ENVIRONMENTAL RISK MANAGEMENT AUTHORITY
NGĀ KAIWHAKATŪPATO WHAKARARU TAIAO

ERMA New Zealand

FORM HS3

Application for approval to

IMPORT OR MANUFACTURE ANY HAZARDOUS SUBSTANCE IN CONTAINMENT

under section 31 of the Hazardous Substances and New Organisms Act 1996

Name of Substance(s): RIPPER

Applicant: ARYSTA LIFESCIENCE NORTH AMERICA CORPORATION

Office use only

Application Code: ☐☐☐☐☐☐☐☐ Date received:____/____/____

ERMA NZ Contact: _____ Initial Fees Paid: $

Application Version No: _____.

IMPORTANT

1. Before you fill in this application form, you may find it helpful to consult the *User Guide to Hazardous Substance Applications under the HSNO Act 1996*. This User Guide can either be downloaded from our website or purchased from ERMA New Zealand. The level of information that you need to provide in this application is dependent upon the scale and the significance of the risks and/or whether these risks are well understood and controlled. The User Guide will offer further advice on this.
2. Part B of the User Guide covers applications under Section 28 of the Act and all of the cross references in this application form are to Part B.
3. You can also talk to an applications officer at ERMA New Zealand who can help you scope and prepare your application. We need all relevant information early on in the application process. Quality information up front will speed up the process.
4. This application form may be used to seek approvals for more than one hazardous substance where the substances are related, for example a concentrated compound (active ingredient) and its related formulations or the two parts of an epoxy glue.
5. Any extra material that does not fit in the application form must be clearly labelled, cross-referenced, and included in an Appendix to the application form.
6. Commercially sensitive information must be collated in a separate Appendix.
7. Applicants must sign the form and enclose the correct application fee. The initial application fee can be found in our published *Schedule of Fees and Charges*. Make sure that you have an up to date copy of the Schedule. Please check with ERMA New Zealand staff. We are unable to process applications that do not contain the correct fee.
8. Unless otherwise indicated, all sections of this form must be completed for the application to be progressed. Where an applicant is unable to complete the sections marked optional, this information may be derived by ERMA New Zealand and the costs of doing so will be recovered from the applicant as part of the processing costs.

You can get more information at any time by contacting us. One of our staff members will be able to help you.

ERMA New Zealand
20 Customhouse Quay
PO Box 131
Wellington
NEW Zealand
Telephone: 64-4-473 8426
Facsimile: 64-4-473 8433
E-mail: info@ermanz.govt.nz
www.ermanz.govt.nz

Section One – Applicant Details

See comments under “Section One of Application Form” in the User Guide for guidance

1.1 Name and postal address in New Zealand of the organisation making the application:	
Name:	Arysta LifeScience North America Corporation
Address:	15401 Weston Parkway, Cary, NC 27513 USA
Phone:	1-919-678-4900
Fax:	1-919-678-2193
1.2 The applicant’s location address in New Zealand (if different from above):	
Elliott Technologies LTD, Unit 5, Laidlaw Business Centre, East Tamaki, Auckland. Tel: (09) 271 1416 Fax: (09) 271 1406	
1.3 Name of the contact person for the application: This person should have sufficient knowledge to respond to queries and either have the authority to make decisions on behalf of the applicant that relate to processing the application, or have the ability to go to the appropriate authority.	
Name:	Ian Crook
Position:	Representative Australia & NZ
Address:	77-79 Canterbury Rd Canterbury VIC 3126 Australia
Phone:	+61 3 9830 7011
Fax:	+61 3 9830 7611
Email:	ian.crook@arystalifescience.com

Section Two – Application Type and Related Approvals Required

This form is only to be used for an application to import a hazardous substance into containment or manufacture a hazardous substance in containment.
If you are making the application for some other reason, you will need a different form.

