

# SAFETY DATA SHEET

## DOW AGROSCIENCES (NZ) LIMITED

**Product name:** Lorsban™ 750WG Insecticide

**Issue Date:** 24.07.2014

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:** Lorsban™ 750WG Insecticide

#### **Recommended use of the chemical and restrictions on use**

##### **Identified uses:**

##### **COMPANY IDENTIFICATION**

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

##### **Customer Information Number:**

0800-803-939  
[fnpcust@dow.com](mailto:fnpcust@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:** 6.1D, 6.8B, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A

#### **Hazards:**

Harmful if swallowed

Suspected of damaging fertility of the unborn child

Causes damage to the nervous system

Very toxic to aquatic organisms with long lasting effects

Toxic to the soil environment  
Very toxic to terrestrial vertebrates  
Very toxic to terrestrial invertebrates

**Prevention:**

Wash hand and face thoroughly after handling  
Do not eat, drink, or smoke when using this product  
Do not breathe dust, or spray  
Do not handle until all safety precautions have been read and understood  
Use personal protective equipment as required

**Response:**

If medical advice is needed, have product container or label at hand  
IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell  
Rinse mouth  
IF exposed or concerned: Get medical advice/attention  
Collect spillage

**Storage:**

Store locked up

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**3. COMPOSITION/INFORMATION ON INGREDIENTS**

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<b>Component</b>	<b>CASRN</b>	<b>Concentration</b>
Chlorpyrifos (ISO)	2921-88-2	75.0%
Balance	Not available	25.0%

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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:** Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice.

**Ingestion:** Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Never give anything by mouth to an unconscious person.

**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:** Chlorpyrifos is a cholinesterase inhibitor. Treat symptomatically. In case of severe acute poisoning, use antidote immediately after establishing an open airway and respiration. Atropine, only by injection, is the preferable antidote. Oximes, such as 2-PAM/protopam, may be therapeutic if used early; however, use only in conjunction with atropine. Attempt seizure control with diazepam 5-10 mg (adults) intravenous over 2-3 minutes. Repeat every 5-10 minutes as needed. Monitor for hypotension, respiratory depression, and need for intubation. Consider second agent if seizures persist after 30 mg. If seizures persist or recur administer phenobarbital 600-1200 mg (adults) intravenous diluted in 60 ml 0.9% saline given at 25-50 mg/minute. Evaluate for hypoxia, dysrhythmia, electrolyte disturbance, hypoglycemia (treat adults with dextrose 100 mg intravenous). Maintain adequate ventilation and oxygenation of the patient. If exposed, plasma and red blood cell cholinesterase tests may indicate significance of exposure (baseline data are useful). 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:** 2WE

**Suitable extinguishing media:** Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.

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

**Hazardous combustion products:** During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Sulfur oxides. Phosphorous compounds. Nitrogen oxides. Hydrogen chloride. Carbon monoxide. Carbon dioxide.

**Unusual Fire and Explosion Hazards:** Container may rupture from gas generation in a fire situation. Pneumatic conveying and other mechanical handling operations can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is produced when product burns.

**Advice for firefighters**

**Fire Fighting Procedures:** Keep people away. Isolate fire and deny unnecessary entry. Consider feasibility of a controlled burn to minimize environment damage. Foam fire extinguishing system is preferred because uncontrolled water can spread possible contamination. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct waterstream. Use fine water spray or foam. Use water spray to cool fire exposed containers and fire affected zone until fire is out and danger of reignition has passed. Fight fire from protected location or safe distance. Consider the use of unmanned hose holders or monitor nozzles. Immediately withdraw all personnel from the area in case of rising sound from venting safety device or discoloration of the container. Hand held dry

chemical or carbon dioxide extinguishers may be used for small fires. Move container from fire area if this is possible without hazard. 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.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures:** Isolate area. Spilled material may cause a slipping hazard. 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: 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.

## 7. HANDLING AND STORAGE

**Precautions for safe handling:** Keep out of reach of children. Do not swallow. Avoid breathing dust or mist. Avoid contact with eyes, skin, and clothing. Wash thoroughly after handling. Use with adequate ventilation. Good housekeeping and controlling of dusts are necessary for safe handling of product.

**Conditions for safe storage:** Store in a dry place. Store in original container. Do not store near food, foodstuffs, drugs or potable water supplies. Avoid temperatures above 70°C.

