

ENVIRONMENTAL RISK MANAGEMENT AUTHORITY  
 NGĀ KAIWHAKATŪPATO WHAKARARU TAIAO



## FORM HS1

**Application for approval to**  
**IMPORT OR MANUFACTURE ANY HAZARDOUS**  
**SUBSTANCE FOR RELEASE**

**under section 28 of the**  
**Hazardous Substances and New Organisms Act**  
**1996**

**Name of Substance(s): DuPont Arilon® Insecticide**

**Applicant: DuPont (New Zealand) Ltd**

**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.

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## 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:** DuPont (New Zealand) Ltd  
**Address:** PO Box 97 641 SAMC, Manukau City,  
New Zealand  
**Phone:** 09 268 5500  
**Fax:** 09 268 5470

### 1.2 The applicant’s location address in New Zealand (if different from above):

**Address:** DuPont (New Zealand) Ltd  
98 Kerr’s Road, Manukau City,  
New Zealand

### 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:** Mike Cornwell  
**Position:** Consultant  
**Address:** 24 Belle-Mer Place, Whangaparaoa 1463,  
New Zealand  
**Phone:** 09 424 4141  
**Fax:** 09 268 5490  
**Email:** cornwemh@actrix.co.nz

## Section Two – Application Type and Related Approvals Required

This form is only to be used for an application to import and/or manufacture a hazardous substance for ‘release’ and if it does not meet the requirements for rapid assessment. Please note that it is the substance(s) which is approved, and thus the approval covers both import and manufacture.

If you are making the application for some other reason, you will need a different form.

### 2.1 Is the information in this application relevant to import, manufacture or both:

(See comments under “Section 2.1 of Form” in the User Guide)

- |  |     |
|--|-----|
| • Import only?   | Yes |
| • Manufacture only?  | No  |
| • Import and manufacture?  | No  |
| • If import only, indicate whether or not manufacture is likely in New Zealand | No  |

### 2.2 If the information in the application relates to manufacture in New Zealand, provide information on the proposed manufacturing process and any alternatives.

(See comments under “Section 2.2 of Form” in the User Guide)

N/A

### 2.3 If you have reasons for not providing detailed information in this application, explain what they are and provide some justification.

An example of a reason for not giving detailed information is where an approval has been given by another jurisdiction and information that led to that approval can be referenced or the substance will be used in low risk situations or ways.

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

N/A

### 2.4 If this substance(s) needs an approval under any other legislation, has an application for this approval been made?

(Optional) (See comments under “Section 2.4 of Form” in the User Guide)

#### Name of Approval

#### Application made

Agricultural Compounds and Veterinary Medicines Act 1997

NA

Food Act 1981

NA

Medicines Act 1981

NA

Chemical Weapons (Prohibition) Act 1996

NA

Radiation Protection Act 1965

NA

Biosecurity Act 1993

NA

Resource Management Act 1991

NA

Other (please specify):

NA

## 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.

You will need to provide a brief description of where the information in the application has been sourced from, eg from; inhouse data, research, technical literature, etc. See the introductory comments under “Section Three of the Form” in the User Guide for more details.

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 substance(s).

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

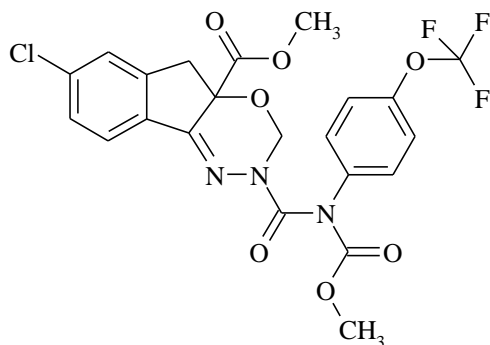
- Chemical Name (Chemical Abstracts Preferred Index name or IUPAC name)
- Common Name
- Synonyms
- Trade Names
- CAS Registry Number
- Molecular Formula
- Structural Formula
- Significant impurities

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)

<b>Trade Name:</b>	DuPont Arilon Insecticide
<b>Active ingredient</b>	
<b>Common name:</b>	Indoxacarb
<b>Chemical Name:</b>	(R,S)-methyl 7-chloro-2, 5-dihydro-2-[[[(methoxycarbonyl)[4-(trifluoromethoxy)phenyl]amino]-carbonyl]indeno[1,2-e][1,3,4]oxadiazine-4a(3H)-carboxylate
<b>Code Number:</b>	DPX- MP062, DPX-KN128 (S isomer)
<b>CAS Number:</b>	173584-44-6

