificate is required to certify that the planning for the proposed display specifies that:

1. The approved handler has a certificate of competency for conducting the height of display planned.
2. The boundary of the discharge area is as specified in Regulation 37.
3. The boundary of the exclusion zone is as specified in Regulation 38.
4. Any unfired Class 1 Category G (pyrotechnic) substance will not come into contact with sparks or hot fragments capable of transferring energy at a rate greater than 0.5W/m^2 , unless such sparks or fragments are part of an intended ignition system.
5. There are no substances classified in Class 2, 3, 4, or 5 present in the discharge area unless those substances are protected in such a way that they cannot be ignited by:
 - a) a burning object with a mass of 100g in contact with the protection for 30 seconds,
 - b) the heat able to be generated by the display in the discharge area.
6. The firing circuit of an electric ignition system:
 - a) is insulated from earth and has been tested to ensure continuity where the test current is less than 60 mA, and
 - b) is protected from stray electrical currents of more than 60 mA, and
 - c) satisfies the requirements for protection from electromagnetic radiation as specified in regulation 17, and
 - d) is arranged so that only the approved handler may initiate firing and that each firing sequence requires a positive action.
7. If a thunderstorm approaches a discharge area:
 - a) any handling or preparation of a Class 1 category G substance must cease, and

- b) all persons must be evacuated to a distance in metres from any container for holding Class 1 category G substances, and any firing positions where Class 1 category G substances are present, of not less than that calculated in accordance with the following formula:

$$D = 10 \times \text{NEQ}^{1/3}$$

Where:

D is the distance in metres

NEQ (net quantity of Class 1 substance) is the gross weight of the article less the weight of any construction materials of the article, in kilograms.

8. The number and type of pyrotechnics to be used in the display.
9. The person in charge of the display has obtained prior written agreement for the holding of the display from:
- a) the New Zealand Fire Service or the New Zealand Rural Fire Authority; and
- b) if the firing involves heights over 60 m, the agency responsible for air safety in the vicinity of the display.
10. If the firing involves heights over 60m, the agreement with the Fire Service must record that the documented procedures for the display will enable the person in charge of the display to comply with the requirements of Regulation 38(5)(c) and (d).
11. A record of the outdoor pyrotechnic display is prepared that includes:
- a) a site plan to scale of the discharge area and any exclusion zone; and
- b) details of arrangements for identifying and securing the discharge area and exclusion zone; and
- c) the name of the manufacturer, and the size, type, and number of pyrotechnic articles to be used; and
- d) details of positioning of firing points and mortar tubes, and the methods of firing; and
- e) the names and responsibilities of all authorised persons operating the display; and
- f) any incidents that occurred during the display.
12. The requirements of Regulation 43(a), (b), (d), (e), (f), and (i) are met.

Duration of certificate

The test certificate must be obtained not less than three days before the display.

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 7: transfer of Class 1 substances (explosives) in darkness

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

TC 7 Requirements for test certificates for the transfer of Class 1 substances (explosives) in darkness

Relevant Regulations

Regulation 46(3) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Test certificates are required to certify that documented procedures for the transfer of a Class 1 substance (explosive) during the hours of darkness meet the requirements of the Regulations without natural lighting.

Hazardous Substances (Classification) Regulations 2001
Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

The transfer requirements do not apply when the amount of Class 1 substances (explosives) present does not exceed the following quantities:

Hazard classification	Quantities
1.1B, 1.2B, and 1.4B	5 kg
1.1 (other than 1.1B or 1.1C), 1.2, and 1.5	50 kg
1.1C and 1.3 (other than 1.3G)	100 kg
1.3G and 1.4 (other than 1.4S)	200 kg
1.4S	1 000 kg

Requirements for test certificate

A test certificate is required to certify that the transfer of a Class 1 substance (explosive) during the hours of darkness will follow documented procedures which ensure that the following requirements can be met without natural lighting:

1. A designated transfer zone that fully contains all vehicles, ships, aircraft, or other forms of transport involved in the transfer operation is established.
2. There is an approved handler personally in control of the substances being transferred.
3. Emergency management requirements are complied with.
4. The requirements of Regulation 48 are met.
5. The substance quantity limits within the designated transfer zone are complied with.
6. Signage warning of the danger from the presence of Class 1 substances (explosives) is displayed.

7. The signage meets the level of comprehensibility and clarity required for signage in Part III of the *Hazardous Substances (Identification) Regulations 2001*.
8. The signage must be visible from points of access to the designated transfer zone.

See also:

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

TC 8 Requirements for test certificates for locations where Class 2.1.1, 2.1.2 or 3.1 substances (flammable gases, aerosols and liquids) present

Relevant Regulations

Regulation 81 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
 A test certificate is required to certify that a hazardous substance location or a hazardous substance zone where substances classified in 2.1.1, 2.1.2 or 3.1 (flammable gases, aerosols and liquids) are present complies with the relevant requirements specified in Regulation 81.

Hazardous Substances (Classification) Regulations 2001
 Flammable gases, aerosols and liquids are classified in 2.1.1, 2.1.2 or 3.1

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

Does not apply to quantities less than:

<i>Classification</i>		<i>Quantity</i>
2.1.1A and B	flammable gas	100 kg (or 100 m ³ where a permanent gas)
2.1.2A	flammable aerosol	3 000 L (aggregate water capacity)
3.1A, B, and C	flammable liquid	100 L (closed) 25 L (decanting) 5 L (open occasionally) 1 L (if in open container for continuous use)

Does not apply to non-tracked substances located for less than 18 hours.

Does not apply to tracked substances of located for less than two hours.

Requirements for test certificate

A test certificate is required to certify that the location where Class 2.1.1, 2.1.2, or 3.1 substances (flammable gases, aerosols and liquids) are present, or of any place where a hazardous atmosphere zone is required under Regulation 58, meets the following requirements:

1. The person in charge of the hazardous substance location must notify an enforcement officer in the area where the hazardous substance location is, at least 30 working days before the commissioning of the hazardous substance location as a place for

accommodating Class 2.1.1, 2.1.2, or 3.1 substances (flammable gases, aerosols and liquids) of:

- the street address of the place in which the hazardous substance location is located; and
 - the maximum quantity and hazard classification of each Class 2.1.1, 2.1.2, or 3.1 substance (flammable gases, aerosols and liquids) that the hazardous substance location is designed or constructed to accommodate.
2. Where the substance is required to be under the control of an approved handler, the person in charge of the hazardous substance location is an approved handler for such substances, or can demonstrate that a person is available who is an approved handler for such substances.
 3. Where the substance is required to be under the control of an approved handler any container or building used to hold the substances is secured so that a person cannot gain access to the substance without keys or other devices for operating locks.
 4. Where a hazardous atmosphere zone is required (Regulation 58), it has been established and its extent documented.
 5. The substance is not in contact with any substance or material with which it is incompatible, unless the contact is controlled to meet the requirements for planned combustion specified in Regulations 84 and 85.

Hazard classification	Incompatible substances and materials
2.1.1 (flammable gas)	All Class 1 substances (explosives) Class 2.1.2 substances (flammable aerosols) All Class 3 substances (flammable liquid; liquid desensitized explosives) All Class 4 substances (flammable solids) All Class 5 substances (oxidising substances)
2.1.2 (flammable aerosol)	All Class 1 substances (explosives) All Class 3 substances flammable liquid; liquid desensitized explosives) All Class 4 substances (flammable solids) All Class 5 substances (oxidising substances)
3.1 (flammable liquid)	All Class 1 substances (explosives) All Class 2 substances (flammable gases and aerosols) Class 3.2 substances (liquid desensitized explosives) All Class 4 substances (flammable solids) All Class 5 substances (oxidising substances)

6. The location has signage in place as required by the *Hazardous Substances (Identification) Regulations 2001*
7. Where the quantity of substance requires it, Regulations 13, 15, and 17 of the *Hazardous Substances (Emergency Management) Regulations 2001* are complied with.

