

ENVIRONMENTAL RISK MANAGEMENT AUTHORITY DECISION

Decision signed 2 September 2005

Decision amended under S67A to make controls consistent to those applied to similar substances during Transfer.

Original decision signed on 1 September 2003

Application Code	HSR03010
Application Type	To import or manufacture any hazardous substance under Section 29 of the Hazardous Substances and New Organisms (HSNO) Act 1996
Applicant	Monsanto Australia Limited
Date Application Received	4 March 2003
Consideration Date	14 August 2003
Considered by	The Hazardous Substances Standing Committee of the Authority
Purpose of the Application	To import and manufacture for release, Roundup Transorb™, for use as a herbicide for the control of weeds in non-selective situations

1 Summary of Decision

1.1 The application to import or manufacture Roundup Transorb™ is approved with controls in accordance with the relevant provisions of the Hazardous Substances and New Organisms Act 1996 (the HSNO Act), the HSNO Regulations, and the HSNO (Methodology) Order 1998.

1.2 The substance has been given the following unique identifier for the ERMA New Zealand Hazardous Substances Register:

Roundup Transorb™

1.3 Roundup Transorb™ is a herbicide containing 52 % w/v of glyphosate potassium salt as the active ingredient for the control of a range of annual and perennial broadleaf and grass weeds.

1.4 ERMA New Zealand has adopted the European Union use classification system as the basis for recording the nature and uses of substances approved. The following use categories are recorded for this substance:

Main Category:	4	Wide dispersive use
Industrial category:	1	Agricultural industry
Function/Use category:	38	Pesticides

2 Legislative Criteria for Application

- 2.1 The application was lodged pursuant to section 28 of the HSNO Act. The decision was determined in accordance with section 29, taking into account additional matters to be considered in that section and matters relevant to the purpose of the Act, as specified under Part II of the HSNO Act. Unless otherwise stated, references to section numbers in this decision refer to sections of the HSNO Act.
- 2.2 Consideration of the application followed the relevant provisions of the Hazardous Substances and New Organisms (Methodology) Order 1998 (the Methodology). Unless otherwise stated, references to clauses in this decision refer to clauses of the Methodology.

3 Application Process

- 3.1 The application was formally received on 4 March 2003 and verified on 17 March 2003.
- 3.2 In accordance with sections 53(1) and 53A, and clauses 2(b) and 7, public notification was made on 17 March 2003.
- 3.3 Submissions closed on 1 May 2003. No submissions were received (section 54, clause 5).
- 3.4 The applicant requested that the time-line for the processing of the application be waived (section 59(3)(a)(i)) three times (15 May, 27 June and 16 July).
- 3.5 Various government departments (including the Ministry of Health, the Department of Labour (Occupational Safety and Health) and the New Zealand Food Safety Authority (Agricultural Compounds and Veterinary Medicines Group), Crown Entities and interested parties, which in the opinion of the Authority would be likely to have an interest in the application, were notified of the receipt of the application (sections 53(4) and 58(c), and clauses 2(e) and 5) and provided with an opportunity to comment or make a public submission on the application.
- 3.6 Responses were received from:
- The Ministry of Health commenting that this substance may be available for domestic use and the applicant had failed to mention how members of the public, particularly children could be exposed to it and how this could be mitigated.
 - The New Zealand Food Safety Authority (Agricultural Compounds and Veterinary Medicines Group) noting that this substance will also be considered under the ACVM Act.

- Fish and Game New Zealand, Eastern Region, noting that they do not consider the substances will pose a risk to sports fish or game birds or their habitats when used appropriately.
 - The Human Rights Commission advising that they would not be providing comment or making a submission.
 - The Taranaki Regional Council commenting that labelling instructions on the containers should include instructions for the use of the substance near waterways, limits set by ERMA on such usage and instructions addressing the burning of empty retail containers.
- 3.7 The Committee took these responses into account in their consideration of this application.
- 3.8 No external experts were used in the consideration of this application (clause 17).
- 3.9 A public hearing was not required to be held.

4 Consideration

Purpose of the Application

- 4.1 The purpose of the application is to import and manufacture for release, Roundup Transorb™, for use as a herbicide for the control of weeds in non-selective situations

Sequence of the Consideration

- 4.2 Members of the Hazardous Substances Standing Committee: Mr Tony Haggerty and Dr Max Suckling considered the application (section 19(2)(b)).
- 4.3 The information available to the Committee comprised:
- The application including confidential formulation information and confidential references.
 - Letter noting change of name dated 10 April 2003 including copy of proposed label. The original name of the substance was Roundup Powermax.
 - Additional information being the applicant's response to the European Commission's 2002 review of glyphosate, letter dated 4 June 2003.
 - Additional information relating to ecotoxicity, letter dated 21 July 2003.
 - The Evaluation and Review (E & R) Report.
- 4.4 The evidence provided by the applicant and additional evidence set out in the E & R Report were both scientific and related to values and other matters relevant to Part II of the Act and were considered in terms of clause 25.
- 4.5 In accordance with clause 24, the approach adopted by the Committee was to:
- Establish the hazard classifications for the substance and derive the default controls.
 - Identify potentially non-negligible risks, costs, and benefits.
 - Assess potentially non-negligible risks, costs, and benefits in the context of the default controls and possible variations to those controls. Risks were assessed in accordance with clause 12, and costs and benefits in accordance with clause 13.

- Consider and determine variations to the default controls arising from the circumstances provided for in sections 77 (3), (4) and (5) and then consolidate controls.
- Evaluate overall risks, costs, and benefits to reach a decision. The combined impact of risks, costs and benefits was evaluated in accordance with clause 34, and the cost-effectiveness of the application of controls was considered in accordance with clause 35.

4.6 In assessing risk, the Committee gave particular consideration to risks arising from the significant hazards of the substance and examined the extent to which exposure to a hazard would be mitigated by controls (clauses 11 and 12).

Hazard Classification

4.7 The Committee agreed with ERMA New Zealand's hazard classification of the substance as follows:

- 6.1D (acute toxicant – inhalation)
- 6.3B (skin irritant)
- 9.1A (aquatic ecotoxicant)

Default Controls

4.8 The Committee considered that the E&R Report correctly assigned default controls as set out in the HSNO Regulations. They were used as the reference for subsequent consideration of the application. The default controls are identified in the E&R Report (in Section 8) and are not reproduced here.