This substance is subject to a requirement for an emergency management plan, secondary containment and signage, whenever it is held in quantities of 100 kg 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
Chlorpyrifos (ISO)	ACGIH	TWA Inhalable fraction and vapor	0.1 mg/m <sup>3</sup>
	ACGIH	TWA	OEL Notation
	NZ OEL	WES-TWA	Absorbed via skin
	NZ OEL	WES-TWA	0.2 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). If there is a potential for exposure to particles which could cause eye discomfort, wear chemical goggles.

**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 is recommended to prevent contact with the solid material. 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: Recommended practices for occupational eye protection.

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**

<b>Physical state</b>	Granules.
<b>Color</b>	Tan
<b>Odor</b>	Characteristic slight
<b>Odor Threshold</b>	No test data available
<b>pH</b>	7.01 1% CIPAC MT 75.2 (1% aqueous suspension)
<b>Melting point/range</b>	No test data available
<b>Freezing point</b>	Not applicable
<b>Boiling point (760 mmHg)</b>	Not applicable
<b>Flash point - closed cup</b>	Not applicable to solids
<b>Evaporation Rate (Butyl Acetate = 1)</b>	Not applicable
<b>Flammability (solid, gas)</b>	No <i>Flammability (solids)</i>
<b>Lower explosion limit</b>	Not applicable
<b>Upper explosion limit</b>	Not applicable
<b>Vapor Pressure</b>	Not applicable
<b>Relative Vapor Density (air = 1)</b>	Not applicable
<b>Relative Density (water = 1)</b>	No test data available
<b>Water solubility</b>	Dispersible
<b>Partition coefficient: n-octanol/water</b>	No data available
<b>Auto-ignition temperature</b>	None below 400 <sup>0</sup> c
<b>Decomposition temperature</b>	No test data available
<b>Kinematic Viscosity</b>	Not applicable
<b>Explosive properties</b>	No
<b>Oxidizing properties</b>	No, No significant increase (>5 <sup>0</sup> c) in temperature.
<b>Bulk density</b>	0.58 g/cm <sup>3</sup> <i>Tapped Volumetric</i>
<b>Molecular weight</b>	No data available

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 data available

**Chemical stability:** Unstable at elevated temperatures.

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

**Conditions to avoid:** Avoid temperatures above 70 °C. Exposure to elevated temperatures can cause product to decompose. Generation of gas during decomposition can cause pressure in closed systems.

**Incompatible materials:** Avoid contact with: Acids. Bases. Oxidizers.

**Hazardous decomposition products:** Decomposition products depend upon temperature, air supply and the presence of other materials. Decomposition products can include and are not limited to: Carbon monoxide. Carbon dioxide. Hydrogen chloride. Nitrogen oxides. Organic sulfides. Sulfur dioxide. Toxic gases are released during decomposition.

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## **11. TOXICOLOGICAL INFORMATION**

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### **Acute toxicity**

#### **Acute oral toxicity**

Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. Observations in animals include: Tremors. Piloerection. Hunched posture.

As product: LD50, rat, female, 519 mg/kg

#### **Acute dermal toxicity**

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

As product: LD50, rat, male and female > 5,000 mg/kg

#### **Acute inhalation toxicity**

Inhalation is unlikely due to physical state. Prolonged exposure is not expected to cause adverse effects. For respiratory irritation: No relevant data found.

As product: LC50, rat, 4 Hour, Aerosol > 5 mg/l. Estimated.

### **Skin corrosion/irritation**

Brief contact is essentially non-irritating to skin.

### **Serious eye damage/eye irritation**

Solid or dust may cause irritation or corneal injury due to mechanical action. May cause slight temporary eye irritation. Corneal injury is unlikely.

### **Sensitization**

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: Excessive exposure may produce organophosphate type cholinesterase inhibition. Signs and symptoms of excessive exposure to active ingredient may be headache, dizziness, incoordination, muscle twitching, tremors, nausea, abdominal cramps, diarrhea, sweating, pinpoint pupils, blurred vision, salivation, tearing, tightness in chest, excessive urination, convulsions. In animals, effects have been reported on the following organs: Adrenal gland.

### **Carcinogenicity**

For the active ingredient: Did not cause cancer in laboratory animals.

**Teratogenicity**

For the active ingredient: Has been toxic to the foetus in laboratory animals at doses toxic to the mother. Did not cause birth defects in laboratory animals.

