



# SAFETY DATA SHEET

## DOW AGROSCIENCES (NZ) LIMITED

**Product name:** Prodigy™ Insecticide

**Issue Date:** 07.10.2015

DOW AGROSCIENCES (NZ) LIMITED encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Prodigy™ Insecticide

**Purpose:** Insecticide

#### COMPANY IDENTIFICATION

DOW AGROSCIENCES (NZ) LIMITED  
89 PARITUTU ROAD  
4342 NEW PLYMOUTH  
NEW ZEALAND

**Customer Information Number:**

0800-803-939

[fncust@dow.com](mailto:fncust@dow.com)

#### EMERGENCY TELEPHONE NUMBER

**24-Hour Emergency Contact:**

+64 6 751 2407

**Local Emergency Contact:**

0800 844 455

**For medical advice, contact the New Zealand Poisons Information Centre:**

0800 POISON (0800 764 766)

**Transport Emergency Only Dial:** 111

This SDS may not provide exhaustive guidance for all the HSNO controls assigned to this substance. The EPA website [www.epa.govt.nz](http://www.epa.govt.nz) should be consulted for a full list of triggered controls and cited regulations

### 2. HAZARDS IDENTIFICATION

#### Hazard classification

NEW ZEALAND HAZARDOUS SUBSTANCES CLASSIFICATION: Classified as hazardous according to criteria in the New Zealand Hazardous Substances (Minimum Degrees of Hazard) Regulations 2001. Refer to Section 15 for HSNO Approval Number.

**HSNO Hazard Classification:** 9.1B, 9.4A.

#### Hazard:

Toxic to aquatic life with long lasting effects.  
Very toxic to terrestrial invertebrates

#### Response:

Collect spillage

**Disposal:**

Dispose of contents/ container to an approved waste disposal plant.

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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Component	CASRN	Concentration
Methoxyfenozide	161050-58-4	< 25 %
Propylene glycol	57-55-6	< 10.0 %
Balance	Not available	> 65.0 %

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**4. FIRST AID MEASURES**

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**Consult the National Poisons Information Centre (0800 POISON (0800 764 766)) or a doctor in every case of suspected chemical poisoning. Never give fluids or induce vomiting if a patient is unconscious or convulsing regardless of cause of injury. If breathing difficulties occur seek medical attention immediately.**

**Description of first aid measures**

**General advice:** First Aid responders should pay attention to self-protection and use the recommended protective clothing (chemical resistant gloves, splash protection). If potential for exposure exists refer to Section 8 for specific personal protective equipment.

**Inhalation:** Move person to fresh air. If person is not breathing, call an emergency responder or ambulance, then give artificial respiration; if by mouth to mouth use rescuer protection (pocket mask etc). Call a poison control center or doctor for treatment advice.

**Skin contact:** Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.

**Eye contact:** Flush eyes thoroughly with water for several minutes. Remove contact lenses after the initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist.

**Ingestion:** No emergency medical treatment necessary.

**Most important symptoms and effects, both acute and delayed:** Aside from the information found under Description of first aid measures (above) and Indication of immediate medical attention and special treatment needed (below), any additional important symptoms and effects are described in Section 11: Toxicology Information.

**Indication of any immediate medical attention and special treatment needed**

**Notes to physician:** No specific antidote. Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient. Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment.

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## 5. FIREFIGHTING MEASURES

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**Hazchem Code:** 2X

**Suitable extinguishing media:** This material does not burn. If exposed to fire from another source, use suitable extinguishing agent for that fire.

**Unsuitable extinguishing media:** No data available

**Special hazards arising from the substance or mixture**

**Hazardous combustion products:** Under fire conditions some components of this product may decompose. The smoke may contain unidentified toxic and/or irritating compounds. Combustion products may include and are not limited to: Nitrogen oxides. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** If exposed to fire from another source and water is evaporated, exposure to high temperatures may cause toxic fumes.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. This material does not burn. Fight fire for other material that is burning. Contain fire water run-off if possible. Fire water run-off, if not contained, may cause environmental damage. Review the "Accidental Release Measures" and the "Ecological Information" sections of this (M)SDS.

**Special protective equipment for firefighters:** Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). If protective equipment is not available or not used, fight fire from a protected location or safe distance.