Assessment of the potentially non-negligible risks

4.9 In identifying potentially non-negligible risks, costs and benefits with reference to clauses 9 and 11, which incorporate relevant material from sections 2, 5, 6, and 8, the Committee took into account all effects of the substance during its life cycle in accordance with section 29(1)(a)(ii).

4.10 The Committee reviewed the identification of risks made by the applicant and additional risks identified in the E&R Report.

4.11 Following this review, the Committee considered that the use of Roundup Transorb™ gives rise to potentially non-negligible risks to the environment from the transport of large quantities, from mixing prior to use, from spray drift and during application to water bodies for the control of aquatic weeds.

4.12 The substance is to be imported into New Zealand in plastic lined bulk containers of 20,000 litres capacity and in 400 and 1000 litre containers. These bulk containers would be required to comply with the International Maritime Dangerous Goods Code and the Land Transport Rule: Dangerous Goods 1999 and as such would be expected to contain the substance in the event of an accident. With controls in place it is *very unlikely* that the transport or storage of bulk quantities of Roundup Transorb™ would lead to an adverse effect on the aquatic environment. If the substance did spill from a bulk container such that it entered the aquatic environment the effect would be *moderate* in

magnitude given that measurable damage would be done. Though measurable the damage would be expected to be short term and reversible. Consequently the level of risk is assessed as *low*.

- 4.13 There is the potential for spillage when diluting and mixing the substance prior to spraying. Even with controls in place there is an *equal chance* that this will result in an adverse effect on the aquatic environment or on terrestrial plants and if it did the magnitude would be *minimal*. This results in a *low* level of risk.
- 4.14 Using good agricultural practice it is *unlikely* that spray drift would cause adverse effects on non-target terrestrial plants and emergent aquatic plants and if it did the effect would be *minor*, i.e. the level of risk is *low*.
- 4.15 For aquatic uses spray would directly enter the aquatic environment as the intent is that the substance is toxic to the target aquatic plants or plants overhanging the water body. Non-target aquatic organisms would be at risk of being adversely affected as well, meaning it is *likely* that an adverse effect will occur though the magnitude would be expected to be *minor*. The result is a *medium* level of risk to non-target organisms.
- 4.16 The Committee considers that overall the intended use of Roundup Transorb™ is likely to give rise to a *low* to *medium* level of risk. Under section 29 and clause 27 these non-negligible risks and their associated costs are to be weighed against the benefits associated with the release of Roundup Transorb™ in New Zealand.

Assessment of the potentially non-negligible costs

- 4.17 A “cost” is defined in clause 2 of the Methodology as “the value of a particular adverse effect expressed in monetary or non-monetary terms”. The Methodology and the Act both call for consideration of monetary and non-monetary costs (clause 13 and section 9).
- 4.18 In relation to the costs of effects identified in the above table, the Committee considered that although there are risks to the environment, no significant economic costs (new or cumulative) will result from the release of Roundup Transorb™.

Benefits

- 4.19 A “benefit” is defined in clause 2 of the Methodology as “the value of a particular positive effect expressed in monetary or non-monetary terms”. Benefits that may arise from any of the matters set out in clauses 9 and 11 were considered in terms of clause 13.
- 4.20 For this substance, the Committee considered that benefits are:
- In common with other glyphosate formulations, its use as an effective herbicide with relatively low toxicity to humans.
 - A more concentrated formulation than most other glyphosate formulations leading to economies in transport and packaging.
 - A formulation that is rainfast, that is, it can be applied within a shorter period before rain than many other formulations.
 - Increased consumer choice.

- 4.21 It is not expected that Roundup Transorb™ will lead to an increase in the use of glyphosate based herbicides but that it will replace other formulations in the market. This means that existing benefits of this type of substance remain along with the additional benefits of the higher concentration and the rainfast claim.
- 4.22 The Committee is unable to place an expected value on the benefits (clause 13(b)) but is satisfied that the ability of the applicant and others to use Roundup Transorb™ should give rise to the associated benefits.
- 4.23 With respect to section 29(a)(iii) and (b)(iii), some of the likely effects of the substance being unavailable can be outlined as the inability to achieve the benefits outlined above.

Variation of Controls under Section 77

- 4.24 Under section 77(3), (4) and (5), the default controls determined by the hazardous properties of the substance may be varied to achieve the most cost-effective management of risks for the applicant and the community (clause 35(a)).
- 4.25 The applicant was given the opportunity to comment on the proposed controls as set out in the E & R Report (clause 35(b)). A verbal comment was received relating to the keeping of records of use and the need for an approved handler; the view expressed was that neither of these controls were appropriate. This comment was taken into account in the consideration of controls.
- 4.26 The Committee considered that the following variations should apply.
- 4.27 Control E1¹ requires the setting of an EEL. An EEL_{water} is set for glyphosate. However, the classification of Roundup Transorb™ indicated that it is not necessary to set an EEL_{soil} or EEL_{sediment} and the default values for these are deleted under section 77(4)(a).
- 4.28 The EEL_{water} for glyphosate is set at 0.37 mg/L which differs from that set in a previous approval for a glyphosate based herbicide (Touchdown IQ, application number HSR02037, EEL_{water} = 3.6 mg/L). The reason for this relates to a new interpretation of international guidelines. Only one EEL_{water} can apply to a substance or a component. Therefore, the previously set EEL_{water} is to be rescinded.
- 4.29 Control E8 specifying restrictions on the carriage of Roundup Transorb™ on passenger service vehicles are combined with T7 (section 77(5)) so that E8 alone takes effect as the most stringent of the controls.
- 4.30 The Committee considered that a number of controls that include requirements arising from the 6.1D (acute inhalation toxicant) classification should be modified. The reason for this is that the adverse effects on human health are unlikely to be realised. On this basis the following controls are varied under section 77(4)(a).
- Controls I8, I17, I18, I20 and I30 are deleted.
 - Controls I16 and I28 are varied to the extent that they do not apply to the 6.1D classification but still apply to the 6.3B classification.

¹ Control codes are those assigned by ERMA NZ to enable easy cross reference with the regulations. A detailed list of these codes is contained in the ERMA New Zealand User Guide to the Controls Regulations.