Duration of Certificate

The test certificate must be renewed at intervals of not more than 12 months, unless on request of the person or persons required to obtain the test certificate the Authority specifies a longer time limit for which the test certificate is valid.

The longer time limit specified by the Authority may not exceed 36 months.

See also:

Approved handler requirements:

AH 7: Class 2, 3 or 4 substances (flammables)

AH 8: Class 2.1.1, 2.1.2, or 3.1 substances (flammable gases, aerosols or liquids)

TC 9 Requirements for test certificates for locations where Class 3.2 or 4 substance (liquid desensitised explosive or flammable solid) present

Relevant Regulations

Regulation 82 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

A test certificate is required to certify that a hazardous substance location where Class 3.2 or 4 substances (liquid desensitised explosives and flammable solids) are present complies with the relevant requirements specified in Regulation 82.

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

Does not apply to quantities less than:

Classification		Quantity
3.2A, B, and C	Flammable liquid	1 L
4.1.1A	Flammable solid – medium hazard	1 kg
4.1.1B	Flammable solid - low hazard	100 kg
4.1.2A and B	Self-reactive – type A, B	1 kg
4.1.2C and D	Self-reactive – type C, D	25 kg
4.1.2E, F, and G	Self-reactive – type E, F, G	50 kg
4.1.3A, B, and C	Solid desensitized explosives	1 kg
4.2A	Spontaneously combustible – high hazard	1 kg
4.2B and C	Spontaneously combustible – high hazard	25 kg
4.3A	Solids emitting flammable gas - high hazard	1 kg
4.3B	Solids emitting flammable gas - medium hazard	25 kg
4.3C	Solids emitting flammable gas - low hazard	50 kg

Does not apply to non-tracked substances located for less than 18 hours.

Does not apply to tracked substances located for less than two hours.

Requirements for test certificate

A test certificate is required to certify that the location where Class 3.2 or 4 substances (liquid desensitised explosives or flammable solids) are present meets the following requirements:

1. The person in charge of the hazardous substance location must notify an enforcement officer responsible for the enforcement of the Act in the area where the hazardous substance location is located, at least 30 working days before the commissioning of

the hazardous substance location as a place for accommodating Class 3.2 or 4 substances (liquid desensitised explosives or flammable solids) of the street address of the place in which the hazardous substance location is located; and the maximum quantity and hazard classification of each Class 3.2 or 4 substances (liquid desensitised explosives or flammable solids) that the hazardous substance location is designed or constructed to accommodate.

2. Where the substance is required to be under the control of an approved handler, the person in charge of the hazardous substance location is an approved handler for such substances, or can demonstrate that a person is available who is an approved handler for such substances.
3. Where the substance is required to be under the control of an approved handler any container or building used to hold the substances is secured so that a person cannot gain access to the substance without keys or other devices for operating locks.
4. Where a temperature control is required (Regulation 72), there is a temperature control plan in place that meets the prescribed requirements.
5. The boundary of the controlled zone complies with barrier, distance, or code requirements.
6. A site plan is available for inspection that shows the physical position, in relation to the legal boundary of the site in which the hazardous substance location or hazardous substance locations are located, of:
 - i) all hazardous substance locations within the place that contain Class 2, 3, or 4 (flammable) substances; and
 - i) all hazardous atmosphere zones and controlled zones within the place.
7. Where a hazardous atmosphere zone is required (Regulation 58), it has been established and maintained in accordance with that Regulation.
8. The requirements to reduce the likelihood of unintended ignition (Regulations 73 to 76) are met.
9. The location has signage in place as required by the *Hazardous Substances (Identification) Regulations 2001*.
10. Where the quantity of substance requires it, Regulations 13, 15, and 17 of the *Hazardous Substances (Emergency Management) Regulations 2001* are complied with.

Duration of certificate

The test certificate must be renewed at intervals of not more than 12 months, unless on request of the person or persons required to obtain the test certificate the Authority specifies a longer time limit for which the test certificate is valid.

The longer time limit specified by the Authority may not exceed 36 months.

See also:

Approved handler requirements:

AH 7: Class 2, 3 or 4 substances (flammables)

TC 10 Requirements for test certificates for locations where Class 5.1.1 or 5.1.2 substance (oxidiser) present

Relevant Regulations

Regulation 98 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

A test certificate is required to certify that a hazardous substance location where Class 5.1.1 or 5.1.2 substances (oxidisers) are present complies with the relevant requirements specified in Regulation 99, or, where applicable, Regulation 100.

Hazardous Substances (Classification) Regulations 2001

Oxidising substances are classified in Class 5.1.1 or 5.1.2

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions

The requirements do not apply to a fixed location where the following quantities and types of substance classified in Class 5.1 (oxidising substances) are present:

Less than:

- (a) 50 kg or 50 litres of Class 5.1.1A substance (oxidising – high hazard), or
- (b) 500 kg or 500 litres of Class 5.1.1B 1A substance (oxidising – medium hazard), or
- (c) 5000 kg of Class 5.1.1C substance (oxidising – low hazard), or
- (d) 250 kg or 200 m³ of Class 5.1.2A substance (oxidising gas).

Does not apply to non-tracked substances located for less than 18 hours.

Does not apply to tracked substances located for less than two hours.

Requirements for test certificate

A test certificate is required to certify that the location where Class 5.1.1 and 5.1.2 substances (oxidisers) are present meets the following requirements:

1. The person in charge of the hazardous substance location must notify an enforcement officer responsible for the enforcement of the Act in the area where the hazardous substance location is, at least 30 working days before the commissioning of the hazardous substance location as an area for accommodating Class 5.1.1 and 5.1.2 substances (oxidisers) of the street address of the place where the hazardous substance location is; the maximum quantity and hazard classification of each Class 5.1.1 and 5.1.2 substances (oxidisers) that the hazardous substance location is designed or constructed to accommodate; and any manufacturing or use involving Class 5.1.1 and 5.1.2 substances (oxidisers) that may occur at the location.
2. The person in charge of the hazardous substance location is an approved handler for such substances, or can demonstrate that a person is available who is an approved handler for such substances.

3. Any container or building used to hold the substances is secured so that a person cannot gain access to the substance without keys or other devices for operating locks.
4. A site plan is available for inspection that shows the physical position, in relation to the legal boundary of the site in which the hazardous substance location is situated, of:
 - i. all hazardous substance locations within the place that contain Class 5.1.1 and 5.1.2 substances (oxidisers), and
 - ii) all controlled zones within the place.
5. The requirements of Regulations 95(1)(a) to (d) and (f) and 95(2) are complied with.
6. A controlled zone around the location is established in accordance with Regulation 97.
7. Any fixed structure or installed equipment within the location is constructed from compatible material and is not an ignition source.
8. Any equipment or clothing present complies with the requirements of Regulations 92 and 103.
9. There are documented procedures to ensure that the requirements of Regulation 95(1)(e) are complied with.
10. The location has signage in place as required by the *Hazardous Substances (Identification) Regulations 2001*.
11. Where the quantity of substance requires it, Parts III and IV of the *Hazardous Substances (Emergency Management) Regulations 2001* are complied with.

In addition, if the location is one where the Class 5.1.1 and 5.1.2 substances (oxidisers) are manufactured or used:

12. There are documented procedures to ensure that every person leaving the location is free of any Class 5.1.1 and 5.1.2 substances (oxidisers).

Duration of certificate

The test certificate must be renewed at intervals of not more than 12 months, unless on request of the person or persons required to obtain the test certificate the Authority specifies a longer time limit for which the test certificate is valid.

The longer time limit specified by the Authority may not exceed 36 months.