**Structural formula:****Empirical formula:** C<sub>22</sub>H<sub>17</sub>ClF<sub>3</sub>N<sub>3</sub>O<sub>7</sub>**Molecular weight:** 527.8**Formulation:** Confidential-see Appendix**3.2 Provide information on the chemical and physical properties of the 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)

Chemical/Physical Property	
Physical State	Granule
Colour	Tan
Odour	Non descript
pH	8.6 (1% solution)
Density	0.60mg/mL
Vapour pressure	2.5 X10 <sup>(-8)</sup> Pa (pure active constituent)
Solubility in water	0.2ppm@ 25°C (pure active constituent)
Flashpoint	Not relevant
Melting point	88.1°C (pure active constituent)

### 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).

**See SDS-Confidential appendix**

Explosiveness	Not triggered.
Flammability	Not triggered
Oxidising Properties	Not triggered
Toxicity	
Subclass 6.1(Acute toxicity)	Triggered-(Category 6.1D)
Subclass 6.3 (Skin irritant)	Not triggered
Subclass 6.4 (Eye irritant)	Not triggered
Subclass 6.5 (Sensitiser)	Not triggered
Subclass 6.6 (Mutagen)	Not triggered
Subclass 6.7(Carcinogen)	Not triggered
Subclass 6.8 (Reproductive/development toxicant)	Not triggered
Subclass 6.9 (Target organ, systemic toxicant)	Triggered-(Category 6.9A)
Ecotoxicity	
Subclass 9.1 (Aquatic effects)	Triggered-(Category 9.1A)
Subclass 9.2 (Soil toxicity)	Not triggered
Subclass 9.3 (Terrestrial vertebrate toxicity)	Triggered-(Category 9.3C)
Subclass 9.4 (Terrestrial invertebrate toxicity)	Triggered-(Category 9.4A)

### **3.4 Identification of the default Controls on the substance(s).**

A range of default controls are triggered by the hazardous property classification(s) attached to the substance. If you wish, you can list what these default controls are. If you don't provide this information, ERMA New Zealand will do it for you. Regardless, you need to be aware of what the default controls are so that you can take them into account when assessing risks – see Section 4. **(Optional)** (See comments under “Section 3.4 of Form” in the User Guide)

#### **Default Controls**

Toxicity-6.1D, 6.9A – T1, T2, T3, T4, T5, T7

Ecotoxicity-9.1A, 9.3C, 9.4A – E1, E2, E3, E4, E5, E6, E7, E8

Identification – I1, I3, I8, I9, I11, I16, I17, I18, I20, I21, I23, I28, I29

Packaging – P1, P3, P13, P15, PG3.

Disposal – D4, D5, D6, D7, D8

Emergency Management – EM1, EM6, EM7, EM8, EM11, EM13

Approved Handler – AH1

### **3.5 Provide information on what will happen to the substance throughout its whole life from its introduction into New Zealand, its uses, through to disposal.**

This information is used in the development of exposure scenarios and the assessment of risks, costs and benefits and should therefore be as expansive as possible. (See comments under “Section 3.5 of Form” in the User Guide)

#### **Transport**

DuPont Arilon Insecticide will arrive from overseas into Auckland by either air or sea freight packaged in 500g HDPE bottles. Shippers and individual packages will be labelled in accordance with requirements of UNRTG and Identification legislation under the HSNO Act 1997. (See appendix for proposed labelling and MSDS). From the port it will be transported to the DuPont NZ Ltd warehouse situated at 98 Kerrs Road, Manukau City, Auckland.

#### **Storage**

DuPont Arilon Insecticide will be stored primarily in the dedicated chemical warehouse of DuPont New Zealand Ltd. This store has PRINCE accreditation, location certificate and two approved handlers on site. It is bunded, well equipped with fire extinguishers and carries the approved signage. The staff are trained in and are familiar with the procedures for separation of products according to their hazardous properties and in safe handling, storage and preparation of products for transportation.

Distributors too have dedicated pesticide storage facilities and staff trained in the safe handling and storage of pesticide products and dealing with any emergencies that might arise.

MSDS's for products are readily available to all store workers and the customers.