- Control I21 is varied so the trigger level for the 9.1A classification applies.
 - Control D8 is varied so the trigger level for the 9.1A classification applies.
 - Control EM8 is varied so the trigger level for the 9.1A classification applies.
- 4.31 Controls E7 and AH1 relate to the requirement that the substance be under the control of an approved handler. In general if this control was applied to all stages of the lifecycle of this substance it would impose a cost that would make it difficult for the benefits to be realised, for instance it would effectively prevent it being used in the home and garden market. However, the risk of adverse effects within the aquatic environment are such that use near or in or on water bodies should be subject to the control that application in these areas is restricted to an approved handler. Accordingly, control E7 is amended (section 77(4)(b)) to apply to any application of the substance directly onto or into water, where water is defined under “environmental medium” in the Hazardous Substances (Class 6, 8 and 9 Controls) Regulations 2001 and would include, but not be limited to, ponds, lakes, rivers, streams, drains, marine foreshores, etc.
- 4.32 Control TR1 relates to the requirement to track a substance throughout the whole of its lifecycle. The Committee considers that this control would impose a burden on the users of this substance that would make it difficult for the benefits to be realised, but the control would not reduce the likelihood of adverse effects. It is noted that control E5 does require records to be kept if more than 3 kgs is used within 24 hours directly onto or into water. Consequently, control TR1 is deleted under section 77(4)(b).
- 4.33 Controls EM6 and EM7 refer to regulations on emergency management applying to toxic and ecotoxic substances and make reference to Schedule 1 of the Emergency Management Regulations. However, there is no reference to these substances in Schedule 1 due to a printing error. It is recommended that these controls apply to Roundup Transorb™ with a trigger level of 1 litre for toxicity information (6.3B) and 0.2 litres for ecotoxicity information.
- 4.34 Controls EM11, EM12 and EM13 are amended (September 2005) to apply with a trigger quantity of 1000 litres.
- 4.35 The controls, with the above adjustments are listed in Appendix 1. Controls that are not applicable to Roundup Transorb™ are not listed.

Establishment of the Approach to Risk in the Light of Risk Characteristics

- 4.36 Clause 33 requires the Authority, when considering applications, to have regard for the extent to which a specified set of risk characteristics exist. The intention of this provision is to provide a route for determining how cautious or risk averse the Authority should be in weighing up risks and costs against benefits.
- 4.37 It was noted that the application of Roundup Transorb™ will be deliberate and the significant risks resulting from adverse effects on non-target species are involuntary. However, the effects are confined to the locality of any incident, will not persist over time and are reversible. Furthermore, the risks are well understood and can be managed.
- 4.38 In light of these risk characteristics, the Committee is satisfied that it can be less risk averse in weighing up risks and costs against benefits.

Overall Evaluation of Risks, Costs and Benefits

- 4.39 Having regard to clauses 22 and 34 and in accordance with the tests in clause 27 and section 29, risks costs and benefits were evaluated taking account of all proposed controls including default controls.
- 4.40 Clause 34 sets out the approaches available to the Authority in evaluating the combined impact of risks costs and benefits i.e. weighing up risks, costs and benefits.
- 4.41 The Committee considered that, with the various controls in place, Roundup TransorbTM poses non-negligible risks to the environment outside the application area. However, the Committee is satisfied that the benefits of the substance outweigh the risks and costs and that the application may therefore be approved in accordance with clause 27.

Environmental User Charges

- 4.42 In the current absence of comprehensive criteria for undertaking such a consideration, no consideration has been given to whether or not environmental user charges should be applied to the substance which is the subject of this approval.

5 Decision

- 5.1 Pursuant to section 29 of the Act, the Committee has considered this application to import and manufacture a hazardous substance made under section 28 of the Act.
- 5.2 Having considered all the possible effects of the hazardous substance in accordance with section 29 of the Act, pursuant to clause 27 of the Methodology, based on consideration and analysis of the information provided, and taking into account the application of controls, the view of the Committee is that the benefits associated with the substance outweigh the risks and costs.
- 5.3 The Committee is satisfied that the default controls, together with the variations imposed, will be adequate to manage the adverse effects of the hazardous substance.
- 5.4 In accordance with clause 36(2)(b) of the Methodology the Committee records that, in reaching this conclusion, it has applied the balancing tests in section 29 of the Act and clause 27 of the Methodology.
- 5.5 It has also applied the following criteria in the Methodology:
- clause 9 - equivalent of sections 5, 6 and 8;
 - clause 11 – characteristics of substance;
 - clause 12 – evaluation of assessment of risks;
 - clause 13 – evaluation of assessment of costs and benefits;
 - clause 14 – costs and benefits accruing to New Zealand;
 - clause 21 – the decision accords with the requirements of the Act and regulations;
 - clause 22 – the evaluation of risks, costs and benefits – relevant considerations;
 - clause 24 – the use of recognised risk identification, assessment, evaluation and management techniques;
 - clause 25 – the evaluation of risks;

- clause 27 – risks and costs are outweighed by benefits;
- clause 33 – risk characteristics;
- clause 34 – the aggregation and comparison of risks, costs and benefits; and
- clause 35 – the costs and benefits of varying the default controls.

5.6 The application for importation and manufacture of the hazardous substance **Roundup Transorb™** is thus **approved with controls** as detailed in Appendix 1.

Tony Haggerty
Chair Hazardous Substances Committee

Date 1 September 2003

Approval Code: HSR000074

Amendments, September 2005

Amendments have been made to:

1. Control E7 and paragraph 4.31, amending the wording to state that the approved handler control will apply to any application of the substance directly onto or into water.
2. Control E5 and paragraph 4.32, amending the wording to state that keeping records of use will apply to any application of the substance directly onto or into water.
3. Controls EM11, EM12, EM13 and paragraph 4.34, amending the trigger level to 1000 litres.

Tony Haggerty
Chair Hazardous Substances Committee

Date 2 September 2005

Appendix 1: List of Controls that apply to Roundup Transorb™.