See also:

AH 9: Class 5.1.1 and 5.1.2 substances (oxidisers)

TC 11 Requirements for test certificates for locations where Class 5.2 substance (organic peroxide) present

Relevant Regulations

Regulation 120 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

Test certificate that certifies hazardous substance location where Class 5.2 substances (organic peroxides) are present complies with the relevant requirements specified in Regulation 121, or, where applicable, Regulation 122.

Hazardous Substances (Classification) Regulations 2001

Organic peroxides are classified in Class 5.2

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand

Exemptions

The requirements do not apply to a fixed location where the following quantities and types Class 5.2 substances (organic peroxides) are present:

Less than:

- a) 10 kg of Class 5.2A or 5.2B (organic peroxides - type A or B) substance; or
- b) 25kg of Class 5.2C or 5.2D (organic peroxides - type C or D) substance; or
- c) 100 kg of Class 5.2E or 5.2F (organic peroxides - type E or F) substance.

Requirements for test certificate

A test certificate is required to certify that the location where Class 5.2 (organic peroxide) substances are present meets the following requirements:

1. The person in charge of the hazardous substance location must notify an enforcement officer where the hazardous substance location is, at least 30 working days before the commissioning of the hazardous substance location as an area for accommodating Class 5.2 substances (organic peroxides) of the street address of the place in which the hazardous substance location is; the maximum quantity and hazard classification of each Class 5.2 (organic peroxide) substance Class 5.2 substances (organic peroxides) that the hazardous substance location is designed or constructed to accommodate; and any manufacturing or use involving Class 5.2 substances (organic peroxides) that may occur at the location.
2. The person in charge of the hazardous substance location is an approved handler for Class 5.2 substances (organic peroxides), or can demonstrate that a person is available who is an approved handler for such substances.
3. Where any Class 5.2A, 5.2B, 5.2C, or 5.2D (organic peroxides - type A, B, C or D) substance is required to be secured, it must be secured in a container (not being packaging) the outer case of which has:
 - a) a compressive strength of 500 kN/m² ; and

- b) a shear strength of 750 kN/m^2 ; and
 - c) locking arrangements for any entry, or for any part of the container through which access is gained to the contents, that have a tensile strength of 1250 kN/m^2 .
4. Where any Class 5.2E or 5.2F (organic peroxides - type E or F) substance is required to be secured, any container or building used to hold the substance must be secured so that a person cannot gain access to the substance without tools, keys, or any other device used for operating locks.
 5. A site plan is available for inspection that shows the physical position, in relation to the legal boundary of the site in which the hazardous substance location is situated, of:
 - i) all hazardous substance locations within the place that contain Class 5.2 substances; and
 - ii) all controlled zones within the place.
 6. The requirements to reduce likelihood of unintended combustion or explosion (Regulations 117(1)(a) to (d) and (f) and 117(2)) are met.
 7. A controlled zone is established around the location in accordance with Regulation 119.
 8. Any fixed structure or installed equipment within the location is constructed from compatible material and is not an ignition source.
 9. Any equipment or clothing present complies with the requirements of Regulations 112 and 126.
 10. There are documented procedures to ensure that the requirements of Regulation 117(1)(e) are complied with.
 11. The location has signage in place as required by the *Hazardous Substances (Identification) Regulations 2001*.
 12. Where the quantity of substance requires it, Parts III and IV of the *Hazardous Substances (Emergency Management) Regulations 2001* are complied with.

In addition, if the location is one where the Class 5.2 substances (organic peroxide) is manufactured or used:

13. Every package or container containing a Class 5.2 substances (organic peroxide) must be kept closed except for when the substance is being taken from or put into its package or container.
14. No person is exposed to a Class 5.2 substance (organic peroxide) unless protected by clothing or equipment that meets the requirements of Regulation 126.

15. There are documented procedures to ensure that every person leaving the hazardous substance location is free of such substances.
16. A site plan shows that the location is separated from any other hazardous substance location by:
 - a) a distance of not less than that specified for incompatible substances in tables 5 and 6 in Schedule 5; or
 - b) a wall with a fire resistance rating of 120/120/120 minutes.

Duration of certificate

The test certificate must be renewed at intervals of not more than 12 months, unless on request of the person or persons required to obtain the test certificate the Authority specifies a longer time limit for which the test certificate is valid.

The longer time limit specified by the Authority may not exceed 36 months.

See also:

Approved handler requirements:

AH 10: Class 5.2 substances (organic peroxides)

TC 12 Requirements for test certificates for fireworks

Relevant Regulations

Regulation 10 of the Hazardous Substances (Fireworks) Regulations 2001

Test certificate that certifies that a consignment or batch of fireworks complies with the relevant requirements specified in Regulation 11.

Test Certificate Compliance

1. A batch of fireworks complies with the test certificate requirements if:
 - a) not less than 10 fireworks are selected at random from the batch and each of the selected fireworks complies with the requirements; or
 - b) in a case where 1 of the fireworks selected does not comply with requirements (c), (f), (g) or (h) below, not less than 10 additional fireworks are selected at random from the same batch and each of the selected fireworks, when test complies
2. An imported consignment of fireworks complies with the test certificate requirements if:
 - a) not less than 10 fireworks are selected at random from those fireworks of that type within the consignment and each of the selected fireworks complies with the requirements; or
 - b) in a case where one of the fireworks selected does not comply with requirements (c), (f), (g) or (h) below, not less than 10 additional fireworks are selected at random from the same consignment, and each of the selected fireworks, when test complies.

Exemptions

The Authority may waive the requirement that a batch of fireworks be tested for compliance with (b) below, if a batch of fireworks containing the same type of fireworks has earlier been tested and found to comply.

The Authority may waive the requirement that an imported consignment of fireworks be tested for compliance with (b) below, if a batch of fireworks containing the same type of fireworks has earlier been tested and found to comply.

Test certificate requirements

Test certificate will certify that the following requirements have been met for a consignment or batch of fireworks.

1. The objects in the consignment or batch are fireworks.
2. The fireworks:

- a) do not contain more than 40g of pyrotechnic substance.
- b) do not include any chloride mixed with sulphur, phosphorus, or any sulphide (unless the fireworks are and amorce containing more than 5mg of pyrotechnic substance).
- c) do not include any toxic substances of classifications 6.1A, 6.1B or 6.1C (acutely toxic) other than traces of antimony, arsenic, cadmium, chromium, lead, mercury, nickel, selenium, zinc, and their compounds.
- d) are constructed in a manner that does not allow pyrotechnic substances to escape at any time.
- e) do not have their own means of ignition.
- f) do not, if the fireworks are shaped as hand-held fireworks, discharge fire and burst the casing following ignition.
- g) have instructions for use on the outer case, or packet if there are no outer cases. These instructions comply with Regulations 34 and 35 of the *Hazardous Substances (Identification) Regulations 2001*.
- h) when used in accordance with the instructions for the use of the fireworks, do not create a hazard by discharging hot or burning material.
- i) have a fuse burning time of not less than three seconds and no more than 11 seconds.

Appendix C : Approved Handler Specifications

The controls to be placed on hazardous substances will be generated from the relevant HSNO Regulations.

These Regulations include the requirement that certain hazardous substances be under the control of an ‘approved handler’ through various phases their lifecycles.

To become an approved handler, a person must obtain a test certificate as an approved handler from a test certifier who has been approved by the Environmental Risk Management Authority to issue such certificates.

Before issuing a test certificate as an approved handler, the test certifier will need to be satisfied that the handler meets the requirements of the *Hazardous Substances and New Organism (Personnel Qualifications) Regulations 2001*.

The specifications included in this document are extracted from the:

- *Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001, and*
- *Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001, and*
- *Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001.*

In many cases, substances that are required to be under the control of an approved handler also need to be ‘tracked’. This document also contains an extract from the *Hazardous Substances (Tracking) Regulations 2001* setting out information to be included in the record of a tracked substance.