2.1 Is this application to manufacture or import a hazardous substance in containment for any of the following purposes:

Containment applications can only be made for a limited range of purposes. In particular it is not intended for commercial manufacture or sale.
(See comments under "Section 2.1 of Form" in the User Guide)

Small amounts of any hazardous substance for use as an analytical standard where approval to import or manufacture that substance has been declined?	No
Research on any hazardous substance to acquire information for use in assessing that substance for a HSNO approval?	Yes
Research and development on any hazardous substance?	Yes
Use in an emergency?	No
Other purposes?	N/A

2.2 If you answered yes to one of the purposes listed above, please provide some supporting detail. If you answered yes to "other purpose", describe the purpose and explain why this purpose is appropriate to a containment application.
(See comments under "Section 2.2 of Form" in the User Guide)

The substance (Ripper) will be tested at lower use rates than are currently proposed in combination with Virtually Impermeable Films (VIF) to potentially amend the proposed HSNO controls.

Trials are also necessary to substantiate grower technical knowledge, training and economic benefit from the use of Ripper and to provide an opportunity to accredit field application / applicators by Leicesters Fumigation personnel to Arysta standards.

2.3 Is the information in this application relevant to import, manufacture or both?

(See comments under "Section 2.3 of Form" in the User Guide)

Import the substance(s) only?	No
Manufacture the substance(s) only?	Yes
Import and manufacture the substance(s)?	No
If import only, indicate whether or not manufacture is likely in New Zealand	No

2.4 If the information in the application relates to manufacture of the substance(s) in New Zealand, provide information on the proposed manufacturing process and any alternatives.

(See comments under "Section 2.4 of Form" in the User Guide)

The active ingredients are manufactured overseas and imported to New Zealand. Blending of ingredients will take place at a purpose built facility in Napier, New Zealand (Leicester LTD) in accordance with restrictions and requirement as set out in the part 5 application of Ripper.

2.5 If this substance(s) needs an approval under any other legislation, has an application for this approval been made?
(Optional) (See comments under "Section 2.5 of Form" in the User Guide)

Name of Approval	Application made
Agricultural Compounds and Veterinary Medicines Act 1997	Yes
Food Act 1981	Yes
Medicines Act 1981	NA
Chemical Weapons (Prohibition) Act 1996	NA
Radiation Protection Act 1965	NA
Biosecurity Act 1993	NA
Resource Management Act 1991	No
Other (please specify): NZ standards	No

Section Three – Information on the Substance(s)

Note all information that is commercially sensitive must be attached as an Appendix. The application form should be cross-referenced to the Appendix but should be able to be read as a stand-alone document which will be publicly available.

If approval is being sought for more than one hazardous substance, this section must be completed separately for each hazardous substance.

3.1 State the unequivocal identification of the proposed substance(s).

This section should include all information necessary to unequivocally identify the substance(s) and may include:

- Chemical Name (Chemical Abstracts Preferred Index name or IUPAC name)
- Common Name
- Synonyms
- Trade Names
- CAS Registry Number
- Molecular Formula
- Structural Formula
- Significant impurities

For mixtures, in addition to the above information being provided on the actual mixture, information is also required on the composition of the mixture ie the chemical name, CAS number, function (eg active ingredient, emulsifier, surfactant, filler) and percentages of **ALL** components of the mixture (including non-hazardous components and impurities) should be provided. This information may be best expressed in tabular form. If the composition is variable, please ensure to state the limits.

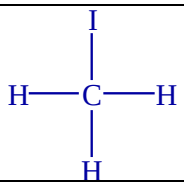
If there are commercial reasons for not providing full information in the main part of the form, alternative approaches must be discussed with and agreed by ERMA New Zealand. These must include the provision of a unique identifier of some kind.

(See comments under “Section 3.1 of Form” in the User Guide)

RIPPER 500 is a 50:50 mixture of Iodomethane and Chloropicrin.