Control Code ²	Regulation ³	Explanation ⁴
Hazardous Substances (Classes 6, 8 and 9 Controls) Regulations 2001 - Ecotoxic Property Controls		
E1	Regulations 32-45	<p><u>Limiting exposure to ecotoxic substances</u></p> <p>This control relates to the setting of environmental exposure limits (EELs). An EEL establishes the maximum concentration of an ecotoxic substance legally allowable in a particular (non target) environmental medium (eg. soil or sediment or water), including deposition of a substance onto surfaces (eg. as in spray drift deposition).</p> <p>An EEL can be established by one of three means:</p> <ul style="list-style-type: none"> • applying the default EELs specified • adopting an established EEL • calculating an EEL from an assessment of available ecotoxicological data. <p>The EEL for glyphosate is set at 0.37 mg/L.</p>
E2	Regulations 46-48	<p><u>Restrictions on use within application area</u></p> <p>These Regulations relate to controls on application areas. An application (target) area is an area that the person using the substance either has control over or is otherwise authorised to apply the substance to. For ecotoxic substances that are intentionally released into the environment (eg. pesticides), any EEL controls will not apply within the application (target) area providing the substance is applied at a rate that does not exceed the allowed application rate. In addition, any approved handler controls (T6, Regulation 9) do not apply once the substance has been applied.</p> <p>In recognition of the need to limit adverse effects within the target area, Regulations have been prescribed to restrict the use of the substance within the target area. These include a requirement to set an application rate for any substance designed for biocidal action for which an EEL has been set. The application rate must not be greater than the application rate specified in the application for approval, or not greater than a rate calculated in a similar manner to that used to calculate EELs (with the proviso that the product of the uncertainty factors must not exceed 100).</p> <p>The maximum application rate for Roundup Transorb™ is set at 13.2 litres per hectare.</p>
E5	Regulations 5(2), 6	<p><u>Requirements for keeping records of use</u></p> <p>A person using a substance that is highly ecotoxic (ie. has a hazard classification of 9.1A, 9.2A, 9.3A, or 9.4A) must keep a written record of that use if 3kg or more of the substance is applied or discharged within 24</p>

² Note: The numbering system used in this column relates to the coding system used in the ERMA New Zealand Controls Matrix. This links the hazard classification categories to the regulatory controls triggered by each category. It is available from ERMA New Zealand and is also contained in the ERMA New Zealand User Guide to the Controls Regulations.

³ These Regulations form the controls applicable to this substance. Refer to the cited Regulations for the formal specification, and for definitions and exemptions. The accompanying explanation is intended for guidance only.

⁴ These explanations are for guidance only. Refer to the cited Regulations for the formal specification, and for definitions and exemptions.

Control Code ²	Regulation ³	Explanation ⁴
		<p>hours in an area where the substance may enter air or water (and leave the place where it is under control). The information to be provided in the record is described in Regulation 6(1). The record must be kept for a minimum of three years following the use and must be made available to an enforcement officer on request.</p> <p>This control applies to any application of the substance directly onto or into water where water is defined under “environmental medium” in the Hazardous Substances (Class 6, 8 and 9 Controls) Regulations 2001 and would include, but not be limited to, ponds, lakes, rivers, streams, drains, marine foreshores, etc.</p>
E6	Regulation 7	<p><u>Requirements for equipment used to handle hazardous substances</u> Any equipment used to handle ecotoxic substances (eg. spray equipment) must retain and/or dispense the substance in the manner intended, ie. without leakage, and must be accompanied by sufficient information so that this can be achieved.</p>
E7	Regulation 9	<p><u>Approved handler requirements</u> Where ecotoxic substances of any hazard classification 9.1A, 9.2A, 9.3A or 9.4A are held in any quantity, the substances must generally be under the personal control of an approved handler at all times, or locked up. However, such substances may be handled by a person who is not an approved handler if:</p> <ul style="list-style-type: none"> • an approved handler is present at the facility where the substance is being handled, and • the approved handler has provided guidance to the person in respect of handling, and • the approved handler is available at all times to provide assistance if necessary. <p>This control applies to any application of the substance directly onto or into water, where water is defined under “environmental medium” in the Hazardous Substances (Class 6, 8 and 9 Controls) Regulations 2001 and would include, but not be limited to, ponds, lakes, rivers, streams, drains, marine foreshores, etc.</p>
E8	Regulation 10	<p><u>Restrictions on the carriage of hazardous substances on passenger service vehicles</u> In order to limit the potential for environmental exposure to ecotoxic substances, the carriage of any class 9 substance on passenger service vehicles is restricted to 5L.</p>
Hazardous Substances (Identification) Regulations 2001		
		<p>The Identification Regulations prescribe requirements with regard to identification of hazardous substances in terms of:</p> <ul style="list-style-type: none"> • information that must be “immediately available” with the substance (priority and secondary identifiers). This information is generally provided by way of the product label • documentation that must be available in the workplace, generally provided by way of MSDS • signage at a place where there is a large quantity of the substance.
I1	Regulations 6, 7, 32-35, 36 (1)-(7)	<p><u>General identification requirements</u> These controls relate to the duties of suppliers and persons in charge of hazardous substances with respect to identification (essentially labelling) (Regulations 6 and 7), accessibility of the required information (Regulations 32 and 33) and presentation of the required information with respect to</p>