Note: In issuing an approval for a substance, the Authority may vary the controls attached to that substance. Thus the need, and specifications, for an approved handler, may, in specific instances, be different from that indicated in the Regulations. You should consult the controls applying to the specific substances.

<i>Hazardous Substances and New Organism (Personnel Qualifications) Regulations 2001</i>	Code	Approved Handler Requirement
4	AH Gen	General requirements
5		Qualifications for approved handlers
6		Transitional qualifications for approved handlers
<i>Hazardous Substances (Tracking) Regulations 2001</i>		
Schedule 1	TR Gen	Substances requiring tracking
Schedule 2		Information requirements in record of tracked substance
<i>Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001</i>		
13	AH 1	Class 1 substance (explosive)

32	AH 2	Detonation or deflagration of Class 1 substance (explosive)
35	AH 3	Outdoor pyrotechnic displays
44	AH 4	Indoor special effects displays
48	AH 5	Transfer of Class 1 substance (explosive) from one type of transport to another
51	AH 6	Class 1 substance (explosive) being transported by road or rail
56	AH 7	Class 2, 3 and 4 substances (flammables)
60(2)	AH 8	Class 2.1.1; 2.1.2 and 3.1 substances (flammable gases, aerosols or liquids)
89	AH 9	Class 5.1.1 and 5.1.2 substances (oxidisers)
107	AH 10	Class 5.2 substances (organic peroxides)
<i>Hazardous Substances (Classes 6, 8, and 9 Controls) Regulations 2001</i>		
9	AH 11	Class 6, 8 and 9 substances (toxins, corrosives and ecotoxins)

AH Gen General Requirements For Approved Handlers

The Hazardous Substances and New Organism (Personnel Qualifications) Regulations 2001 provide for the following:

General information

An *approved handler* is a person who holds a current test certificate certifying that the person has met the requirements of the personnel qualifications regulations for one or more hazard classifications or hazardous substances.

A test certificate as an approved handler applies only in respect of particular phases of the lifecycle of a hazardous substance, or combination of hazardous substances; or hazardous substances with one or more hazard classifications.

A test certificate as an approved handler must state the name of the approved handler, and his or her residential and work contact information (such as a street address and telephone number).

A test certificate as an approved handler remains valid for a period of five years from the date of issue, unless it is obtained under the transitional qualifications (see below), in which case it remains valid for two years from the date of issue.

Qualifications

An approved handler must know and be able to explain:

- the hazard classifications of the hazardous substances for which he or she is to be an approved handler.
- the adverse effects that could be caused by each of the substances.
- the controls which may be imposed under the Act for the substances

- his or her obligations and liabilities under the Act, including the purpose and principles of the Act; the offence provisions of the Act; the penalties and liabilities imposed by, the Act; and the effect of a compliance order.
- which Regulations apply to the phases of the lifecycle of the substances and where those Regulations can be obtained;
- any conditions of his or her test certificate as an approved handler;
- the precautions required to prevent injury to a person or damage to the environment by any of the substances;
- the procedures to adopt in an emergency involving those substances.

An approved handler must know and be able to demonstrate a working knowledge of the operating equipment (including personal protection clothing and equipment) and procedures necessary to manage the hazardous substances for which he or she is an approved handler.

Transitional qualifications

The need to have transitional qualifications does not apply to any person who establishes that he or she has, during the whole of any period referred to below, been handling a hazardous substance, or any other substance with similar hazardous properties, in the same phase of its lifecycle, with an approval under one or more of the following Acts:

- a) Animal Remedies Act 1967
- b) Dangerous Goods Act 1974
- c) Explosives Act 1957
- d) Gas Act 1992
- e) Health Act 1956
- f) Health and Safety in Employment Act 1992
- g) Pesticides Act 1979
- h) Toxic Substances Act 1979
- i) Transport Act 1962

Qualifying period

For the purposes of the transitional qualifications, the period is any consecutive two-year period commencing on or after 2 July 1999 and ending on or 2 July 2004.

TR Gen General tracking requirements

The *Hazardous Substances (Tracking) Regulations 2001* provide for the following:

Hazard classifications of substances requiring tracking

All Class 1 substances (explosives), except:

- a) safety ammunition, including preprimed cartridges and primers, and airbag initiators and seatbelt pretensioners, of Class 1.4S; and
- b) beyond their point of sale to the public:
 - i) fireworks in Class 1.3G, 1.4G, and 1.4S that are subject to the *Hazardous Substances (Fireworks) Regulations 2001*; and
 - ii) emergency flares and signalling devices in Class 1.3G, 1.4G, and 1.4S; and
 - iii) rocket motors in Class 1.4G and 1.4S; and
 - iv) propellant powders in Class 1.3C (UN0161) and 1.1C (UN 0160), in amounts less than 15 kg; and
 - v) gunpowder in Class 1.1D (UN 0027), in amounts less than 5 kg.

Classification	Description
3.1A and 3.2A	Flammable liquids – very high and high hazard
4.1.2A, 4.1.2B, 4.1.3A	Self-reactive substances – type A, B solid desensitised explosives – high hazard
4.2A, 4.3A	Spontaneously combustible substances – high hazard solids emitting flammable gas - high hazard
5.1.1A	Liquid or solid oxidising substances – high hazard
5.2A and 5.2B	Organic peroxides - type A or B
6.1A, 6.1B, and 6.1C	Acutely toxic
9.1A, 9.2A, 9.3A, 9.4A	Very ecotoxic

Information to be included in record of tracked substance

Identity of approved handler

The identity of the approved handler who is in control of the tracked substance, including:

- a) the name of the person; and
- b) the position of the person within his or her organisation; and
- c) the physical address of the place of work of that person; and
- d) the hazard classifications of, and each phase of the lifecycle of, those hazardous substances for which that person has a test certificate as an approved handler, as required by the *Hazardous Substances and New Organisms (Personnel Qualifications) Regulations 2001*, and the date on which that test certificate lapses or must be renewed.

Substance information

- a) The unequivocal identification of the tracked substance.
- b) The total amount of the tracked substance that the approved handler is in control of at any one time.

Location of tracked substance

The location of the tracked substance, with sufficient particularity to enable an enforcement officer to:

- a) identify the exact location of the substance within two minutes of having obtained the record; and
- b) physically locate the substance or its container at the place described in the record within one hour of arriving at the place or within the time specified in any emergency response plan required under the *Hazardous Substances (Emergency Management) Regulations 2001*, whichever is the shorter.

Transfer to another place

If a tracked substance is transferred to another place in accordance with regulation 6:

- a) the unequivocal identification and amount of the substance transferred; and
- b) the address of the place, the identity of the approved handler who will be in control of the substance at that place, and the position of that approved handler within his or her organisation; and
- c) the date on which the transfer occurred.

Disposal of tracked substance

If a tracked substance has been disposed of:

- a) the manner of disposal; and
- b) the date on which the disposal occurred; and
- c) the amount of the substance disposed of; and
- d) the location of the place where the substance was disposed of.

Transfer of tracked substance

The person in charge of a place where a tracked substance is present may transfer the substance to another place only if he or she has received confirmation that an approved handler at the other place holds a test certificate as an approved handler of the substance, and is prepared to accept responsibility for the substance.