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## 6. ACCIDENTAL RELEASE MEASURES

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**Personal precautions, protective equipment and emergency procedures:** Use appropriate safety equipment. For additional information, refer to Section 8: Exposure Controls and Personal Protection.

**Environmental precautions:** Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12: Ecological Information.

**Methods and materials for containment and cleaning up:** Contain spilled material if possible. Small spills: Absorb with materials such as: Clay. Dirt. Sand. Sweep up. Collect in suitable and properly labeled containers. Large spills: Contact Dow AgroSciences for clean-up assistance. See Section 13: Disposal Considerations, for additional information.

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## 7. HANDLING AND STORAGE

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**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid contact with eyes, skin, and clothing. Avoid breathing vapor or mist. Wash thoroughly after handling. Use with adequate ventilation. See Section 8: EXPOSURE CONTROLS AND PERSONAL PROTECTION.

**Conditions for safe storage:** Store in a dry place. Store in original container. Keep container tightly closed when not in use. Do not store near food, foodstuffs, drugs or potable water supplies.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 litres or more, either alone or in aggregate with other hazardous substances. See Hazardous substances Emergency Management and Identification Regulations.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control parameters

Exposure limits are listed below, if they exist.

Component	Regulation	Type of listing	Value/Notation
Methoxyfenozide	Dow IHG	TWA Respirable fraction	3 mg/m <sup>3</sup>
	Dow IHG	TWA Inhalable fraction	10 mg/m <sup>3</sup>
Propylene glycol	NZ OEL	WES-TWA Vapour & particulates	474 mg/m <sup>3</sup> 150 ppm
	NZ OEL	WES-TWA Particulates only	10 mg/m <sup>3</sup>

RECOMMENDATIONS IN THIS SECTION ARE FOR MANUFACTURING, COMMERCIAL BLENDING AND PACKAGING WORKERS. APPLICATORS AND HANDLERS SHOULD SEE THE PRODUCT LABEL FOR PROPER PERSONAL PROTECTIVE EQUIPMENT AND CLOTHING.

### Exposure controls

**Engineering controls:** Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some operations.

### Individual protection measures

**Eye/face protection:** Use safety glasses (with side shields).

#### Skin protection

**Hand protection:** Use gloves chemically resistant to this material when prolonged or frequently repeated contact could occur. Use chemical resistant gloves classified under standard AS/NZS 2161.10: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to AS/NZS 2161.10) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to AS/NZS 2161.10) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

**Other protection:** Wear clean, body-covering clothing.

**Respiratory protection:** Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator.

The following should be effective types of air-purifying respirators: Organic vapor cartridge with a particulate pre-filter.

**Other Information:** Selection and use of personal protective equipment should be in accordance with the recommendations in one or more of the relevant Australian/New Zealand Standards, including:

AS/NZS 1336: Eye and face protection - Guidelines.  
AS/NZS 1337: Personal eye protection - Eye and face protectors for occupational applications.  
AS/NZS 1715: Selection, use and maintenance of respiratory protective equipment.  
AS/NZS 2161: Occupational protective gloves.  
AS/NZS 2210: Occupational protective footwear.  
AS/NZS 4501: Occupational protective clothing.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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### Appearance

Physical state	Liquid.
Color	Tan
Odor	Mild
Odor Threshold	No test data available
pH	7
Melting point/range	Not applicable
Freezing point	No test data available
Boiling point (760 mmHg)	No test data available
Flash point - closed cup	> 100 °C <i>Pensky-Martens Closed Cup ASTM D 93</i>
Evaporation Rate (Butyl Acetate = 1)	No test data available
Flammability (solid, gas)	Not applicable to liquids
Lower explosion limit	No test data available
Upper explosion limit	No test data available
Vapor Pressure	No test data available
Relative Vapor Density (air = 1)	No test data available
Relative Density (water = 1)	No data available
Water solubility	Not applicable
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No test data available
Decomposition temperature	No test data available
Kinematic Viscosity	No test data available
Explosive properties	No
Oxidizing properties	No.
Liquid Density	1.06 g/cm <sup>3</sup> at 20 °C
Molecular weight	No product data available. Methoxyfenozide = 368.47

NOTE: The physical data presented above are typical values and should not be construed as a specification.