Control Code ²	Regulation ³	Explanation ⁴
		<p>comprehensibility, clarity and durability (Regulations 34, 35, 36(1)-(7))</p> <p><u>Regulation 6 – Identification duties of suppliers</u> Suppliers of any hazardous substance must ensure it is labelled with all relevant priority identifier information (as required by Regulations 8-17) and secondary identifier information (as required by Regulations 18-30) before supplying it to any other person. This includes ensuring that the priority identifier information is available to any person handling the substance within two seconds (Regulation 32), and the secondary identifier information available within 10 seconds (Regulation 33).</p> <p>Suppliers must also ensure that no information is supplied with the substance (or its packaging) that suggests it belongs to a class that it does not in fact belong to.</p> <p><u>Regulation 7 – Identification duties of persons in charge</u> Persons in charge of any hazardous substance must ensure it is labelled with all relevant priority identifier information (as required by Regulations 8 to 17) and secondary identifier information (as required by Regulations 18 to 30) before supplying it to any other person. This includes ensuring that the priority identifier information is available to any person handling the substance within two seconds (Regulation 32), and the secondary identifier information available within 10 seconds (Regulation 33). Persons in charge must also ensure that no information is supplied with the substance (or its packaging) that suggests it belongs to a class that it does not in fact belong to.</p> <p><u>Regulations 32 and 33 – Accessibility of information</u> All priority identifier Information (as required by Regulations 8 to 17) must be available within 2 seconds, eg. on the label All secondary identifier Information (as required by Regulations 18 to 30) must be available within 10 seconds, eg. on the label. Regulations 34, 35, 36(1)-(7) – Comprehensibility, Clarity and Durability of information All required priority and secondary identifiers must be presented in a way that meets the performance standards in these Regulations. In summary:</p> <ul style="list-style-type: none"> • any information provided (either written and oral) must be readily understandable and in English • any information provided in written or pictorial form must be able to be easily read or perceived by a person with average eyesight under normal lighting conditions • any information provided in an audible form must be able to be easily heard by a person with average hearing • any information provided must be in a durable format ie. the information requirements with respect to clarity must be able to be met throughout the lifetime of the (packaged) substance under the normal conditions of storage, handling and use.
I3	Regulation 9	<p><u>Priority identifiers for ecotoxic substances</u> This requirement specifies that ecotoxic substances must be prominently identified as being ecotoxic.</p> <p>This information must be available to any person handling the substance within two seconds (Regulation 32) and can be provided by way of signal</p>

Control Code ²	Regulation ³	Explanation ⁴
		headings or commonly understood pictograms on the label.
I9	Regulation 18	<p><u>Secondary identifiers for all hazardous substances</u> This control relates to detail required for hazardous substances on the product label. This information must be accessible within 10 seconds (Regulation 33) and could be provided on secondary panels on the product label. The following information is required:</p> <ul style="list-style-type: none"> • an indication (which may include its common name, chemical name, or registered trade name) that unequivocally identifies it, and • enough information to enable its New Zealand importer, supplier, or manufacturer to be contacted, either in person or by telephone, and • in the case of a substance which, when in a closed container, is likely to become more hazardous over time or develop additional hazardous properties, or become a hazardous substance of a different class, a description of each likely change and the date by which it is likely to occur.
I11	Regulation 20	<p><u>Secondary identifiers for ecotoxic substances</u> This control relates to the additional label detail required for ecotoxic substances. This information must be accessible within 10 seconds (Regulation 33) and could be provided on secondary panels on the product label. The following information must be provided:</p> <ul style="list-style-type: none"> • an indication of the circumstances in which it may harm living organisms • an indication of the kind and extent of the harm it is likely to cause to living organisms • an indication of the steps to be taken to prevent harm to living organisms • in the case of an ecotoxic substance of classification 9.1A, 9.1B or 9.1C, an indication of its general type and degree of hazard (eg. very toxic to aquatic life) • in the case of an ecotoxic substance of classification 9.2A, 9.2B or 9.2C, 9.3A, 9.3B, 9.4A, 9.4B or 9.4C, an indication of its general type of hazard (eg. ecotoxic to terrestrial invertebrates)
I16	Regulation 25	<p><u>Secondary identifiers for toxic substances</u> This control relates to the additional label detail required for toxic substances. This information must be accessible within 10 seconds (Regulation 33) and could be provided on secondary panels on the product label. The following information must be provided:</p> <ul style="list-style-type: none"> • an indication of its general type and degree of toxic hazard (eg. mild skin irritant) • an indication of the circumstances in which it may harm human beings • an indication of the kinds of harm it may cause to human beings, and the likely extent of each kind of harm • an indication of the steps to be taken to prevent harm to human beings <p>This applies to the 6.3B classification only.</p>
I19	Regulations 29-31	<p><u>Alternative information in certain cases</u></p> <p><u>Regulation 29 – Substances in fixed bulk containers or bulk transport containers</u> This Regulation relates to alternative ways of presenting the priority and secondary identifier information required by Regulations 8 to 25 when substances are contained in fixed bulk containers or bulk transport</p>

Control Code ²	Regulation ³	Explanation ⁴
		<p>containers.</p> <p>Regulation 29(1) specifies that for fixed bulk containers, it is sufficient compliance if there is available at all times to people near the container, information that identifies the type and general degree of hazard of the substance. When class 1, 2, 3, 4 or 5 substances are contained, there is an additional requirement that information must be provided describing any steps to be taken to prevent an unintentional explosion, ignition combustion, acceleration of fire or thermal decomposition.</p> <p>Regulation 29(2) specifies that for bulk transport containers, it is sufficient compliance if the substance is labelled or marked in compliance with the requirements of either the Land Transport Rule 45001, Civil Aviation Act 1990 or Maritime Transport Act 1994.</p> <p>Regulation 30 – Substances in multiple packaging</p> <p>This Regulation relates to situations when hazardous substances are in multiple packaging and the outer packaging obscures some or all of the required substance information. In such cases, the outer packaging must:</p> <ul style="list-style-type: none"> • be clearly labelled with all relevant priority identifier information i.e. the hazardous properties of the substance must be identified, or • be labelled or marked in compliance with either the Land Transport Rule 45001, Civil Aviation Act 1990 or the Maritime Safety Act 1994 as relevant, or • in the case of an ecotoxic substance, it must bear the EU pictogram “Dangerous to the Environment” (‘dead fish and tree’ on orange background), or • bear the relevant class label assigned by the UN Model Regulations. <p><u>Regulation 31 – Alternative information when substances are imported</u></p> <p>This Regulation relates to alternative information requirements for hazardous substances that are imported into New Zealand in a closed package or in a freight container and will be transported to their destination without being removed from that package or container. In these situations, it is sufficient compliance with HSNO if the package or container is labelled or marked in compliance with the requirements of the Land Transport Rule 45001.</p>
I21	Regulations 37-39, 47-50	<p><u>Documentation required in places of work</u></p> <p>These controls relate to the duties of suppliers and persons in charge of places of work with respect to provision of documentation (essentially Material Safety Data Sheets) (Regulations 37, 38 and 50); the general content requirements of the documentation (Regulation 39 and 47); the accessibility and presentation of the required documentation with respect to comprehensibility and clarity (Regulation 48).</p> <p>These controls are triggered when substances of specific hazard classifications are held in the workplace in quantities equal to or greater than the levels as specified in Schedule 2 of the Identification Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p><u>Regulation 37 – Documentation duties of suppliers</u></p> <p>A supplier must provide documentation containing all relevant information required by Regulations 39 to 46 when selling or supplying to another person a quantity of a hazardous substance equal to or greater than the levels specified in Schedule 2 for that classification, if the substance is to be used in a place of work and the supplier has not previously provided the</p>