AH 1 Approved handler requirements - Class 1 substances (explosives)

Relevant Regulations

Regulation 13 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

All Class 1 substances (explosives), in any quantity, must be under the personal control of an approved handler.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substances (explosives) are to be tracked

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions from approved handler requirements

1. The approved handler requirements do not apply if the substance is secured as specified in Regulation 22.
2. The following Class 1 substances (explosives) are not required to be under the personal control of an approved handler:
 - a) safety ammunition, including pre-primed cartridges and primers
 - b) airbag initiators and seatbelt pretensioners of Class 1.4G or 1.4S.
3. The following Class 1 substances (explosives) are not required to be under the personal control of an approved handler beyond the point of their sale to the public:
 - a) fireworks in hazard classifications 1.3G, 1.4G, and 1.4S that are controlled under the *Hazardous Substances (Fireworks) Regulations 2001*
 - b) emergency flares and signalling devices in hazard classifications 1.3G, 1.4G, and 1.4S
 - c) rocket motors of hazard classifications 1.4G and 1.4S
 - d) propellant powders of hazard classifications 1.3C (UN 0161) and 1.1C (UN 0160), in amounts less than 15 kg
 - e) gunpowder of hazard classification 1.1D (UN 0027), in amounts less than 5 kg.
4. A Class 1 substance (explosive) may be handled by a person who is not an approved handler if:
 - a) an approved handler is present at the location where the substance is being handled; and
 - b) the approved handler has provided guidance to the person for handling; and
 - c) the approved handler is available at all times to provide assistance, if necessary, to the person while the substance is being handled by the person.

Exemptions from tracking requirements

The following Class 1 substances (explosives) do not require tracking:

- a) safety ammunition, including pre-primed cartridges and primers; and airbag initiators and seatbelt pretensioners of Class 1.4S.
- b) beyond the point of their sale to the public:
 - i) fireworks in Class 1.3G, 1.4G, and 1.4S that are subject to the *Hazardous Substances (Fireworks) Regulations 2001*
 - ii) emergency flares and signalling devices in Class 1.3G, 1.4G, and 1.4S
 - iii) rocket motors in Class 1.4G and 1.4S
 - iv) propellant powders in Class 1.3C (UN 0161) and 1.1C (UN 0160), in amounts less than 15 kg
 - v) gunpowder in Class 1.1D (UN 0027), in amounts less than 5 kg.

Tracking requirements

See Section TR Gen above.

See also :

Approved handler requirements:

- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 2 Approved handler requirements - detonation or deflagration of Class 1 substances (explosives)

Relevant Regulations

Regulation 32 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

An approved handler must be personally in control of a Class 1 substance (explosive) which is to be intentionally detonated or deflagrated.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substances (explosives) are to be tracked

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions from approved handler requirements

The approved handler requirements do not apply if the substance is secured as specified in Regulation 22.

Exemptions from tracking requirements

The following Class 1 substances (explosives) do not require tracking:

- a) safety ammunition, including pre-primed cartridges and primers; and airbag initiators and seatbelt pretensioners of Class 1.4S.
- b) beyond the point of their sale to the public:
 - i) Fireworks in Class 1.3G, 1.4G, and 1.4S that are subject to the *Hazardous Substances (Fireworks) Regulations 2001*
 - ii) emergency flares and signalling devices in Class 1.3G, 1.4G, and 1.4S
 - iii) rocket motors in Class 1.4G and 1.4S
 - iv) propellant powders in Class 1.3C (UN 0161) and 1.1C (UN 0160), in amounts less than 15 kg
 - v) gunpowder in Class 1.1D (UN 0027), in amounts less than 5 kg.

Specific Requirements of an Approved Handler for Detonation or Deflagration of a Class 1 Substance (Explosive)

Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001.

Regulation 33

1. The approved handler of Class 1 substance (explosive) being detonated or deflagrated at any place must ensure that:

- a) any persons required to be at the place, whether for conducting the detonation or deflagration of such substances or for the making and recording of film and video special effects, are authorised by the approved handler; and
 - b) any Class 1 substance (explosive) is kept packaged until the point where the explosive charge is to be made up; and
 - c) any container from which any Class 1 substance (explosive) is being taken is closed as soon as the quantity needed to make up the explosive charge or charges for immediate use has been removed; and
 - d) the making up of any explosive charge is sufficiently segregated from any container holding a Class 1 substance (explosives) so that unintended initiation of the charge could not cause a blast overpressure on the container exceeding 180 kPa; and
 - e) the system for firing an explosive charge is not readied to the point that only the final action needs to be taken to fire the charge until the requirements of Regulation 32(3) have been complied with.
2. If a thunderstorm approaches a place where a Class 1 substance (explosive) is being detonated or deflagrated, any handling or preparation of the substance for detonation or deflagration must cease.

Regulation 34

3. The approved handler must limit the quantity of Class 1 substance (explosives) to be detonated or deflagrated at a designated use zone, so as to ensure that:
- a) no place outside the designated use zone where a person may legally be present is subject to:
 - i) a blast overpressure of more than 0.2 kPa; or
 - ii) more than 30% of the heat radiation described by the following formula:

$$Q = 1.7 + 60t^{-0.9}$$
 where
 Q is the heat radiation measured in kilowatts per square metre
 t is the time of exposure to the heat radiation measured in seconds; or
 - iii) any hazardous fragment; and
 - b) no low rise residential building outside the designated use zone is subject to a ground vibration leading to more than 10 mm per second peak particle velocity; and
 - c) no commercial or industrial building outside the designated use zone is subject to a ground vibration leading to more than 25 mm per second peak particle velocity; and
 - d) no other building for which the Authority has specified a peak particle velocity limit is subject to a ground vibration of more than that peak particle velocity; and
 - e) no person authorised by the approved handler to be present in the designated use zone is subject to:

- i) a blast overpressure of more than 9 kPa; or
 - ii) more than 30% of the heat radiation described by the following formula: $Q = 1.7 + 60t^{-0.9}$
 where
 Q is the heat radiation measured in kilowatts per square metre
 t is the time of exposure to the heat radiation measured in seconds; or
 - iii) any hazardous fragment.
4. An authorised person who is directly involved with the detonation or deflagration of a Class 1 substance (explosive) may be subject to a blast overpressure up to 24 kPa, and up to 80% of the heat radiation described by the formula $Q = 1.7 + 60t^{-0.9}$, if:
- a) the approved handler has obtained a test certificate to certify that if the documented procedures are followed, those figures represent the highest levels of blast overpressure and heat radiation to which the person could be subject; and
 - b) the person has accepted those figures in writing.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 3 Approved handler requirements - outdoor pyrotechnic displays

Relevant regulations

Regulation 35 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

An approved handler, whose competency is certified for the height of display planned, must be personally in control of a the Class 1 Category G substances being used in an outdoor pyrotechnic display.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substances (explosives) are to be tracked.

Hazardous Substances (Classification) Regulations 2001

Pyrotechnic substances classified in Class 1 Category G.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand

Exemptions from approved handler requirements

The approved handler requirements do not apply if the substance is approved for sale to the public under the *Hazardous Substances (Fireworks) Regulations 2001*.

Exemptions from tracking requirements

Beyond the point of sale to the public fireworks in Class 1.3G, and 1.4G, that are subject to the *Hazardous Substances (Fireworks) Regulations 2001* do not require tracking.

Specific requirements of approved handlers in control of Class 1 Category G substances

Regulation 41 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

1. In a discharge area within which Class 1 Category G substances are to be ignited the approved handler must ensure that:
 - a) the only hazardous substances in the area are those intended for use in the display, and
 - b) when not under the approved handler's personal control, those substances are secured so that a person cannot gain access to them without tools, keys, or any other device used for operating locks.
2. The approved handler must authorise display operators, limit their number to those necessary and personally supervise them.
3. The approved handler must ensure that all display operators present in the discharge area have:
 - a) head, and eye protection sufficient to withstand a 100g burning object for two seconds; and

- b) sufficient hearing protection to ensure they are subject to no more than 120 dB during the display.
4. The approved handler must also:
- a) ensure that no person can be struck by any substance classified in Class 1 Category G while firing that substance; and
 - b) monitor the firing; and
 - c) identify any malfunctioning Class 1 Category G substance and notify the person in charge of the display of the malfunctioning substance; and
 - d) mark all firing points containing a malfunctioning Class 1 Category G substance; and
 - e) advise workers of the presence of a malfunctioning Class 1 Category G substance; and
 - f) ensure the malfunctioning Class 1 Category G substance is incapable of igniting before removing and disposing of it in accordance with the *Hazardous Substances (Disposal) Regulations 2001*.