#### **Useage**

DuPont Arilon Insecticide is a water dispersible granular insecticide to be mixed in water and applied with a knapsack sprayer for residual control of cockroaches, ants, houseflies, spiders and fleas in and around domestic, commercial, industrial and public buildings. Use rates are 12.5 or 25g/5litres of water, using the lower rate as a maintenance or for shorter term residual life and the higher rate for extended residual control or for heavy insect infestations.

For non-absorbent surfaces apply 2.5-5L of spray per 100 sq metre and for absorbent surfaces 5-10L per 100sq metre. Depending on insect pressure, the insecticide might be applied 1-2 times per year (domestic) and 1-3 times per year (commercial)

#### **Disposal**

The preferred option will be to use as per the label directions.

Unused product can be stored for at least two years.

Empty containers will be recycled or disposed of at an approved landfill.

## Section Four: Risks, Costs and Benefits

These are the positive and adverse effects referred to in the HSNO Act. It is easier to regard risks and costs as being adverse (or negative) and benefits as being positive. In considering risks, cost and benefits, it is important to look at both the likelihood of occurrence (probability) and the potential magnitude of the consequences, and to look at distribution effects (who bears the costs, benefits and risks).

You will need to consider the effects on the environment and human health and welfare, including any social effects.

In each section set out below, it might be easier for you, and most useful for ERMA New Zealand, if the information is set out under the following three sub sections:

- Costs and benefits which can be stated in monetary (dollar) terms
- Non-monetary risks and costs
- Non-monetary benefits.

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.

You will need to provide a brief description of where the information in the application has been sourced from, eg from; inhouse research, independent research, technical literature, community or other consultation.

(See comments under “Section 4 of Form” in the User Guide)

### 4.1 Identify all of the potential risks, costs and benefits of the substance(s)

Identification is the first step in assessing risks, costs and benefits. The introductory part of “Section 4 of Form” in the user Guide provides detailed guidance on what kinds of costs, risks and benefits should be thought about. 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 and likelihood of exposure.

You should try to think as widely as possible about every potential risk, cost and benefit and give a brief description. The range of matters that you will need to think about is discussed in the User Guide. You must also decide how significant that risk, cost or benefit is likely to be. If the risk, cost, or benefit is obviously not significant (and you can give reasons), then there is no need to further assess that risk, cost, or benefit.

(See comments under “Section 4.1 of Form” in the User Guide)

### Potential Risks-Identification

#### Risks from Spillage during Transportation, Storage or during Use and Disposal

##### Human health

The possibility of human exposure to the substance although very slight, does exist though accidental spillage during transportation or storage and through misuse by applicators.

The substance is of slight to moderate acute orally toxicity (Acute oral LD<sub>50</sub> 1,909mg/kg rat)(6.1D), and presumed to be a human target organ toxicant (6.9A-Blood and the Hematopoietic system). **See Confidential appendix**

### Environment

The substance triggers 9.1A ( aquatic organism toxicant),9.3C ( terrestrial vertebrate toxicant) and 9.4A(terrestrial invertebrate toxicant) classifications. Accidental spillage could result in environmental risks to aquatic organisms if the spill is not immediately contained.

Air-low risk of air contamination. Vapour pressure is very low,(2.5X10<sup>-8</sup> Pa (25°C)

Soil-low risk of environmental damage through soil contamination-short soil life DT50 17 days (Tama silt loam), low toxicity to worms - LD50 (14 days) > 1,250mg/kg soil, NOEC 703mg/2kg soil. Based on body weight. The substance is considered low risk to soil microflora.

Water-moderately toxic to fish, LC50 (96hr) bluegill sunfish 0.90,rainbow trout 0.65mg/L. Daphnia magna LC50 (48hrs) 0.60mg/L. Substance degrades rapidly in water, average DT50 for aquatic hydrolysis is 2 days (pH5). Bioconcentration factor (BCF) in fish averaged 90 indicating no evidence of accumulation.

Slightly to moderately toxic to terrestrial vertebrates eg birds acute oral LD50 bobwhite quail 98mg/kg, acute oral dietary LC50 bobwhite quail 808 mg/kg, mallard duck > 5,620 mg/kg.

Very toxic to many terrestrial invertebrates (insecticidal) but virtually non toxic to many beneficial spp. Low oral toxicity to bees LD50 23.33µg/bee, contact LD50 1.34µg/bee. **See confidential appendix**

### Costs

Any potential cost to the economy, society or the environment through the importation of Arilon Insecticide will be virtually eliminated by the HSNO controls, product labelling restrictions, use of designated couriers and storage in purpose built warehouses. The product will be applied by professional pest control operators. Monetary costs associated with the substance will be the financial cost to the purchaser/ user of the product.