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## 10. STABILITY AND REACTIVITY

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**Reactivity:** No dangerous reaction known under conditions of normal use.

**Chemical stability:** Stable under normal storage conditions.

**Possibility of hazardous reactions:** Polymerization will not occur.

**Conditions to avoid:** None known.

**Incompatible materials:** Avoid contact with strong oxidizing agents..

**Hazardous decomposition products:** Thermal decomposition may yield the following: oxides of nitrogen, sulfur oxides, ammonia

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## 11. TOXICOLOGICAL INFORMATION

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### Acute toxicity

#### Acute oral toxicity

Very low toxicity if swallowed. Harmful effects not anticipated from swallowing small amounts.

As product: LD50, Rat > 5,000 mg/kg. No deaths occurred at this concentration.

#### Acute dermal toxicity

Prolonged skin contact is unlikely to result in absorption of harmful amounts.

As product: LD50, Rat, male and female > 2,000 mg/kg. No deaths occurred at this concentration.

#### Acute inhalation toxicity

At room temperature, exposure to vapour is minimal due to low volatility. No adverse effects are anticipated from single exposure to mist. Based on the available data, respiratory irritation was not observed.

As product: LC50, Rat, 4 Hour, Aerosol > 0.9 mg/l. The LC50 value is greater than the Maximum Attainable Concentration. No deaths occurred at this concentration.

### Skin corrosion/irritation

Brief contact is essentially non-irritating to skin.

### Serious eye damage/eye irritation

Essentially non-irritating to eyes.

### Sensitization

As product: Did not cause allergic skin reactions when tested in guinea pigs.

For respiratory sensitization: No relevant data found.

### Specific Target Organ Systemic Toxicity (Single Exposure)

Evaluation of available data suggests that this material is not an STOT-SE toxicant.

**Specific Target Organ Systemic Toxicity (Repeated Exposure)**

For the active ingredient: May cause methemoglobinaemia, thereby impairing the blood's ability to transport oxygen. In animals, effects have been reported on the following organs: Blood. Liver. Kidney. Thyroid.

For the minor component: In rare cases, repeated excessive exposure to propylene glycol may cause central nervous system effects.

**Carcinogenicity**

Active ingredient did not cause cancer in laboratory animals.

**Teratogenicity**

For the active ingredient: Did not cause birth defects or any other foetal effects in laboratory animals.

**Reproductive toxicity**

In animal studies, active ingredient did not interfere with reproduction.

**Mutagenicity**

As product: *In vitro* genetic toxicity studies were negative. Animal genetic toxicity studies were negative.

**Aspiration Hazard**

Based on available information, aspiration hazard could not be determined.

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**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity**

**Acute toxicity to fish**

Material is practically non-toxic to aquatic organisms on an acute basis (LC50/EC50/EL50/LL50 >100 mg/L in the most sensitive species tested).

LC50, *Lepomis macrochirus* (Bluegill sunfish), flow-through test, 96 Hour > 130 mg/l, OECD Test Guideline 203 or Equivalent

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), 48 Hour > 100 mg/l, OECD Test Guideline 202 or Equivalent

**Acute toxicity to algae/aquatic plants**

ErC50, *Pseudokirchneriella subcapitata* (green algae), 96 Hour, Growth rate inhibition > 100 mg/l, OECD Test Guideline 201 or Equivalent

**Toxicity to Above Ground Organisms**

Material is practically non-toxic to birds on an acute basis. LD50 > 2,000 mg/kg.

As product: oral LD50, *Colinus virginianus* (Bobwhite quail) > 2,250 mg/kg

Material is practically non-toxic to birds on a dietary basis. LC50 > 5,000 ppm.

**Toxicity to soil-dwelling organisms**

LC50, *Eisenia fetida* (earthworms), 14 d > 1,250 mg/kg

**Persistence and degradability****Methoxyfenozide**

**Biodegradability:** Biodegradation rate may increase in soil and/or water with acclimation.

**Stability in Water (1/2-life):** 802 d, pH 7, Half-life Temperature 25 °C

**Propylene glycol**

**Biodegradability:** Material is readily biodegradable. Passes OECD test(s) for ready biodegradability. Biodegradation may occur under anaerobic conditions (in the absence of oxygen).