Identification of the actives:

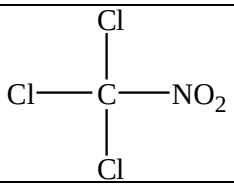
1. Iodomethane

Chemical name (IUPAC name)	Iodomethane
CAS number	74-88-4
Emperical Formula	CH_3I
Molecular weight	142.0
Structural formula	
Physical State	Slightly yellow and opaque in colour, turns brown on exposure to light.
Odour	Pungent ether-like odour. Odour threshold: 0.005ppb. Odour not determined in a regulatory study because of toxicity concerns.
Stability	Turns brown on exposure with moisture and light. The substance decomposes on heating above 270C° producing hydrogen iodide Reacts violently with strong oxidants. Reacts violently with oxygen at 300°C causing explosion hazard.
Boiling point	42.5°C
Melting point	-66.5°C
Vapour pressure	50kPa @ 20°C
Relative vapour density	4.9 (air=1)
Relative density	2.28 g/ml
Log Pow	1.51-1.69
Solubility in water	1.4 g/100ml at 20°C
Solubility in other solvents	Miscible in most organic solvents
Ozone depleting potential (ODP)*	0.0015 (c.f ODP of methyl bromide = 0.38)
Flammability	Non flammable
pK_a	1.51

* The ODP is the ratio of the impact on ozone of a chemical compared to the impact of a similar mass of CFC-11. Thus, the ODP of CFC-11 is defined to be 1.0.

* The ODP is the ratio of the impact on ozone of a chemical compared to the impact of a similar mass of CFC-11. Thus, the ODP of CFC-11 is defined to be 1.0.

2. Chloropicrin

Chemical name (IUPAC name)	Nitrotrichloromethane
CAS number	76-06-2
Emperical Formula	CCl_3NO_2
Molecular weight	164.4
Structural formula	
Physical State	Slightly oily and slightly liquid.
Odour	Intensely irritating tear gas odour.
Stability	Chloropicrin undergoes hydrolysis in the presence of light and microorganisms.
Boiling point	112°C
Melting point	-64°C
Vapour pressure	2.7kPa @ 20°C
Relative vapour density	5.7 (air=1)
Relative density	1.7 g/ml
Log Pow	2.09
Solubility in water	0.162 g/100ml at 20°C
Solubility in other solvents	Miscible in most organic solvents
Ozone depleting potential (ODP)*	$5.6x10^{-5}$
Flammability	Non flammable
pK_a	Not applicable

* The ODP is the ratio of the impact on ozone of a chemical compared to the impact of a similar mass of CFC-11. Thus, the ODP of CFC-11 is defined to be 1.0.

3.2 Provide information on the chemical and physical properties of the proposed substance(s).

Provide as much information as possible on the chemical and physical properties of the substance(s) [at 20°C and 1 atmosphere unless otherwise stated] eg

- Appearance (colour, odour, physical state or form)
- pH
- Density
- Vapour pressure
- Boiling/melting point
- Solubility in water
- Water/octanol partitioning co-efficient

For mixtures, information is required on the chemical and physical properties of the mixture itself. However, if this information is not available, you should provide information on the chemical and physical properties of EACH hazardous component of the mixture

(See comments under “Section 3.2 of Form” in the User Guide)

The following information is provided by Arysta:

Physical Property	Ripper 500
Colour	Clear to light yellow
Physical State	Liquid
Odour	Acrid odour
Flammability	Not combustible
Explosivity	Does not contain potentially explosive components.
Storage stability	Stable for 1 year at 25˚C
Solubility	Not available.
Corrosivity	Product not corrosive to recommended packaging. Product does corrode mild steel containers in the presence of moisture.
pH	5.5 at 30.7˚C in 1 % w/v emulsion in water.
Viscosity	0.766 cP at 22˚C
Density	1.91 kg/L at 22.5˚C

3.3 Provide information on the hazardous properties of the substance(s).

Information should be provided on the hazardous properties of the substance(s) known to the applicant. You must consider each of the six hazardous properties below and provide information on those hazardous properties that trigger any threshold level. If you wish, you may assign the relevant HSNO classification category to each hazardous property that exceeds these threshold levels.