Regulation 42

5. The approved handler in control of the firing of Class 1 category G substances at an outdoor firing display must ensure that the requirements in (6) and (7) are met from the time when any Class 1 category G substance is brought into the discharge area until the display has been completed, and any remaining Class 1 category G substance has been either removed or disposed of in accordance with the *Hazardous Substances (Disposal) Regulations 2001*.
6. The approved handler must ensure that any unfired Class 1 Category G substance does not come into contact with sparks or hot fragments capable of transferring energy at a rate greater than $0.5\text{W}/\text{m}^2$, unless such sparks or fragments are part of an intended ignition system.
7. The approved handler must ensure that there are no Class 2, 3, 4, or 5 substances present in the discharge area unless those substances are protected in such a way that they cannot be ignited by:
- a) a burning object with a mass of 100g in contact with the protection for 30 seconds
 - b) the heat able to be generated by the display in the discharge area.
8. The approved handler must ensure that the firing circuit of an electric ignition system:
- a) is insulated from earth and has been tested to ensure continuity where the test current is less than 60 mA; and
 - b) is protected from stray electrical currents of more than 60 mA; and
 - c) satisfies the requirements for protection from electromagnetic radiation as specified in Regulation 20; and
 - d) is arranged so that only the approved handler may initiate firing and that each firing sequence requires a positive action.

Regulation 43

9. When an outdoor pyrotechnic display involves the firing to a height of greater than 60 meters above an exclusion zone of aerial shells classified in Category G of subclasses 1.1, 1.2 and 1.3, the approved handler in charge of the shells must ensure that:
- a) any type of mortar tube used in the display:
 - i) has been designed and tested for the aerial shell with which it is to be used, and for its ability to guide that aerial shell along any predetermined path; and
 - ii) is strong enough to withstand, without fragmentation, the ignition of an upside-down shell within the mortar tube; and
 - b) has the shell size for which that tube is designed marked on the tube in a manner that meets the requirements for clarity and comprehensibility specified in Part 3 of the *Hazardous Substances (Identification) Regulations 2001*.
 - c) neither the aerial shells used in the display nor the inside of their mortar tubes can be contacted with liquid water until the aerial shells are loaded into the mortar tubes; and
 - d) the pyrotechnic effect of the aerial shells is generated at a height of greater than 60 metres above the exclusion zone; and
 - e) the aerial shells, salutes or rockets follow the line of flight used to set the exclusion zone, and that line of flight is no less than 8m from any overhead object; and
 - f) no rocket, salute or aerial shell crosses over or bursts above any area occupied by people or buildings; and
 - g) any burning fragment greater than 10g or malfunctioning shell, salute or rocket falls into the exclusion zone and away from the discharge area; and
 - h) all firing of Class 1 Category G substances ceases if:
 - i) the wind speed within the discharge area exceeds 30 km/hr; or
 - ii) any burning fragment greater than 10g from the firing falls outside the exclusion zone;
 - i) where the reloading of a mortar tube for firing an aerial shell is required, the aerial shell is of the size marked on the mortar tube.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)
- AH 6: Class 1 substances (explosives) being transported by road or rail

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 4 Approved handler requirements - indoor special effects displays using pyrotechnics

Relevant regulations

Regulation 44 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

An approved handler must be personally in control of a the Class 1 Category G substances being used in an indoor pyrotechnic display.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substances (explosives) are to be tracked.

Hazardous Substances (Classification) Regulations 2001

Pyrotechnic substances classified in Class 1 Category G.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand

Exemptions from tracking requirements

Beyond the point of sale to the public fireworks in Class 1.3G, and 1.4G, that are subject to the *Hazardous Substances (Fireworks) Regulations 2001* do not require tracking.

Specific requirements of approved handlers at indoor special effects display using Class 1 Category G substances

Regulation 45 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

1. At any indoor special effects display using substances classified in Class 1 Category G the approved handler in control of the substance must:
 - a) authorise the display operators and limit the number of display operators to those necessary to undertake the operation of the display; and
 - b) personally supervise all such operators; and
 - c) secure all Class 1 Category G pyrotechnic substances so as to comply with Regulation 22(2).
2. In preparing for any such display the approved handler must use only those Class 1 Category G substances designed for indoor use, that:
 - a) contain no more than a trace of antimony, arsenic, cadmium, chromium, lead, mercury, nickel, selenium or zinc or their compounds; and
 - b) have a specified height and duration of operation, and a specified radius within which any burning or burnt material may be expected to fall.
3. If the indoor display is fired by an electrical current, the approved handler must:
 - a) protect the firing circuit against being disturbed by any associated activities; and
 - b) test the firing circuit before firing to ensure electrical continuity with a test current of less than 25 mA; and
 - c) arrange the firing circuit so that a positive action is required before firing is initiated; and only the approved handler can initiate firing.
4. The approved handler must test all examples of all the Class 1 Category G pyrotechnics intended to be used in the display with only authorised display operators present at the testing.
5. The approved handler must establish exclusion zones around the firing points within which any burning or burnt material must fall, based on the fallout radius specified above and the test firing required above for each pyrotechnic substance classified in Class 1 Category G to be fired.

Planning and recording of the display

6. The approved handler must have a display plan available for inspection by an enforcement officer at least one working day before the firing which:
 - a) specifies the number and type of devices to be used; and
 - b) has a diagram of the indoor area showing firing points, the exclusion zone, the position of the audience, the location of the secure container holding the Class 1 category G pyrotechnic substances, and the location of the area for preparing any Class 1 Category G pyrotechnic devices; and
 - c) specifies the names and responsibilities of the authorised display operators.
7. The approved handler must record any malfunctioning Class 1 Category G pyrotechnic substances and any incidents of fire or injury and retain the display plan and records for a period of not less than 12 months after the display.

During the Display

8. The approved handler must ensure that:
 - a) the distance to any member of an audience is a minimum of twice the furthest distance from the firing point to the boundary of the exclusion zone; and
 - b) any combustible material in the exclusion zone is sufficiently fire resistant to withstand contact with a 10g burning object for 30 seconds; and
 - c) provide a portable fire extinguisher that is:
 - located so that an authorised person is able to obtain the extinguisher and hold it ready for use within 10 seconds; and
 - when used by one person, is capable of meeting the requirements of the Wood Crib fire test as specified in AS/NZS 1850: 1997.

9. After the display the approved handler must ensure that all pyrotechnic articles and substances of Class 1 Category G are removed at the end of the performance.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

- AH1: Class 1 substances (explosives)
- AH2: detonation or deflagration of Class 1 substances (explosives)
- AH3: outdoor pyrotechnic displays
- AH5: transfer of Class 1 substances (explosives)
- AH6: Class 1 substances (explosives) being transported by road or rail

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 5 Approved handler requirements - the transfer of Class 1 substances (explosives)

Relevant regulations

Regulation 48 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

An approved handler must be personally in control of a Class 1 substance (explosive) being transferred from one form of transport to another.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substance (explosives) are to be tracked.

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions from approved handler requirements

The requirements do not apply where the quantity of Class 1 substance (explosives) do not exceed the following:

- a) 5 kg of subclass 1.1 or subclass 1.5; or
- b) 50 kg of subclass 1.2 or subclass 1.6; or
- c) 100 kg of subclass 1.3.