**Reproductive toxicity**

For the active ingredient: Chlorpyrifos did not interfere with fertility in reproduction studies in laboratory animals. Some evidence of toxicity to the offspring occurred, but only at a dose high enough to produce significant toxicity to the parent animals.

**Mutagenicity**

Based on a majority of negative data and some equivocal or marginally positive results, active ingredient is considered to have minimal genetic toxicity potential.

**Aspiration Hazard**

Based on physical properties, not likely to be an aspiration hazard.

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**12. ECOLOGICAL INFORMATION**

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**Ecotoxicity****Acute toxicity to fish**

Material is very highly toxic to aquatic invertebrates on an acute basis (LC50/EC50 < 0.1 mg/L).

LC50, *Oncorhynchus mykiss* (rainbow trout), semi-static test, 96 Hour, 0.12 mg/l

**Acute toxicity to aquatic invertebrates**

EC50, *Daphnia magna* (Water flea), static test, 48 Hour, 0.000036 mg/l

**Acute toxicity to algae/aquatic plants**

EbC50, *Pseudokirchneriella subcapitata* (green algae), static test, 96 Hour, Biomass, 1 mg/l

ErC50, *Pseudokirchneriella subcapitata* (green algae), Growth inhibition, 72 Hour, 1.8 mg/l

**Toxicity to Above Ground Organisms**

Material is moderately toxic to birds on an acute basis (LD50 between 51 and 500 mg/kg).

Material is moderately toxic to birds on a dietary basis (LC50 between 501 and 1000 ppm).

dietary LC50, *Colinus virginianus* (Bobwhite quail), 740mg/kg diet.

oral LD50, *Colinus virginianus* (Bobwhite quail), 53mg/kg bodyweight.

oral LD50, *Apis mellifera* (bees), 48 d, 1.1micrograms/bee

contact LD50, *Apis mellifera* (bees), 48 d, 0.54micrograms/bee

**Toxicity to soil-dwelling organisms**

LC50, *Eisenia fetida* (earthworms), 14 d, 681 mg/kg

**Persistence and degradability****Chlorpyrifos (ISO)**

**Biodegradability:** Material is not readily biodegradable according to OECD/EEC guidelines.

10-day Window: Fail

**Biodegradation:** 22 %

**Exposure time:** 28 d

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



**Biological oxygen demand (BOD)**

Incubation Time	BOD
5 d	0.000 %

**Stability in Water (1/2-life):** Hydrolysis, half-life, 72 d

**Bioaccumulative potential****Chlorpyrifos (ISO)**

**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):** 4.7 at 20 °C Estimated.

**Mobility in Soil****Chlorpyrifos (ISO)**

Expected to be relatively immobile in soil (Koc > 5,000).

**Partition coefficient (Koc):** 8151

**Results of PBT and vPvB assessment****Chlorpyrifos (ISO)**

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

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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.

This product when disposed of in its unused and uncontaminated state should be treated as a hazardous waste.

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**14. TRANSPORT INFORMATION**

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

**Maximum volume permitted to be transported in a passenger service vehicle:** 10kg

**Classification for ROAD and Rail transport:**

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Chlorpyrifos)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Environmental hazards</b>	Chlorpyrifos

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

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Chlorpyrifos)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III
<b>Marine pollutant</b>	Chlorpyrifos
<b>Transport in bulk according to Annex I or II of MARPOL 73/78 and the IBC or IGC Code</b>	Consult IMO regulations before transporting ocean bulk

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

<b>Proper shipping name</b>	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.(Chlorpyrifos)
<b>UN number</b>	UN 3077
<b>Class</b>	9
<b>Packing group</b>	III

**Hazchem Code:** 2WE

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.

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**15. REGULATORY INFORMATION**

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**HSNO Approval Number:** HSR000167

**ACVMG Approval Number:** P5275

**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: 101202515 / A157 / Issue Date: 24.07.2014 / Version: Replaces 20.08.2010  
DAS Code: EF-1315

### Legend

Absorbed via skin	Absorbed via skin
ACGIH	USA. ACGIH Threshold Limit Values (TLV)
NZ OEL	New Zealand. Workplace Exposure Standards for Atmospheric Contaminants
OEL Notation	Absorbed via Skin, Biological Exposure Indices
TWA	8-hour, 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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