- explosiveness
- flammability
- oxidising properties
- corrosiveness
- toxicity
- ecotoxicity

If your substance is a mixture and you cannot provide direct information on its hazardous properties, you can apply mixture rules to the hazardous components of the mixture. If you do this, then you will need to provide information on the hazardous properties of each hazardous component of the mixture, and show your workings.
(See comments under “Section 3.3 of Form” in the User Guide).

The hazardous properties of RIPPER 500 have been assessed by ERMA and have been published the E & R report. The following gives a summary of this assessment.

Hazardous Properties	Ripper 500
Acute Toxicity (Oral)	6.1C
Acute Toxicity (Dermal)	6.1B
Acute Toxicity (Inhalation)	6.1A
Skin Irritation/Corrosion	6.3A
Eye Irritation/Corrosion	8.3A
Inhalation Sensitisation	6.5A
Contact sensitisation	6.5B
Carcinogenicity	6.7B
Reproductive/developmental toxicity	6.8B
Target Organ Toxicity	6.9A
Aquatic Ecotoxicity	9.1A
Soil Ecotoxicity	9.2A
Ecotoxicity to terrestrial vertebrates	9.3A
Ecotoxicity to terrestrial invertebrates	Lack of data

The active ingredients have been classified and transferred by ERMA as follows:

Iodomethane: 6.1A, 6.3A, 6.7B, 9.3A

Chloropicrin: 6.1A, 6.3A, 6.5A, 6.9A, 8.3A, 9.1A, 9.2A, 9.3B

Hazardous Property	RIPPER® 500	Classification
Explosivity	ERMA does not consider any of the components of RIPPER® as explosive. None of the ingredients are listed as explosive in the United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG) Model Regulations.RIPPER® does not trigger the threshold for explosivity.	Not triggered
Flammability	None of the components of RIPPER® are considered by ERMA to be flammable. The mixture is not combustible. RIPPER® does not trigger the threshold for flammability.	Not triggered
Oxidizing	None of the ingredients present at greater than 0.1% are listed by UNRTDG as oxidisers. RIPPER® does not trigger the threshold for Oxidizers.	Not triggered
Corrosivity	No test data exists for RIPPER®, however Ripper may cause severe eye irritation with eye damage if splashed occur. RIPPER® should be classified as 8.3A – eye corrosive.	8.3A

Acute toxicity	Inhalation tox	Iodomethane and Chloropicrin have been classified by ERMA as 6.1A. This toxicity is due to the inhalation toxicity of these two active ingredients of RIPPER®. The calculated LC_{50} of all the mixtures of RIPPER® will be <0.5 mg/L and hence RIPPER® will trigger 6.1A (inhalation) classification.	6.1A
	Dermal tox	Iodomethane has an LD_{50} (dermal) of between 200 and 1000mg/kg which would trigger a 6.1C (dermal) acute toxicity classification. No LD_{50} data for chloropicrin has been found. ERMA have assessed RIPPER 500 as 6.1B	6.1B
	Oral toxicity	The risk phrases for chloropicrin and iodomethane include "harmful if swallowed" and "toxic if swallowed". ERMA have assessed Ripper 500 as 6.1C	6.1C
Skin irritation		Chloropicrin and Iodomethane are both classified as 6.3A skin irritants.	6.3A
Eye irritation		See corrosivity	Corrosive
Skin/respiratory sensitisation		No test data is available for the mixture itself. Chloropicrin is classified by ERMA as a sensitizer (respiratory, 6.5A). Therefore RIPPER® is considered to be a respiratory sensitizer and is classified as 6.5A. In addition ERMA has classified the mixture as a contact sensitiser	6.5A/6.5B
Mutagenicity		None of the ingredients are considered mutagenic or possibly mutagenic to humans.	Not triggered
Carcinogenicity		Iodomethane is a suspected carcinogen. NIOSH considers iodomethane to be a potential occupational carcinogen. ERMA has classified Iodomethane as a 6.7B carcinogen. Chloropicrin not classified as a human carcinogen by ERMA. ACGIH classify chloropicrin as A4; Not classifiable as a human carcinogen. RIPPER® triggers a 6.7B classification.	6.7B
Reproductive/ developmental		Neither iodomethane nor chloropicrin have been classified by ERMA to be a reproductive and developmental toxicant. However studies suggest that iodomethane may be a suspected reproductive/developmental toxicant.	6.8B
Systemic toxicity		Iodomethane is not classified as a system organ toxicant by ERMA. However some evidence was reviewed which suggested that iodomethane may cause effects to the nervous system and should be classified as 6.9A. Chloropicrin is considered a confirmed systemic toxicant and is classified by ERMA as 6.9A.	6.9A