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		<p>documentation to that person.</p> <p><u>Regulation 38 – Documentation duties of persons in charge of places of work</u> The person in charge of any place of work where hazardous substances are present in quantities equal to or greater than those specified in Regulation 38 (and with reference to Schedule 2 of the Identification Regulations), must ensure that every person handling the substance has access to the documentation containing all relevant information required by Regulations 39 to 46. The person in charge must also ensure that the documentation does not contain any information that suggests that the substance belongs to a hazard classification it does not in fact belong to.</p> <p><u>Regulation 39 – General content requirements for documentation</u> The documentation provided with a hazardous substance must include the following information:</p> <ul style="list-style-type: none"> • the unequivocal identity of the substance (eg. the CAS number, chemical name, common name, UN number, registered trade name(s)) • a description of the physical state, colour and odour of the substance • if the substance’s physical state may alter over the expected range of workplace temperatures, the documentation must include a description of the temperatures at which the changes in physical state may occur and the nature of those changes. • in the case of a substance that, when in a closed container, is likely to become more hazardous over time or develop additional hazardous properties, or become a hazardous substance of a different class, the documentation must include a description of each likely change and the date by which it is likely to occur • contact details for the New Zealand supplier/manufacturer/importer • all emergency management and disposal information required for the substance • the date on which the documentation was prepared • the name, concentration and CAS number of any ingredients that would independently of any other ingredient, cause the substance to be classified as either a class 6.1A, 6.1B, 6.1C, 6.5, 6.6, 6.7, 6.8,6.9, 8.2 or 8.3. <p><u>Regulation 47 – Information not included in approval</u> This Regulation relates to the provision of specific documentation information (eg. as provided on an MSDS). If information required by Regulations 39 to 46 was not included in the information used for the approval of the substance by the Authority, it is sufficient compliance with those Regulations if reference is made to that information requirement along with a comment indicating that such information is not applicable to that substance.</p> <p><u>Regulation 48 – Location and presentation requirements for documentation</u> All required documentation must be available to a person handling the substance in a place of work within 10 minutes. The documentation must be readily understandable by any fully-trained worker required to have access to it and must be easily read, under normal lighting conditions, at a distance of not less than 0.3m.</p> <p><u>Regulation 49 – Documentation requirements for vehicles</u></p>

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		<p>This Regulation provides for the option of complying with documentation requirements as specified in the various Land, Sea and Air transport rules when the substance is being transported.</p> <p><u>Regulation 50 – Documentation to be supplied on request</u> Notwithstanding Regulation 37 above, a supplier must provide the required documentation to any person in charge of a place of work (where a hazardous substance is present) if asked to do so by that person.</p> <p>The trigger level for Roundup Transorb™ is 5 litres.</p>
I23	Regulation 41	<p><u>Specific documentation requirements for ecotoxic substances</u> The documentation provided with ecotoxic substances must include the following information:</p> <ul style="list-style-type: none"> • its general degree and type of ecotoxic hazard (eg. highly ecotoxic to terrestrial vertebrates) • a full description of the circumstances in which it may harm living organisms and the extent of that harm • a full description of the steps to be taken to prevent harm to living organisms • a summary of the available acute and chronic (ecotox) data used to define the (ecotox) subclass or subclasses in which it is classified • its bio-concentration factor or octanol-water partition coefficient • its expected soil or water degradation rate • any EELs set by the Authority.
I28	Regulation 46	<p><u>Specific documentation requirements for toxic substances</u> The documentation provided with toxic substances must include the following information:</p> <ul style="list-style-type: none"> • its general degree and type of toxic hazard • a full description of the circumstances in which it may harm human beings • the kinds of harm it may cause to human beings • a full description of the steps to be taken to prevent harm to human beings • if it is a gas or an aerosol, its vapour pressure, and the temperature at which that pressure was measured • if it will be a liquid during its use, the percentage of volatile substance in the liquid formulation, and the temperature at which the percentages were measured • a summary of the available acute and chronic (toxic) data used to define the (toxic) subclass or subclasses in which it is classified • the symptoms or signs of injury or ill health associated with each likely route of exposure • the dose, concentration, or conditions of exposure likely to cause injury or ill health • any TELs or WESs set by the Authority. <p>This applies to the 6.3B classification only.</p>
I29	Regulations 51-52	<p><u>Duties of persons in charge of places with respect to signage</u> These controls specify the requirements for signage, in terms of content, presentation and positioning at places where hazardous substances are held in</p>

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		<p>quantities exceeding the amounts specified in Schedule 3 of the Identification Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>Signs are required:</p> <ul style="list-style-type: none"> • at every entrance to the building and/or location (vehicular and pedestrian) where hazardous substances are present • at each entrance to rooms or compartments where hazardous substances are present • immediately adjacent to the area where hazardous substances are located in an outdoor area. <p>The information provided in the signage needs to be understandable over a distance of 10 metres and be sufficient to:</p> <ul style="list-style-type: none"> • advise that the location contains hazardous substances • describe the general type and degree of hazard of the substance (eg. highly flammable) • where the signage is immediately adjacent to the hazardous substance storage areas, describe the precautions needed to safely manage the substance (eg. a 'No Smoking' warning near flammable substances). <p>The trigger level for Roundup Transorb™ is 100 litres.</p>
Hazardous Substances (Packaging) Regulations 2001		
P1	Regulations 5, 6, 7 (1), 8	<p><u>General packaging requirements</u> These controls relate to the ability of the packaging to retain its contents, allowable packaging markings with respect to design approvals, factors affecting choice of suitable packaging, and compatibility of the substance with any previous contents of the packaging.</p> <p><u>Regulation 5 – Ability to retain contents</u> Packaging for all hazardous substances must ensure that, when the package is closed, there is no visible release of the substance, and that it maintains its ability to retain its contents in temperatures from –10°C to +50°C. The packaging must also maintain its ability to retain its remaining contents if part of the contents are removed from the package and the packaging is then re-closed. The packaging in direct contact with the substance must not be significantly affected or weakened by contact with the substance such that the foregoing requirements cannot be met.</p> <p><u>Regulation 6 – Packaging markings</u> Packages containing hazardous substances must not be marked in accordance with the UN Model Regulations unless:</p> <ul style="list-style-type: none"> • the markings comply with the relevant provisions of that document, and • the packaging complies with the tests set out in Schedule 1, 2 or 3 (Packaging Regulations) respectively, and • the design of the packaging has been test certified as complying with those tests. • Regulation 7(1) – Requirements when packing hazardous substance • When packing any hazardous substance, account must be taken of its physical state and properties, and packaging must be selected that complies with the requirements of Regulation 5, and Regulations 9 to 21.