### Benefits

The availability of “Arilon” Insecticide will offer pest control operators a product with lower toxicity than many currently used for industrial/domestic pest control while also eliminating the hazard of flammability of aerosols. Indoxacarb is a relatively new insecticide active ingredient offering the potential to assist in managing insect resistance and is already in use in New Zealand in formulations of other insecticide preparations for control of cockroaches and ants. Two insecticides used in horticulture containing indoxacarb are also approved by ERMA and ACVM ( “Avaunt 30WG (300g/kg) and “Steward” 150SC(150g/L) The major benefit of insecticides based on indoxacarb will be to the end user and the environment.

#### **4.2 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)

## Identification and Assessment of Significant Risks

The evaluation of risks to the biological and physical environment with controls in place is as follows:

<b>Exposure Route</b>	<b>Potential Effect</b>	<b>Likelihood of Adverse Effect Occurring</b>	<b>Magnitude of Adverse Effect</b>	<b>Level of Risk</b>
Accidental release during import, transport, or storage resulting in substance entering a water body or being available to terrestrial vertebrates or invertebrates	Death or adverse effect on aquatic organisms or terrestrial vertebrates or invertebrates	Highly improbable	Minor to moderate	Insignificant to very low
Release during use resulting in substance entering a water body or being available to terrestrial vertebrates or invertebrates	Death or adverse effect on aquatic organisms or terrestrial vertebrates or invertebrates	Highly Improbable	Minor to moderate	Insignificant to very low
Incorrect disposal of the substance resulting in substance entering a water body or being available to terrestrial vertebrates or invertebrates	Death or adverse effect on aquatic organisms or terrestrial invertebrates or invertebrates	Highly Improbable	Minor to moderate	Insignificant to very low

The evaluation of risks to human health and safety with the controls in place is as follows:

<b>Exposure Route</b>	<b>Potential Effect</b>	<b>Likelihood of Adverse Effect Occurring</b>	<b>Magnitude of Adverse Effect</b>	<b>Level of Risk</b>
Exposure to substance during import, storage or transport	Adverse health effect	Improbable	Minimal to Minor	Insignificant to very low
Worker exposure during use (episodic)	Adverse health effect	Improbable	Minimal to Minor	Insignificant to very low
Worker exposure during use (repeated)	Adverse health effect	Improbable	Minor to Moderate	Very low to low
Exposure to substance during disposal of unwanted/surplus substance or containers	Adverse health effect	Highly Improbable	Minimal to Minor	Insignificant

## Control measures to minimise risk

Source of Risk	Elements at Risk	Methods to Identify and manage	Level of Risk
Spillage through transport, storage accident ..	Human exposure	HSNO Controls, SDS, HAZNOTE	Low
	Aquatic life	Designated courier .Designated and accredited warehouse.	Low
Use/container disposal	Human exposure Aquatic life	HSNO controls, labelling, MSDS,protective clothing, trained professional operators	Low

## Identification and Assessment of Benefits

Benefit	Impact	Reason
Low hazard insecticide	Significant	Replacement for older more hazardous insecticide actives eg organo-phosphates, carbamates. Applies to transportation, storage, use, disposal and safety to pets
New mode of action active ingredient	Significant	Tool for insect resistance management

### **4.3 Provide an assessment of any particular risks, costs and benefits which arise from the relationship of Māori and their culture and traditions with their taonga, or which are, for other reasons, of particular relevance to Māori.**

We have asked for a separate response in this area because these requirements are different to other risks, costs and benefits. These are explained in more detail in Section 4.3 of the User Guide. Please note that if there are potentially significant risks in this area, it will almost certainly be necessary to consult with Māori in preparing an assessment. (See comments under “Section 4.3 of Form” in the User Guide)

Potential risk to aquatic organisms through contamination of a waterway due to an accidental spillage is considered to be the only risk to Maori. These risks have been examined in section 4.1 above. This potential risk would be no greater and probably lower than the effects currently encountered due to the lower hazard classification of indoxacarb compared to older insecticides eg organo-phosphates. The Maori community normally accept the introduction of new innovative products that are easier to use and are less hazardous than current options. If used correctly the insecticide will have no detrimental effects on native flora fauna or on cultural, spiritual or ethical issues.