Aquatic Ecotoxicity	Chloropicrin has been classified by ERMA as 9.1A. ERMA has not classified Iodomethane as an aquatic toxicant, but Iodomethane as been shown to have an EC_{50} of 0.57mg/L for algae and hence would trigger a 9.1A classification. RIPPER® is considered to be ecotoxic to the aquatic environment at the concentrations in this application – meets the criteria for class 9.1A.	9.1A
Soil Ecotoxicity	ERMA has not classified iodomethane as a soil toxicant. However Iodomethane is envisaged to be phytotoxic to any plant that it would contact. The intended use of this substance is as a soil fumigant, but contact will be limited to unwanted weed and grass seeds. Chloropicrin is considered toxic towards earthworms in the soil. On the basis of this toxicity, ERMA has classified chloropicrin as very toxic in the soil environment, 9.2A. RIPPER® will trigger the classification of 9.2A.	9.2A
Terrestrial Vertebrates Ecotoxicity	Iodomethane has been classified by ERMA as a 9.3A ecotoxicant. However the lowest LD_{50} (oral) for rat is 76 mg/kg bw. This would suggest that iodomethane should be classified as 9.3B. Chloropicrin has been classified by ERMA as a 9.3B ecotoxicant on the basis of the LD_{50} value of 250 mg/kg bw for oral rat. ERMA have assessed the mixture as triggering 9.3A classification.	9.3A
Terrestrial Invertebrates Ecotoxicity	None of the components of RIPPER® have been classified by ERMA as toxic towards terrestrial invertebrates. Non-target invertebrates outside the tarped area will not be exposed (e.g., bees), but Ripper will be toxic towards terrestrial invertebrates in the soil.	Lack of data

3.4	**Provide information on what will happen to the substance throughout its whole life from its introduction into New Zealand, its uses, through to disposal.** **The information provided needs to reflect the containment character of the application. It will be used in the development of exposure scenarios and the assessment of risks and hence the specification of the containment conditions.** (See comments under "Section 3.4 of Form" in the User Guide)

Iodomethane and Chloropicrin are currently stored at Leicesters Fumigation Napier. Iodomethane is a transferred substance with the ERMA approval code: HSR003006. Chloropicrin is a transferred substance with the ERMA approval code: HSR002939.

Blending will occur at Leicester Fumigation Napier as described in the part 5 application of Ripper.

The cylinders will be transported to the trial site using trucks owned and operated by Leicesters that comply with NZ transport regulations

Ripper will be applied at the trial site by Leicesters Fumigation using shank application equipment. The treated soil will immediately be sealed with VIF film.

Detailed information of this is available in the trial plan.

Any Ripper not used at the trial site will be returned to Leicesters Fumigation on the transport detailed above and stored under controlled conditions.

3.5.	**Provide information on the quantity of the substance proposed to be imported or manufactured.** This information is used in the development of exposure scenarios and the assessment of risks. (See comments under "Section 3.5 of Form" in the User Guide)

Raw ingredients are already present in NZ under existing approvals. Refer to trial plan for quantities manufactured and used under this in containment application.

Section Four – Information on the Proposed Containment System

4.1 Provide information on the proposed containment system.

It is essential that good information is provided on the containment system because the adequacy of containment in conjunction with the hazardous properties of the substance will have a major impact on whether or not approval is given.