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		<p><u>Regulation 8 – Compatibility</u> Hazardous substances must not be packed in packaging that has been previously packed with substances with which it is incompatible.</p>
P3	Regulation 9	<p><u>Packaging requirements for substances packed in limited quantities</u> When substances of certain hazard classifications are packaged in limited quantities, there is provision for them to be packaged to a lesser performance standard (as specified in Schedule 4 of the Packaging Regulations) than normally required. A list of those hazard classifications, and the maximum quantity of substance that may be packaged to this lesser performance standard, is provided in Schedule 5.</p>
P13	Regulation 19	<p><u>Packaging requirements for toxic substances</u> The packaging requirements for class 6 substances are as follows:</p> <ul style="list-style-type: none"> • 6.3A, 6.3B, 6.4A and 6.1D substances in quantities less than 450L or 400kg must be packaged according to Schedule 4. <p>There is a provision that packages containing less than 0.5L (500mL) of a class 6.1D, 6.3A, 6.3B, 6.4A substance do not have to comply with the drop test performance standard contained in Schedule 4 provided the packaging complies with the requirements of Regulations 5(1)(a), (b) and (e), and there is a warning statement on the outside of the package that the package may not withstand a drop of 0.5m (Regulation 9(3)-(5)).</p> <p>Any substance of hazard classification 6.1D, 6.1E, 6.3A, 6.3B or 6.4A that is offered for sale in a package of less than 2.5L or 2.5kg must be in child resistant packaging (ie. toxic substances liable to be in homes). However, if the substance is for use in a place of work to which children do not have access, this requirement is not mandatory.</p>
P15	Regulation 21	<p><u>Packaging requirements for ecotoxic substances</u> The packaging requirements for class 9 substances are as follows:</p> <ul style="list-style-type: none"> • 9.1A–C, 9.2A–C, 9.3A–C and 9.4A–C substances in quantities of more than 5kg or 5L must be packaged according to Schedule 3 (UN PGIII), but may be packaged according to Schedule 4 when in quantities equal to or less than 5kg or 5L. However, there is a provision that packages containing less than 0.5L (500mL) of a class 9.1C or 9.2C substance do not have to comply with the drop test performance standard contained in Schedule 4 provided the packaging complies with the requirements of Regulations 5(1)(a), (b) and (e), and there is a warning statement on the outside of the package that the package may not withstand a drop of 0.5m.
PG3	Schedule 3	<p>This schedule provides the test methods for packaging required to be tested in accordance with this schedule. The tests in Schedule 3 correlate to the packaging requirements of UN Packing Group III (UN PGIII).</p>
Hazardous Substances (Disposal) Regulations 2001		
D4	Regulation 8	<p><u>Disposal requirements for toxic substances</u> A class 6 substance must be disposed of by:</p> <ul style="list-style-type: none"> • treating the substance so that it is no longer a hazardous substance, including depositing the substance in a landfill, incinerator or sewage facility. However, this does not include dilution of the substance with any other substance prior to discharge to the environment; or • discharging the substance to the environment provided that after reasonable mixing, the concentration of the substance in any part of the

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		<p>environment outside the mixing zone does not exceed any TEL (tolerable exposure limit) set by the Authority for that substance; or</p> <ul style="list-style-type: none"> exporting the substance from New Zealand as a hazardous waste.
D5	Regulation 9	<p><u>Disposal requirements for ecotoxic substances</u> A class 9 substance must be disposed of by:</p> <ul style="list-style-type: none"> treating the substance so that it is no longer a hazardous substance, including depositing the substance in a landfill, incinerator or sewage facility. However, this does not include dilution of the substance with any other substance prior to discharge to the environment; or discharging the substance to the environment provided that after reasonable mixing, the concentration of the substance in any part of the environment outside the mixing zone does not exceed any EEL (environmental exposure limit) set by the Authority for that substance; or exporting the substance from New Zealand as a hazardous waste
D6	Regulation 10	<p><u>Disposal requirements for packages</u> This control gives the disposal requirements for packages that contained a hazardous substance and are no longer to be used for that purpose. Such packages must be either decontaminated/treated or rendered incapable of containing any substance (hazardous or otherwise) and then disposed of in a manner that is consistent with the disposal requirements for the substance. In addition, the manner of disposal must take into account the material that the package is manufactured from.</p>
D7	Regulations 11, 12	<p><u>Disposal information requirements</u> These controls relate to the provision of information concerning disposal (essentially on the label) that must be provided when selling or supplying a quantity of a hazardous substance that exceeds the trigger levels as specified in Schedule 1 of the Disposal Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>Information must be provided on appropriate methods of disposal and information may be supplied warning of methods of disposal that should be avoided, ie. that would not comply with the Disposal Regulations. Such information must be accessible to a person handling the substance within 10 seconds and must comply with the requirements for comprehensibility, clarity and durability as described in Regulations 34-36 of the Identification Regulations (code I1).</p> <p>The trigger level for Roundup Transorb™ is 0.1 litre.</p>
D8	Regulations 13, 14	<p><u>Disposal documentation requirements</u> These controls relate to the provision of documentation concerning disposal (essentially in a MSDS) that must be provided when selling or supplying a quantity of a hazardous substance that exceeds the trigger levels as specified in Schedule 2 of the Disposal Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>The documentation must describe one or more methods of disposal (that comply with the Disposal Regulations) and describe any precautions that must be taken. Such documentation must be accessible to a person handling the substance at a place of work within 10 minutes and must comply with the requirements for comprehensibility and clarity as described in</p>