### **4.4 Provide an assessment of any risks, costs or benefits to New Zealand’s international obligations.**

This is a specialist area which ERMA New Zealand will handle. However, any information you are able to provide on relevant international agreements would help us and save time and cost. **(Optional)** (See comments under “Section 4.4 of Form” in the User Guide)

The importation of Arilon Insecticide for control of a range of insect pests in industrial/domestic situations within New Zealand would have no impact on New Zealand's international obligations.

The insecticide will be used in non-agricultural situations and labelled to ensure there is no contact with food, food utensils or food preparation surfaces.

#### **4.5 Provide information on the proposed management of the substance.**

This section should provide information on managing the effects identified and assessed in Sections 4.1 - 4.4 above. The starting point for this is the range of default controls triggered by the hazardous property classification(s) attached to the substance (see Section 3.4). You should describe how these controls would be implemented and indicate other means of managing risks. The information provided must be specific to the substance(s) and cover all areas of intended use. Reference should be made to Codes of Practice or standard operating procedures that will be followed. If changes to the default controls triggered by the substance classification are proposed, the reasons for these changes should be provided.

Please note that you will find it easiest to complete this section in conjunction with section 4.2. That is because the management of risks will influence their residual level.  
(See comments under "Section 4.5 of Form" in the User Guide)

The following regulations will be adhered to in the management of DuPont Arilon Insecticide-  
HSNO Act 1996. The relevant controls specified in the Act and identified in this application will be implemented-

Toxicity-6.1D, 6.9A – T1, T2, T3, T4, T5, T7

Ecotoxicity-9.1A, 9.3C, 9.4A – E1, E2, E3, E4, E5, E6, E7, E8

Identification – I1, I3, I8, I9, I11, I16, I17, I18, I20, I21, I23, I28, I29

Packaging – P1, P3, P13, P15, PG3.

Disposal – D4, D5, D6, D7, D8

Emergency Management – EM1, EM6, EM7, EM8, EM11, EM13

Approved Handler – AH1

NZ Standard NZS 5433:1999, Transport of Dangerous Goods on Land. (Includes-Classification, marking & labelling, packaging, documentation, segregation, placarding, training)

NZ Standard NZS 8409: 2004 Code of Practice for the Management of Agrichemicals (Includes-Land transportation, storage, disposal, occupational safety and health, fire, spill and transport emergencies)

Risk of Human Exposure and Environmental Risk **during transportation** would be managed by-

The imported pallet of containers will be shrink wrapped in plastic film to minimise loss or removal and thus minimise spillage during transit to the designated dangerous goods warehouse. Transportation will be provided by specially designated professional carriers such as Chemcourier Services. The carrier will be equipped for transport of hazardous materials, the vehicle will carry the appropriate placarding and the MSDS to enable appropriate action to be understood and activated in the case of an emergency. The vehicle operator will have a full kit of personal protective clothing, spill cleanup equipment and Emergency Response experience.

Risk of human exposure from accidental spill **in storage** would be managed by-

The DuPont warehouse is purpose built for the safe storage of many classes of products including highly hazardous substances. Storage controls are already in place. The warehouse is secure, fully bunded, has the appropriate signage and is equipped with first aid equipment, personal protective equipment and the appropriate clean up tools including absorbent materials. Included in the warehouse staff are two approved handlers, fully trained in the safe handling, storage and transportation requirements. They understand the emergency procedures in the case of fire or an accidental spillage of dangerous goods.

DuPont (New Zealand) Ltd have a 24 hr Emergency Response freephone number listed on labels, MSDS.

The product will be **used** by professional pest control operators who are trained in the correct handling and use of pesticide products. The product label provides information on correct method of mixing, application, safety precautions, protective clothing needed and instructions on correct disposal of the empty container.

Empty containers will be triple rinsed, with rinsate added to spray tank.  
If recycling is not possible the empty container will be punctured and disposed of at an approved landfill.

**4.6 Provide an overall evaluation of the combined impact of all of the risks, costs and benefits set out in sections 4.2, 4.3 and 4.4.**

Doing this overall evaluation is the main task of the Authority. However, you may wish to express a view on the relative importance of the different risks, costs and benefits and how they should be brought together in making a decision.

**(Optional)** (See comments under “Section 4.6 of Form” in the User Guide)

From the analysis provided in Sections 4.1, 4.2, 4.3 and 4.4 it is considered that the benefits of the substance will far outweigh the risks.

The risks are well understood and can easily be managed with the implementation of the controls identified.