You will need to provide a description of the containment proposed AND information on how you intend to address the following issues (proposed controls):

- methods for preventing the escape of the contained hazardous substance and preventing the contamination of the facility.
- methods for excluding unwanted organisms from the facility or to control organisms within the facility
- methods for excluding unauthorised people from the facility
- methods for preventing unintended release of the substance by experimenters
- methods for controlling the effects of any accidental release of the substance
- inspection and monitoring requirements of the containment facility

A management plan may be attached as an appendix. This plan should specify the procedures for implementing the above methods for containing the substance(s), and provide details of the qualifications of the person responsible for implementing those controls.
(See comments under “Section 4.1 of Form” in the User Guide)

Prevention of escape of the hazardous substance – Note: further information is available in the trial plan.
There are several possible routes by which the hazardous substance could escape from containment:

i) Inadequate supervision of the trial.
The trial will be supervised by Mike Allan Arysta's Global Development Manager for Ripper. All Leicester staff involved have satisfied Arysta's Stewardship and training requirements

ii) Inappropriate storage prior to use
Ripper will is stored at an approved facility (Leicesters Fumigation) and will be transported to the trial site on Leicester owned and operated trucks.

iii) Release of Ripper during and after use
The cylinder containing Ripper will be connected to the application equipment by a licenced fumigator-in-charge (In this incidence Leicester staff who have passed Arysta's stewardship certification requirements) . The cylinder valve is not opened until the cylinder is connected to the application equipment. When the application is finished all cylinder valves are closed, the safety cap and valve protection bonnet are replaced and the cylinder is returned to Leicesters Fumigation storage facility in Napier
In the event of an escape (e.g. broken hose, a leak developing), the operator can close a valve which immediately stops product flow and directs the remaining product into the ground through an emergency purge system. Application equipment will be evaluated and inspected prior to use to ensure there are no leaks or cracks and that all hoses are correctly fitted before application commences.

iv) Escape of gas from the soil being fumigated
Minimised by ensuring correct soil moisture conditions and the correct application of VIF film. Product is injected into the soil at a minimum depth of 25cm and immediately covered with VIF plastic as a barrier to reduce emissions. Ensuring this will be the responsibility of the manager / licensed fumigator-in-charge. The area being fumigated will be used for strawberry fruit so the VIF film will not be lifted. The fumigation unit provides a one pass operation applying fumigant and laying plastic film Ripper is delivered under nitrogen from the fumigation unit to the base of the application tynes, immediately behind a rotary hoe, and the soil surface is sealed with VIF film at the same time. Gas levels will be monitored to ensure there are no leaks within the treated area from either the equipment or the VIF film

v) Inadequate supervision
Fumigation will be conducted in accordance with the HSNO controls for Ripper, including use of qualified fumigators and specified safety precautions

vi) Methods for preventing unwanted organisms entering the treatment area
The trial will be conducted within a commercial strawberry block using VIF film . There will no animals or livestock in the area.

vii) Methods for excluding unwanted people from the facility
A prescribed buffer zone will be established around the area being fumigated. The site will be placarded warning fumigation is in progress in the prescribed way. The HSNO controls for Ripper application prohibit entry into the treatment area other than by appropriately qualified personnel wearing the prescribed PPE, and they make it an offence to remain in a treatment area after being instructed to leave the treatment area (Regulation 6.)
All personnel handling Ripper and using the product are required to wear the prescribed PPE. (loose fitting or well ventilated long sleeve shirt and long pants, shoes and socks, an air purifying respirator fitted with a 3M brand No 60928 cartridge filter or equivalent, a full face shield or safety glasses with temple, brow and side protection if the air concentration of chloropicrin is below 0.1ppm If the concentration of chloropicrin is between 0.1ppm and 4.0ppm a full face respirator is required. Above 4ppm a self contained breathing apparatus is required.
Full details of how to safely handle, transport and apply Ripper are contained in the Arysta Ripper Stewardship and Training Manual which is the reference document for personnel accreditation.