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		Regulations 48(2), (3) and (4) of the Identification Regulations (code I21). The trigger level for Roundup Transorb™ is 5 litres.
Hazardous Substances (Emergency Management) Regulations 2001		
EM1	Regulations 6, 7, 9-11	<u>Level 1 emergency management information: General requirements</u> These controls relate to the provision of emergency management information (essentially on the label) that must be provided with any hazardous substance when present in quantities equal to or greater than the trigger levels as listed in Schedule 1 of the Emergency Management Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies. Regulation 6 describes the duties of suppliers, Regulation 7 describes the duties of persons in charge of places, Regulation 9 describes the requirement for the availability of the information (10 seconds) and Regulation 10 gives the requirements relating to the presentation of the information with respect to comprehensibility, clarity and durability. These requirements correspond with those relating to secondary identifiers required by the Identification Regulations (code I1, Regulations 6, 7, 32–35, 36(1)-(7)). Regulation 11 provides for the option of complying with the information requirements of the transport rules when the substance is being transported.
EM6	Regulation 8(e)	<u>Information requirements for toxic substances</u> The following information must be provided when a toxic substance of class 6.1, 6.3, 6.4 or 6.5 is present in quantities equal to or greater than the trigger levels as listed in Schedule 1 of the Emergency Management Regulations: <ul style="list-style-type: none"> • a description of the usual symptoms of exposure • a description of the first aid to be given • a 24-hour emergency service telephone number. The recommended trigger level for Roundup Transorb™ is 1 litre.
EM7	Regulation 8(f)	<u>Information requirements for ecotoxic substances</u> The following information must be provided with ecotoxic substances when present in quantities equal to or greater than the trigger levels as listed in Schedule 1 of the Emergency Management Regulations. <ul style="list-style-type: none"> • a description of the parts of the environment likely to be immediately affected by it: • a description of its typical effects on those parts of the environment • a statement of any immediate actions that may be taken to prevent the substance from entering or affecting those parts of the environment. The recommended trigger level for Roundup Transorb™ is 0.1 litre.
EM8	Regulations 12-16, 18-20	<u>Level 2 emergency management information requirements</u> These controls relate to the duties of suppliers and persons in charge of places of work with respect to the provision of emergency management documentation (essentially Material Safety Data Sheets). This documentation must be provided where hazardous substances are sold or supplied, or held in a workplace, in quantities equal to or greater than the quantities specified in Schedule 2 of the Emergency Management Regulations. Where a substance triggers more than one hazard classification,

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		<p>the most stringent quantity generally applies.</p> <p>Regulations 12 and 13 describe the duties of suppliers, Regulation 14 describes the duties of persons in charge of places of work, Regulation 15 provides for the option of complying with documentation requirements of the transport rules when the substance is being transported, and Regulation 16 specifies requirements for general contents of the documentation.</p> <p>Regulation 18 provides accessibility requirements (documentation to be available within five minutes) and Regulation 19 provides requirements for presentation with respect to comprehensibility and clarity. These requirements correspond with those relating to documentation required by the Identification Regulations (code I21).</p> <p>The trigger level for Roundup Transorb™ is 5 litres.</p>
EM11	Regulations 25-34	<p><u>Level 3 emergency management requirements – emergency response plans</u></p> <p>These Regulations relate to the requirement for an emergency response plan to be available at any place (excluding aircraft or ships) where hazardous substances are held (or reasonably likely to be held on occasion) in quantities greater than those specified in Schedule 4 of the Emergency Management Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>The emergency response plan must describe all of the likely emergencies that may arise from the breach or failure of controls. The type of information that is required to be included in the plan is specified in Regulations 29 to 30. Requirements relating to the availability of equipment, materials and people are provided in Regulation 31, requirements regarding the availability of the plan is provided in Regulation 32 and requirements for testing the plan are described in Regulation 33.</p> <p>The trigger level for Roundup Transorb™ is 1000 litres.</p>
EM12	Regulations 35-41	<p><u>Level 3 emergency management requirements – secondary containment</u></p> <p>These Regulations relate to the requirement for a secondary containment system to be installed at any fixed location where liquid (or liquefiable) hazardous substances are held in quantities equal to or greater than those specified in Schedule 4 of the Emergency Management Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>Regulation 37 prescribes requirements for places where hazardous substances are held above ground in containers each holding up to 60L or less. Regulation 38 prescribes requirements for places where hazardous substances are held above ground in containers each holding between 60L and 450L. Regulation 39 prescribes requirements for places where hazardous substances are held above ground in containers each holding more than 450L. Regulation 40 prescribes requirements for places where hazardous substances are held underground. Regulation 41 prescribes requirements for secondary containment systems that contain substances of specific hazard classifications, eg. there is a requirement to prevent</p>

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		<p>substances from coming into contact with incompatible materials, and a requirement to exclude energy sources when class 1, 2, 3, 4 or 5 substances are contained).</p> <p>The trigger level for Roundup Transorb™ is 1000 litres.</p>
EM13	Regulation 42	<p><u>Level 3 emergency management requirements – signage</u> This control relates to the provision of emergency management information on signage at places where hazardous substances are held at quantities equal to or greater than the quantities specified in Schedule 5 of the Emergency Management Regulations. Where a substance triggers more than one hazard classification, the most stringent quantity generally applies.</p> <p>The signage must advise of the action to be taken in an emergency and must meet the requirements for comprehensibility and clarity as defined in Regulations 34 and 35 of the Identification Regulations.</p> <p>The trigger level for Roundup Transorb™ is 1000 litres.</p>
Hazardous Substances (Personnel Qualification) Regulations 2001		
AH1	Regulations 4-6	<p><u>Approved Handler requirements (including test certificate and qualification requirements)</u> Some (highly) hazardous substances are required to be under the control of an approved handler during specified parts of the lifecycle. An approved handler is a person who holds a current test certificate certifying that they have met the competency requirements specified by the Personnel Qualification Regulations in relation to handling specific hazardous substances.</p> <p>Regulation 4 describes the test certification requirements, Regulation 5 describes the qualification (competency and skill) requirements and Regulation 6 describes situations where transitional qualifications for approved handlers apply.</p>

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