## Section Five – International Considerations

**5.1 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 5.1 of Form” in the User Guide)

Ant and cockroach baits containing the active ingredient indoxacarb are already approved by ERMA . (Advion Ant Gel HSR07061, Advion Ant Bait Arena HSR 007792, Advion Cockroach Gel HSR05120) . The same formulations are also approved in many other countries such as Australia and USA,. Two horticultural insecticide products based on indoxacarb are also approved by ACVM and ERMA. They are Avaunt®30WG P5355, HSR000578 and Steward® 150SC Insecticide P5538, HSR000583.

## Section Six – Miscellaneous

**6.1 Provide a glossary of scientific and technical terms used in the application.**  
(See comments under “Section 6.1 of Form” in the User Guide)

BCF	Bioconcentration factor
DT <sub>50</sub>	Time (days) for 50% loss.
HSNO	Hazardous Substances and New Organisms
IPM	Integrated Pest Management
LC <sub>50</sub>	Lethal concentration that will kill 50% of the test organisms
LD <sub>50</sub>	Lethal dose to kill 50% of the test organisms/animals
MSDS	Material safety data sheet
NOEC	No effect level concentration
UNRTG	United Nations Recommendations on the Transport of Dangerous Goods

**6.2 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)

## **Section Seven – 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.

**7.1 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)

DuPont Arilon Insecticide

**7.2 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 this application is to gain approval to import DuPont Arilon Insecticide for control of cockroaches and other insects in homes, factories, restaurants, offices and other similar environments. An application is necessary because the substance triggers the HSNO thresholds for toxicity and ecotoxicity.

**7.3 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 4 – Wide dispersive use.

Industry category 6 - Public domain, non-agricultural pesticide.

Function/Use category 39-Pesticide-non-agricultural

#### **7.4 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 and intended uses
- an assessment of the risks, costs and benefits
- the methods implemented to manage the risks, particularly in relation to emergency management and disposal.

(See comments under “Section 7.4 of Form” in the User Guide)

DuPont Arilon Insecticide is manufactured in the USA and contains 20% of the active ingredient indoxacarb. Indoxacarb based insecticides have regulatory approval for use in New Zealand and are widely used throughout the world for control of a range of insects in vegetables, fruit crops as well as in formulations to control cockroaches and other insect pests in industrial/domestic situations.

The importation of this substance will enable local pest control operators significant advantages over older, currently used products in terms of reduced toxicity to humans, pets non flammability and reduced environmental impact.. The alternative mode of action assists in managing insect resistance.

DuPont Arilon Insecticide is classified as a hazardous substance by triggering thresholds for acute oral toxicity (6.1D) and target organ systemic toxicity (6.9B). It also triggers ecotoxicity thresholds - aquatic toxicity (9.1A), terrestrial vertebrate toxicity (9.3C) and terrestrial invertebrate toxicity (9.4A)

The importation of the substance poses minimal risk to humans and the environment. The risk of accidental spillage either during transit or storage can easily be managed. Transportation will be provided by specially designated professional carriers such as Chemcourier Services and storage of the substance will be in a warehouse, purpose built for the safe storage of many classes of products including highly hazardous substances and has a current ERMA Dangerous Goods Licence. Storage controls are already in place. The warehouse is secure, fully bunded, has the appropriate signage, first aid equipment, personal protective equipment and the appropriate spill clean up tools including absorbent materials. The storemen are fully trained in the safe handling, storage and transportation requirements and two of the staff are approved handlers. They understand the emergency reponse procedures in the case of fire or accidental spillage.

The product will be applied by professional pest control operators who are trained and equipped to handle industrial insecticide products. Use rates are 12.5 or 25g/5litres of water, using the lower rate as a maintenance or for shorter term residual life and the higher rate for extended residual control or for heavy insect infestations.

For non-absorbent surfaces apply 2.5-5L of spray per 100 sq metre and for absorbent surfaces 5-10L per 100sq metre. Depending on insect pressure, the insecticide might be applied 1-2 times per year (domestic) and 1-3 times per year (commercial)

The product will carry appropriate labelling providing instructions on protective clothing and correct procedures for handling, mixing and spraying as well as disposal of the empty container.

Used plastic containers, once completely empty, will be recycled or disposed of at an approved landfill.

# CHECKLIST

Mandatory sections filled out	Yes
Appendices enclosed	Yes
Fees enclosed	Yes-to be invoiced
Application signed and dated	Yes

Signed

Date 30/10/2009

M. J. Cornwell  
(Consultant to DuPont NZ Ltd)