Exemptions from tracking requirements

The following Class 1 substances (explosives) do not require tracking:

- (a) safety ammunition, including pre-primed cartridges and primers: and airbag initiators and seatbelt pretensioners of Class 1.4S
- (b) beyond their point of their sale to the public:
 - i) fireworks in Class 1.3G, 1.4G, and 1.4S that are subject to the *Hazardous Substances (Fireworks) Regulations 2001*
 - ii) emergency flares and signalling devices in Class 1.3G, 1.4G, and 1.4S:
 - iii) rocket motors in Class 1.4G and 1.4S
 - iv) propellant powders in Class 1.3C (UN 0161) and 1.1C (UN 0160), in amounts less than 15 kg
 - v) gunpowder in Class 1.1D (UN 0027), in amounts less than 5 kg.

Specific requirements to be met by approved handlers at designated transfer zone

Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

Regulation 48

1. The approved handler personally in control of the transfer operation within a designated transfer zone, must:

- a) exclude all persons not under his or her direct supervision; and
 - b) exclude all persons not necessary for the management or performance of the transfer operation; and
 - c) establish and have available for inspection documented procedures for the implementation of the requirements of Regulations 15, 16, 17, 18, and 20; and
 - d) ensure that such documentation is provided to the level of comprehensibility required by Part 2 of *Hazardous Substances (Identification) Regulations 2001*; and
 - e) ensure that such documentation is able to be located by the people involved in the transfer operation within 10 seconds; and
 - f) ensure that the time during which any Class 1 substance (explosive) is present in the designated transfer zone is minimised; and
 - g) ensure that in every case the time during which any Class 1 substance (explosive) is present in the designated transfer zone is less than eight hours.
2. If a thunderstorm approaches the designated transfer zone, the approved handler must ensure that:
- a) any loading of a Class 1 substance (explosive) ceases, and any packages of Class 1 substance (explosives) are returned to one or other means of transport and enclosed; and
 - b) all persons are evacuated to a distance in metres from any transport container for holding Class 1 substances, and any means of transport holding Class 1 substance (explosives), of not less than that calculated in accordance with the following formula:

$$D = 10 \times NEQ^{1/3}$$
 where:
 D is the distance in metres
 NEQ (net quantity of Class 1 (explosive) substance) is the gross weight of the article less the weight of any construction materials of the article, in kilograms.

Regulation 49

1. The approved handler in control of Class 1 substances (explosives) in a designated transfer zone must manage all Class 1 substances (explosives) present within the zone so that, should there be an unintended initiation of any or all of the Class 1 substances (explosives), any place where a person may legally be present outside the zone could not be subject to more than:
- a) where the Class 1 substance (explosive) are held in a special purpose transport container of equivalent strength to a standard ISO transport container of 6 metres in length and 2.6 metres in height:
 - i) a blast overpressure of 24 kPa; or
 - ii) 80% of the heat radiation described by the following formula:

$$Q = 1.7 + 60 t^{-0.9}$$
 where:
 Q is the heat radiation measured in kiloWatts per square metre
 t is the time of exposure to the heat radiation measured in seconds; or
 - (iii) 3 hazardous fragments per 60 m² of surface area; or
 - b) where the Class 1 substance (explosive) is not held in a special purpose transport container of equivalent strength to a standard ISO transport container of 6 metres in length and 2.6 metres in height:

- i) a blast overpressure of 9kPa; or
 - ii) 80% of the heat radiation described by the formula set out in paragraph (a)(ii).
- 2. The designated transfer zone complies with subclause (1) if:
 - a) the total quantity and type of Class 1 (explosive) substances are limited to meet the prescribed blast overpressures, heat radiations, and hazardous fragment limits of subclause (1) at the boundary of the designated transfer zone; or
 - b) the distances between the Class 1 (explosive) substances and the boundary of the designated transfer zone are set to meet the prescribed blast overpressures, heat radiations, and hazardous fragment limits of subclause (1); or
 - c) the approved handler complies with a code of practice approved by the Authority as meeting the requirement of subclause (1).

Regulation 50

Where the designated transfer zone is a port berth that was, immediately before the commencement of these Regulations, subject to a requirement to limit the quantities of Class 1 substances (explosives) that can be loaded or unloaded, and that requirement also provided for unauthorised persons to be excluded from within a specified distance from the transfer place:

- a) that requirement continues to apply for a period of five years from that commencement date; and
- b) regulation 49 does not apply for that period.

Transfer of tracked substance

Hazardous Substances (Tracking) Regulations 2001

Regulation 6

The person in charge of a place where a tracked substance is present may transfer the substance to another place only if he or she has received confirmation that an approved handler at the other place holds a test certificate as an approved handler of the substance, and is prepared to accept responsibility for the substance.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3 outdoor pyrotechnic displays
- AH 4 indoor special effects displays using pyrotechnics
- AH 6: Class 1 substances (explosives) being transported by road or rail

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 6 Approved handler requirements - Class 1 substances (explosives) being transported by road or rail

Relevant Regulations

Regulation 51 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

An approved handler must be personally in control of Class 1 substances being transported by road or rail.

Hazardous Substances (Tracking) Regulations 2001

All Class 1 substances are to be tracked.

Hazardous Substances (Classification) Regulations 2001

Substances with explosive properties are classified in Class 1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions from approved handler requirements

An approved handler is not required to be in control if the substance is secured as required in Regulation 22.

Exemptions from tracking requirements

The following Class 1 substances (explosives) do not require tracking:

- a) safety ammunition, including pre-primed cartridges and primers: and airbag initiators and seatbelt pretensioners of Class 1.4S.
- b) beyond the point of sale to the public:
 - i) fireworks in Class 1.3G, 1.4G, and 1.4S that are subject to the *Hazardous Substances (Fireworks) Regulations 2001*
 - ii) emergency flares and signalling devices in Class 1.3G, 1.4G, and 1.4S
 - iii) rocket motors in Class 1.4G and 1.4S
 - iv) propellant powders in Class 1.3C (UN 0161) and 1.1C (UN 0160), in amounts less than 15 kg
 - v) gunpowder in Class 1.1D (UN 0027), in amounts less than 5 kg.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

- AH 1: Class 1 substances (explosives)
- AH 2: detonation or deflagration of Class 1 substances (explosives)
- AH 3: outdoor pyrotechnic displays
- AH 4: indoor special effects displays using pyrotechnics
- AH 5: the transfer of Class 1 substances (explosives)

Test certificate requirements:

- TC 1: design of containers securing Class 1 substances (explosives)
- TC 2: containers securing Class 1 substances (explosives)
- TC 3: locations where Class 1 substances (explosives) present
- TC 4: detonation or deflagration of an explosive substance in the hours of darkness
- TC 5: the level of blast overpressure and heat radiation in the detonation or deflagration of an explosive substance
- TC 6: outdoor firework displays
- TC 7: transfer of Class 1 substances (explosives) in darkness

AH 7 Approved handlers requirements - Class 2, 3 and 4 substances (flammables)

Relevant regulations

Regulation 56 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Class 2, 3, and 4 substances (flammables) must be under the personal control of an approved handler.

Hazardous Substances (Tracking) Regulations 2001

Substances with the following hazard classifications require tracking:

- 3.1A and 3.2A (flammable liquids – very high and high hazard)
- 4.1.2A and 4.1.2B (self-reactive substances – type A, B)
- 4.1.3A (solid desensitised explosives – high hazard)
- 4.2A (spontaneously combustible substances – high hazard)
- 4.3A (solids emitting flammable gas – high hazard).