Section Five: Identification and Assessment of Risks

In completing this section, it is important that you take account of the proposed containment system you described in Section 4. We are particularly interested in knowing about risks that may still remain with the containment system in place. You will need to consider the effects on the environment and public health including any social effects. For more details see comments under "Section Five of Application Form" in the User Guide.

You should also take account of the quantity of material involved and the number of different locations that may be involved.

Complete this section as far as you can. If the analysis provided is incomplete, then it will be completed by ERMA New Zealand. However, the costs of doing this will be chargeable.

5.1 **Identify all of the risks of the substance(s).**

Include information on potentially significant possible risks of the substance and whether or not these risks are likely to be significant. It is important to think about the source of the risk ie the way in which the risk is created (the exposure pathway), and then the consequences of exposure. Risks should be considered in relationship to:

- the sustainability of native and valued introduced flora and fauna
- the intrinsic value of ecosystems
- public health (including occupational exposure)
- the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, valued flora and fauna and other taonga
- the economic and related benefits to be derived from the use of the hazardous substance
- New Zealand's international obligations.

(See comments under "Section 5.1 of Form" in the User Guide)

RIPPER (methyl Iodide and Chloropicrin) will be used in conjunction with VIF film to control soil borne insects, weed seeds, and diseases associated with strawberry production.

A well sealed soil surface is required to ensure adequate concentrations of the fumigant (Ripper) are maintained for the required time period. In the case of soil being treated for strawberry fruit production the VIF film is not lifted. Planting holes are not cut for a minimum of 14 days following treatment.
The US EPA, in reviewing information available on raise bed fumigation using VIF film concluded that there will be less diffusion into the atmosphere with the use of VIF film than conventional LDPE films.

The control of Ripper following fumigation is achieved with a minimum 30m buffer zone around the entire treated area as well as field monitoring. This will result in protection of humans and the environment
No impact is expected on Maori or their culture as the product is very similar to the fumigants already approved for use in New Zealand.

5.2	Provide an assessment of those risks, costs, and benefits identified in Section 4.1 which might be significant. This section excludes risks, costs, and benefits which relate specifically to Māori taonga or to international agreements. See Sections 4.3 and 4.4 below for those aspects. Assessments only need to be done for those risks, costs and benefits which Section 4.1 shows might be significant. Section 4.2 in the User Guide provides a detailed explanation of how to do an assessment. Remember that assessments can be qualitative ie based on judgements, if there is no analytical information available. But it is essential that a firm conclusion is drawn about the size and likelihood of the risks, costs or benefits, and also about the certainty of the assessment. *In assessing risks especially, it is important to take account of the extent to which risks will be reduced by the default or other controls (see Section 3.4 above and 4.5 below). (See comments under "Section 4.2 of Form" in the User Guide)*
Section 4 identifies likely sources of risk and describes the procedures that will be in place to prevent or minimise any adverse effects. The application is for the application of a small amout of Ripper (200Kg) to a small area (0.6Ha maximum).	

Section Six – International Considerations

6.1 ERMA New Zealand is interested in whether this substance (or any of its components) has been considered by any other regulatory authority in New Zealand or by any other country. If you are aware of this, please provide details of the results of such consideration.
(Optional) (See comments under "Section 6.1 of Form" in the User Guide)

Ripper is now approved for use in 47 US States. It is also approved for use in Japan for uses in soil application. Applications for registration have been submitted in Australia, Turkey, Morocco, Mexico, Guatemala and Costa Rica.

A full Part 5 application has been launched with ERMA in 2008.

Section Seven – Miscellaneous

7.1 Provide a glossary of scientific and technical terms used in the application.
(See comments under "Section 7.1 of Form" in the User Guide)

VIF Virtually Impermeable Film

7.2 Provide here any other information you consider relevant to this application not already included.
(See comments under "Section 6.2 of Form" in the User Guide)

Not applicable.