10-day Window: Pass

**Biodegradation:** 81 %

**Exposure time:** 28 d

**Method:** OECD Test Guideline 301F or Equivalent

10-day Window: Not applicable

**Biodegradation:** 96 %

**Exposure time:** 64 d

**Method:** OECD Test Guideline 306 or Equivalent

**Theoretical Oxygen Demand:** 1.68 mg/mg

**Chemical Oxygen Demand:** 1.53 mg/mg

**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	69.0 %
10 d	70.0 %
20 d	86.0 %

**Photodegradation**

**Atmospheric half-life:** 10 Hour

**Method:** Estimated.

**Balance**

**Biodegradability:** No relevant data found.

**Bioaccumulative potential****Methoxyfenozide**

**Bioaccumulation:** Bioconcentration potential is moderate (BCF between 100 and 3,000 or Log Pow between 3 and 5).

**Partition coefficient: n-octanol/water (log Pow):** 3.72 at 25 °C. OECD Test Guideline 107 or Equivalent

**Bioconcentration factor (BCF):** 11.0 Fish 28 d. Measured

**Propylene glycol**

**Bioaccumulation:** Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

**Partition coefficient: n-octanol/water (log Pow):** -1.07 Measured

**Bioconcentration factor (BCF):** 0.09. Estimated.

**Balance**

**Bioaccumulation:** No relevant data found.



**Mobility in Soil**

**Methoxyfenozide**

Potential for mobility in soil is medium (Koc between 150 and 500).

**Propylene glycol**

Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

Potential for mobility in soil is very high (Koc between 0 and 50).

**Partition coefficient (Koc):** < 1 Estimated.

**Balance**

No relevant data found.

**Results of PBT and vPvB assessment**

**Methoxyfenozide**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

**Propylene glycol**

This substance is not considered to be persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB).

**Balance**

This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

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## **13. DISPOSAL CONSIDERATIONS**

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**Disposal methods:** If wastes and/or containers cannot be disposed of according to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

Waste handling, treatment and disposal practices must be in compliance with the New Zealand Hazardous Substances (Disposal) Regulations 2001. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Regulations concerning waste management may vary in different locations.

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**14. TRANSPORT INFORMATION**

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**PUBLIC PASSENGER VEHICLE TRANSPORT:** To be transported ONLY in the sealed original container.

**Classification for ROAD and Rail transport:**

Not regulated for transport

**Classification for SEA transport (IMO-IMDG):**

Not regulated for transport

**Transport in bulk  
according to Annex I or II  
of MARPOL 73/78 and the  
IBC or IGC Code**

Consult IMO regulations before transporting ocean bulk

**Classification for AIR transport (IATA/ICAO):**

Not regulated for transport

**Hazchem Code:** 2X

This information is not intended to convey all specific regulatory or operational requirements/information relating to this product. Transportation classifications may vary by container volume and may be influenced by regional or country variations in regulations. Additional transportation system information can be obtained through an authorized sales or customer service representative. It is the responsibility of the transporting organization to follow all applicable laws, regulations and rules relating to the transportation of the material.

Compliance with the above land, rail, marine and air requirements is deemed to comply with the applicable requirements of the Hazardous substances Identification and Emergency Management Regulations.

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**15. REGULATORY INFORMATION**

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**ACVMG Approval Number:** P7154

**HSNO Approval Number:** HSR00130

**ADVICE TO PRODUCT USERS REGARDING HSNO CONTROLS:** Users of this product should make reference to the New Zealand Hazardous Substances and New Organisms Act and Regulations for relevant risk management controls. Additional local requirements may be applicable in accordance with planning controls under the Resource Management Act. Refer to Environment Protection Authority publication; User Guide to the HSNO Controls Regulations. <http://www.epa.govt.nz>

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**16. OTHER INFORMATION**

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**Revision**

Identification Number: 101193314 / A157 / Issue Date: 07.10.2015 / Version: Replaces 30.05.2014

DAS Code: GF-837

Sections amended: 1, 2, 12

**Legend**

Dow IHG	Dow Industrial Hygiene Guideline
NZ OEL	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
TWA	Time weighted average
WES-TWA	Workplace Exposure Standard - Time Weighted average

DOW AGROSCIENCES (NZ) LIMITED urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given. Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDSs obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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