Hazardous Substances (Classification) Regulations 2001

Substances with flammable properties are classified in Classes 2, 3 and 4.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Minimum quantities

Table: Quantities of flammable substance that activate approved handler requirements

Hazard classification		Quantity
2.1.1A	Flammable gas – high hazard	100 kg (not permanent gases) 100 m ³ (permanent gases)
2.1.2A	Flammable aerosol	3000 litres aggregate water capacity
3.1A	Flammable liquid – very high hazard	Any amount
3.1B	Flammable liquid – high hazard	100 litres (closed) 25 litres (decanting) 5 litres (open occasionally) 1 litre (open continuously)
3.2A	Liquid desensitised explosive – high hazard	Any amount
3.2B	Liquid desensitised explosive – medium hazard	100 litres
4.1.1A	Readily combustible solid – medium hazard	100 kg
4.1.2A and B	Self Reactive substances – Types A and B	Any amount
4.1.2C and D	Self Reactive substances – Types C and D	25 kg
4.1.2E and F	Self Reactive substances – Types	50 kg

	E and F	
4.1.3A	Solid desensitised explosives – high hazard	Any amount
4.1.3B	Solid desensitised explosives – medium hazard	100 kg
4.2A	Spontaneously combustible – high hazard	Any amount
4.2B	Spontaneously combustible – medium hazard	100 kg
4.3A	Solid that emit flammable gas – high hazard	Any amount
4.3 B	Solid that emit flammable gas – medium hazard	100 kg

Exemptions from approved handler requirements

The approved handler requirements do not apply if the substance is secured as specified in Regulation 74.

Class 2, 3, and 4 substances (flammables), required to be under the personal control of an approved handler, may, however, be handled by a person who is not an approved handler if:

- a) an approved handler is present at the location where the substance is being handled; and
- b) the approved handler has provided guidance to the person in respect of the handling; and
- c) the approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.

The requirements of these regulations do not apply to any substance that is required for the motive power or control of a vehicle, aircraft, or ship and that is contained within the fuel system, electrical system, or control system of the vehicle, aircraft, or ship.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

AH 8: Class 2.1.1, 2.1.2, or 3.1 substance (flammable gas, aerosol or liquid)

AH 8 Approved handler requirements - Class 2.1.1, 2.1.2, or 3.1 substances (flammable gases, aerosols and liquids)

Relevant Regulations

Regulation 60(2) of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001

Any person handling a Class 2.1.1, 2.1.2, or 3.1 substances (flammable gas, aerosol or liquid) under any of Regulations 61, 63(4), 65, 67, and 69 must be an approved handler for that substance.

Hazardous Substances (Tracking) Regulations 2001

Substances with the following hazard classification require tracking:

3.1A (Flammable liquid – very high hazard)

Hazardous Substances (Classification) Regulations 2001

Flammable gases, aerosols and liquids are classified in 2.1.1, 2.1.2 or 3.1.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Exemptions from approved handler requirements

The requirements of these regulations do not apply to any substance that is required for the motive power or control of a vehicle, aircraft, or ship and that is contained within the fuel system, electrical system, or control system of the vehicle, aircraft, or ship.

Tracking requirements

See Section TR Gen above.

See also:

Approved handler requirements:

AH 7: Class 2, 3 or 4 substances (flammables).

AH 9 Approved handler requirements – Class 5.1.1 and 5.1.2 substances (oxidisers)

Relevant Regulations

Regulation 89 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Certain Class 5.1.1 and 5.1.2 substances (oxidisers) must be under the personal control of an approved handler.

Hazardous Substances (Classification) Regulations 2001
Oxidising substances are classified in Class 5.1.1 or 5.1.2.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Hazardous Substances (Tracking) Regulations 2001
Class 5.1.1A substances (liquid or solid oxidising substances – high hazard) are to be tracked.

Minimum quantities

Table: Quantity of substance that activates approved handler requirements

Hazard classification		Quantity
5.1.1A	Liquid or solid oxidising substances – high hazard	Any amount
5.1.1B	Liquid or solid oxidising substances – medium hazard	500 kg or litres
5.1.1C	Liquid or solid oxidising substances – low hazard	1000 kg or litres
5.1.2A	Oxidising substances that are gases	250 kg or 200 m ³

Exemptions from approved handler requirements

The approved handler requirements do not apply if the substance is secured as specified in Regulation 89(1).

A Class 5.1.1 or 5.1.2 (oxidising) substance required to be under the personal control of an approved handler may nevertheless be handled by a person who is not an approved handler if:

- an approved handler is present at the location where the substance is being handled; and
- the approved handler has provided guidance to the person for the handling; and
- the approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.

Tracking requirements

See Section TR Gen above.

See also:

Test certificate requirements:

TC 10: locations where Class 5.1.1 or 5.1.2 substance (oxidiser) present.

AH 10 Approved handler requirements – Class 5.2 substances (organic peroxides)

Relevant Regulations

Regulation 107 of the Hazardous Substances (Classes 1 to 5 Controls) Regulations 2001
Certain Class 5.2 substances (organic peroxides) must be under the personal control of an approved handler.

Hazardous Substances (Classification) Regulations 2001
Organic peroxides are classified in Class 5.2

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Hazardous Substances (Tracking) Regulations 2001
Class 5.2A and 5.2B substances (organic peroxides - type A or B) are to be tracked.

Minimum quantities

Table: Quantity of subclass 5.2 substances (organic peroxides) that activate approved handler requirements

<i>Hazard classification</i>		<i>Quantity</i>
5.2A, 5.2B	Organic peroxides - type A or B	Any amount
5.2C, 5.2D, 5.2E, 5.2F	Organic peroxides - type C, D, E or F	10 kg or 10 litres
5.2G	Organic peroxides - type G	Approved handler not required

Exemptions from approved handler requirements

The approved handler requirements do not apply if the substance is secured as specified in Regulation 123.

A Class 5.2 substance (organic peroxide) required to be under the personal control of an approved handler may nevertheless be handled by a person who is not an approved handler if:

- an approved handler is present at the location where the substance is being handled; and
- the approved handler has provided guidance to the person for handling; and
- the approved handler is available to provide assistance, if necessary, to the person at all times while the substance is being handled by the person.

Tracking requirements

See Section TR Gen above.

See also:

Test certificate requirements:

TC 11: locations where Class 5.2 substance (organic peroxide) present.

AH 11 **Approved handler requirements – Class 6, 8 and 9 substances (toxins, corrosives and ecotoxins)**

Relevant Regulations

Regulation 9 of the Hazardous Substances (Classes 6,8, and 9 Controls) Regulations 2001
Certain quantities of Class 6, 8, and 9 substances (toxins, corrosives and ecotoxics) must be under the personal control of an approved handler.

Hazardous Substances (Classification) Regulations 2001

Toxic, corrosive and ecotoxic substances are classified in Classes 6, 8 and 9.

For definitions of the various subclasses refer to the above regulations and/or the *User Guide to HSNO Thresholds and Classifications* available on the ERMA New Zealand website www.ermanz.govt.nz or from ERMA New Zealand.

Hazardous Substances (Tracking) Regulations 2001

Class 6.1A, 6.1B and 6.1C and 9.1A, 9.2A, 9.3A and 9.4A substances are to be tracked.

Minimum Quantities

<i>Hazard classification</i>		<i>Quantity</i>
6.1A, 6.1B, 6.1C	Acutely toxic	any quantity
6.7A	Carcinogenic	10 kg or more, if solid 10 L or more, if liquid
8.2A	Corrosive to skin	any quantity
9.1A, 9.2A, 9.3A, and 9.4A	Very ecotoxic	any quantity

Exemptions from approved handler requirements

1. The approved handler requirements do not apply if the substance is secured as specified in Regulation 9(1).
2. A Class 6, 8 or 9 substance (toxin, corrosive or ecotoxin) may be handled by a person who is not an approved handler if:
 - a) an approved handler is present at the place where the substance is being handled; and
 - b) the approved handler has provided guidance to the person for the handling; and
 - c) the approved handler is available at all times to provide assistance, if necessary, to the person while the substance is being handled by the person.

Tracking requirements

See Section TR Gen above.