Section Eight – Summary of Public Information

The information provided in this section may be used in the Authority's public register of substances required under Section 20 of the HSNO Act.
This summary information will be used to provide information for those people and agencies (eg Ministry for the Environment, Department of Conservation, Regional Councils, etc), who will be notified of the application, and for potential submitters who request information. This information will also be used to prepare the public notice of the application.
For these reasons, applicants should ensure that this summary information does not contain any commercially sensitive material.

8.1 Name of the substance(s) for the public register:

Please use a maximum of 80 characters.
(See comments under "Section 7.1 of Form" in the User Guide)

Ripper 500

8.2 Purpose of the application for the public register:

This should include (in a maximum of 255 characters) an abstract giving information on the intended use of the substance and why an application is needed based on its hazardous properties.
(See comments under "Section 7.2 of Form" in the User Guide)

The purpose of the application is threefold:

i) To evaluate Ripper at lower rates of application under VIF to support proposed label claims

ii) To demonstrate that Ripper applied under VIF provides beneficial control of weeds, diseases, and insect pests associated with strawberry production.

iii) To allow accreditation to Arysta standards for field application by Leicester personnel

8.3 Use Categories of the substance(s):

ERMA New Zealand has adopted the system of use categories developed by the European Union, which identify various functional uses of substances. This information is pertinent to the assessment of exposure scenarios and the determination of risk and is also useful for building up a profile of the substance. There are three sets of use categories. Within each of these, applicants should state which use categories are relevant to all intended uses of the substance(s).

- Main category: There are four main categories - see User Guide for details.
- Industry category: There are 16 industry categories - see User Guide for details.
- Function/Use category: There are 55 function/use categories - see User Guide for details.

(Optional) (See comments under "Section 7.3 of Form" in the User Guide)

Main category	3
Industry category	1
Function/use category	38

8.4 Executive Summary:

In this section, the applicant should provide a summary of information contained in this application, including:

- the identification of the substance, its hazardous properties, intended uses, and disposal
- an assessment of the adverse effects of the substance
- information on the proposed containment

(See comments under "Section 8.4 of Form" in the User Guide)

1.The purpose of this application is to enable field trials using Ripper in conjunction with VIF film (virtually impermeable film) to:

i) Evaluate Ripper at lower rates of application under VIF to support proposed label claims

ii) Demonstrate that Ripper applied under VIF provides beneficial control of strawberry weeds, diseases, and insect pests.

iii) Allow accreditation to Arysta standards of field application by Leicester personnel

2. Ripper is a 50/50 mixture by weight of methyl iodide and chloropicrin.

Based on the ERMA classifications for the active ingredients, the relevant classifications for **RIPPER®** have been assessed as: 6.1A (inhalation), 6.1B (dermal), 6.1B/C (oral), 6.3A (skin irritant), 8.3A (eye corrosive), 6.5A (respiratory sensitizer), 6.7B (suspected carcinogen), 6.8B (reproductive/ developmental toxicant), 6.9A (system organ toxicant), 9.1A (aquatic ecotoxicant), 9.2A (soil ecotoxicant), 9.3A (toxic to terrestrial vertebrate).

Ripper is particularly hazardous to exposed living organisms including Humans above certain concentrations. It is proposed that Ripper be used for treating soil prior to the planting of strawberry runners, and strawberry plants for fruit production. Ripper will not be disposed. All unused product will be returned to an appropriate storage facility (Leicesters Fumigation)

3. The most likely adverse effect will occur if Ripper is accidentally released to the air during storage, transport, and application, and unprotected personnel are exposed to the product at concentrations that are potentially harmful.

4. Detailed information is provided on how Ripper will be contained at all stages of its handling and use. All personnel involved in the handling and storage of Ripper have completed a Ripper accreditation program detailed in the Ripper Stewardship and Training Manual.

CHECKLIST

Mandatory sections filled out	Yes
Appendices enclosed	Yes
Fee enclosed	Yes
Application signed and dated	Yes

Name:
Address:
Phone:
E-mail:
Signature:
Dated: