



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **Diazol Insecticide**
Product Use: Insecticide
Restriction of Use: Refer to Section 15

New Zealand Supplier: ADAMA New Zealand Ltd
Address: Level 1/93 Bolt Road
Tahunanui, 7011, Nelson
Telephone: +64 3 543 8275
Fax Number: +64 3 543 8274

Emergency Telephone: 0800 764 766 (National Poison Centre)
0800 734 607 (24hr Emergency Response)

Date of SDS Preparation: 6 July 2022

Section 2. Hazards Identification

This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020

EPA Approval No: HSR00180

Pictograms



Signal Word: **Danger**

HSNO Classification	Hazard Code	Hazard Statement
Acute oral toxicity Category 4	H302	Harmful if swallowed.
Acute dermal toxicity Category 4	H312	Harmful in contact with skin.
Acute inhalation toxicity Category 4	H332	Harmful if inhaled.
Reproductive toxicity Category 2	H361	Suspected of damaging fertility or the unborn child.
Target organ systemic toxicity (repeat exposure) Category 1	H372	Causes damage to the nervous system through prolonged or repeated exposure.
Hazardous to the aquatic environment acute Category 1	H400	Very toxic to aquatic life.
Hazardous to the aquatic environment chronic Category 1	H410	Very toxic to aquatic life with long lasting effects.
Hazardous to soil organisms	H423	Harmful to soil organisms.
Hazardous to terrestrial vertebrates	H433	Harmful to terrestrial vertebrates.
Hazardous to terrestrial invertebrates	H441	Very toxic to bees.

Prevention Code	Prevention Statement
P102	Keep out of reach of children.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe mist/spray.
P264	Wash hands or exposed skin thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid unintended release into the environment.
P280	Wear protective clothing and equipment as specified in Section 8.

Response Code	Response Statement
P101	If medical advice is needed, have product container or label at hand.
P301 + P312 + P330	IF SWALLOWED: Rinse mouth. Call a POISON CENTRE or doctor if you feel unwell.
P302 + P312 + P352	IF ON SKIN: Take off all contaminated clothing. Wash exposed skin with plenty of soap and water. Call a POISON CENTRE or doctor if you feel unwell.
P304 + P312 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
P308 + P313	IF otherwise exposed or concerned: Get medical advice/ attention.
P362 + P364	Take off contaminated clothing and wash before reuse.
P391	Collect spillage.

Storage Code	Storage Statement
P405	Store locked up.

Disposal Code	Disposal Statement
P501	Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers and add rinsate to spray tank before puncturing and offering for recycling or landfill. Do not allow product to enter waterways. Do not burn product or container.

Section 3. Composition / Information on Ingredients

Ingredients	Wt%	CAS NUMBER.
Diazinon	48 - 52	333-41-5
Non-hazardous components	Balance	N/A

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	Rinse cautiously with water for 15 minutes.
If on Skin	Wash with plenty of soap and water. Wash contaminated clothing before reuse. Get medical advice if you feel unwell.
If Swallowed	Rinse mouth. Get medical advice if you feel unwell.
If Inhaled	Remove person to fresh air. Remove contaminated clothing and loosen remaining clothing. Allow person to assume most comfortable position and keep warm. Keep at rest until fully recovered. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion:	Harmful if swallowed.
Skin:	Harmful in contact with skin.
Inhalation:	Harmful if inhaled.
Eyes:	Not applicable.
Chronic:	Suspected of damaging fertility or the unborn child. Causes damage to the nervous system through prolonged or repeated exposure.

Section 5. Fire Fighting Measures

Hazard Type	Non-Flammable liquid.
Hazards from combustion products	When heated to decomposition, emits toxic fumes: carbon dioxide, carbon monoxide, sulfur oxide, nitrogen oxides, phosphorus oxides,
Suitable Extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Precautions for firefighters and special protective clothing	In the event of fire, wear self-contained breathing apparatus In the event of fire and/or explosion do not breathe fumes.
HAZCHEM Code	2X

Section 6. Accidental Release Measures

Wear full protective clothing including eye/face protection. Evacuate area from unnecessary personnel.

Prevent entry into waterways, sewers, basements or confined areas. Do not flush into surface water or sanitary sewer system. Prevent further leakage or spillage if safe to do so. Prevent product from entering drains.

Dispose of according to Local Regulations.

Section 7. Handling and Storage

General Hygiene Considerations

When using do not eat, drink or smoke

Precautions for Handling:

- Do not handle until all safety precautions have been read and understood.
- Avoid contact with skin, eyes or clothing.
- Wash hands thoroughly after handling.
- Wash contaminated clothing before re-use.
- Avoid unintended release into the environment.
- Wear protective clothing as detailed in Section 8.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep away from children.
- Store locked up.
- Keep container tightly closed in a dry and well-ventilated place.
- Keep in properly labeled containers.
- As a substance with Aquatic Ecotoxicity Classifications, storage of this product must be carried out in such a manner as to prevent contamination of waterways. It is recommended that the New Zealand Standard for the Management of Agrichemicals (NZS8409) is followed.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA		STEL	
	ppm	mg/m ³	ppm	mg/m ³

No ingredients have exposure limits.

Workplace Exposure Standard – Time Weighted Average (WES-TWA). *The time-weighted average exposure standard designed to protect the worker from the effects of long-term exposure.* Workplace Exposure Standard – Short-Term Exposure Limit (WESSTEL). *The 15-minute average exposure standard. Applies to any 15- Minute period in the working day and is designed to protect the worker against adverse effects of irritation, chronic or irreversible tissue change, or narcosis that may increase the likelihood of accidents.* The WES-STEL is not an alternative to the WES-TWA; both the short-term and time-weighted average exposures apply.

Engineering Controls

No special ventilation is usually needed when occasionally handling small quantities. However make sure the work environment remains clean and that vapours and mists are minimised.

Personal Protection



Eyes	Protective glasses or goggles with shield shields must be worn when this product is being used.
Hands and Skin	Suitable protective clothing, Suitable protective clothing, Apron, Gloves made of plastic or rubber.
Respiratory	During spraying wear suitable respiratory equipment.
General	When using do not eat, drink or smoke. Wash contaminated clothing before reuse. Regular cleaning of equipment, work area and clothing is recommended. Do not allow into any sewer, on the ground or into any body of water.

Section 9 Physical and Chemical Properties

Appearance	Whitish liquid
Odour	Strong unpleasant odour
Odour Threshold	Not applicable
pH	6.2 - 7.5
Boiling Point	Diazinon: 83-84 (at a pressure of 0.0002 mm Hg -Pure)
Melting Point	Liquid at normal temperatures
Crystallization temperature	Not applicable
Flash Point	Not applicable
Flammability	Not applicable
Upper and Lower Exposure Limits	Not applicable
Vapour Pressure	Not applicable
Specific Gravity	1.063-1.070
Solubilities	Emulsifiable in water
Partition Coefficient:	Not applicable
Auto-ignition Temperature	Not applicable
Viscosity, dynamic	Not applicable
Particle Characteristics	Not applicable
Volatiles	Not applicable

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Reactivity	This product is unlikely to react or decompose under normal storage conditions.
Conditions to Avoid	Keep isolated from combustible materials, direct sun light. This product should be kept in a cool place, preferably below 30°C. Containers should be kept dry. Store in the closed original container in a dry, cool well-ventilated area out of direct sun light.
Incompatible Materials	Strong oxidising agents.
Hazardous Decomposition Products	Carbon dioxide, carbon monoxide, nitrogen, oxides of nitrogen. Occasionally hydrogen cyanide gas. Oxides of phosphorus and other phosphorus compounds.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Harmful if swallowed.
Dermal	Harmful in contact with skin.
Inhalation	Harmful if inhaled.
Skin	Not applicable.
Eye	Not applicable.

Chronic Effects:

Carcinogenicity	Not applicable.
Reproductive Toxicity	Suspected of damaging fertility or the unborn child.
Germ Cell Mutagenicity	Not applicable.
Aspiration	Not applicable.
STOT/SE	Not applicable.
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Rat oral LD50 [mg/kg]: 300-400 (technical grade Diazinon)
Rat dermal LD50 [mg/kg]: 3600
Rabbit inhalation LC50 [mg/L/4h]: 3.5

Chronic Toxicity [mg/kg/day]: 10mg for swine
1000 for rats

Acute Toxicity: Toxic effects of Diazinon are due to the inhibition of acetyl cholinesterase, an enzyme needed for proper nervous system function. The range of doses that results in toxic effects varies widely with formulation and with the individual species being exposed. This transformation may occur in air particularly in the presence of moisture, and by ultraviolet radiation. Most modern Diazinon formulations are stable and do not degrade easily. Symptoms associated with Diazinon poisoning in humans include weakness, headaches, tightness in the chest, blurred vision. Non-reactive pinpoint pupils, salivation, sweating, nausea, vomiting, diarrhoea, abdominal cramps, and slurred speech.

Reproductive effects: No data currently available

Teratogenic effects: The data on teratogenic effects due to chronic exposure are inconclusive. One study has shown that injection of Diazinon into chicken eggs resulted in skeletal and spinal deformities in the chicks. Bobwhite quail born from eggs treated in a similar manner showed skeletal deformities but no spinal abnormalities.

Tests with dogs and pigs at higher levels (1.0-10.0 mg/kg/day) revealed gross abnormalities.

Section 12. Ecotoxicological Information

HSNO Classifications: Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms, Hazardous to terrestrial vertebrates, Hazardous to terrestrial invertebrates.

Persistence and degradability	No data available on product
Bioaccumulation	No data available on product
Mobility in Soil	No data available on product
Other adverse effects	No data available on product
Precautions	Do not allow to enter waterways.

Common name: Diazinon

Very toxic to aquatic organisms may cause long-term adverse effects to the aquatic environment.

Effects on birds: Birds are significantly more susceptible to Diazinon than other wildlife.
LD50 for birds range from 2.75 mg/kg to 40.8 mg/kg

Effects on aquatic Organisms: Highly toxic to fish. Some evidence shows that saltwater fish are more susceptible than freshwater fish.
LC50 in rainbow trout is 2.6 – 3.2 mg/L
LC50 in fathead minnow and goldfish >15 mg/L

Effects on other Organisms: Highly toxic to bees

Breakdown in soil and groundwater: Low persistence in soil. Half-life is 2 to 4 weeks. Bacterial enzymes can speed the breakdown of diazinon and have been used in treating emergency situations such as spills. Diazinon seldom migrates below the top half inch in soil, but in some instances, it may contaminate groundwater.

Breakdown in water: Breakdown rate is dependent on the acidity of water. At highly acidic levels, one half of the compound disappeared within 12 hours while in a neutral; solution, it took 6 months to degrade to one half of the original concentration.

Breakdown in vegetation: In plants a low temperature and high oil content tend to increase the persistence of Diazinon. Generally, half-life is rapid in leafy vegetables, forage crops and grass. The range is from 2 to 14 days. In rice plants only 10% of the residue was present after 9 days. Diazinon is absorbed by plant roots when applied to the soil and translocated to other parts of the plant.

Section 13. Disposal Considerations

Disposal Method: Wherever possible completely use material by using according to label instructions. Dispose of unwanted product and wastes from spillages as hazardous substances in accordance with local and national regulations using a licensed waste disposal company. Triple rinse containers before puncturing and offering for recycling or landfill.



Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not burn product or container.

Section 14 Transport Information**This product is classified as a Dangerous Good for transport in NZ; NZS 5433****Road and Rail Transport**

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Diazinon)
 Restrictions: DO NOT CARRY THIS PRODUCT ON A PASSENGER SERVICE VEHICLE.

Air Transport

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Diazinon)

Marine Transport

UN No: 3082
 Class-primary 9
 Packing Group III
 Proper Shipping Name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Contains Diazinon)
 Marine Pollutant Yes

Special Provisions:

If the product's individual container is below 5L/kg, it can be transported as a non-DG as long as the product packaging is still labelled as per DG requirements and the driver is given safety information in accordance with Chapter 3.4 of the UNRTDG.

Section 15 Regulatory Information**This substance is hazardous according to the Hazardous Substances (Hazard Classification) Notice 2020****EPA Approval Code:** HSR000180

HSNO Classification: Acute oral toxicity Category 4, Acute dermal toxicity Category 4, Acute inhalation toxicity Category 4, Reproductive toxicity Category 2, Target organ systemic toxicity (repeat exposure) Category 1, Hazardous to the aquatic environment acute Category 1, Hazardous to the aquatic environment chronic Category 1, Hazardous to soil organisms, Hazardous to terrestrial vertebrates, Hazardous to terrestrial invertebrates.

HSW (HS) Regulations 2017 and EPA Notices	Trigger Quantity
Certified Handlers	Not required
Location Certificate	Not required
Tracking Trigger Quantities	Not required
Signage Trigger Quantities	100 L
Emergency Response Plan	100 L
Secondary Containment	100 L

HSNO Varied/Additional Controls	
Variation to Hazardous Property Controls Notice Part 4B	In accordance with clause 50 of the Hazardous Property Controls Notice, the Authority has set a maximum application rate for this substance of 2400 g diazinon/ha, with a maximum of 2 applications: (i) per crop cycle; or (ii) per year in the same application area for non-cropping situations.
Additional control – Notification requirements.	(1) For wide-dispersive applications, no person may apply, or engage another person to apply, the substance unless that person has given written notice of the proposed application to any person likely to be directly affected by the application, including occupiers and owners of land, dwellings or buildings or property that is immediately abutting the application area. (2) The notice referred to in subclause (1) must— (a) be given at least 2 working days but no more than 4 weeks in advance of each application; and (b) specify the following: (i) the location of application area that the substance will be applied to; (ii) the date and approximate duration of each application; (iii) the steps to be taken by the notified parties to avoid exposure; (iv) the name of the organisation/s undertaking the application; (v) contact details for the person in charge of the application (phone, email or postal address, including a contact number for immediate contact during application).
Application method restrictions	When the substance is applied indoors, application must be carried out using automated application equipment.
Hazardous Property Controls Notice 2017	
HPC Notice Part 1	Hazardous Property Controls preliminary provisions
HPC Notice Part 2	Clause 13 of the Hazardous Property Controls Notice applies to this substance as if it were included in Table 1 of Schedule 1 of that notice.
HPC Notice Part 3	Hazardous substances in a place other than a workplace
HPC Notice Part 4 Subpart A	Substances that are hazardous to the environment: Site and storage controls
HPC Notice Part 4 Subpart B	Use of substances that are hazardous to the environment
HPC Notice Part 4 Clause 47	Equipment for environmentally hazardous substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of ecotoxic pesticides and plant growth regulators
HPC Notice Part 4 Clause 52	Agrichemicals that are hazardous to the aquatic environment must not be applied to water
HPC Notice Part 4 Subpart C	In addition to clause 64 of the Hazardous Property Controls Notice, a person who applies this substance by a ground-based application method that is not listed in Table 2 of Schedule 10 must have one of the qualifications listed in column 1 of the last row of Table 2.
ACVM Act and Regulations	
Registered pursuant to the ACVM Act 1997, See www.foodsafety.govt.nz for registration conditions	No. P007254

Glossary

ACVM	Agricultural Compounds and Veterinary Medicines Act 1997.
EC50	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority.
HSNO	Hazardous Substances and New Organisms Act 1996.
HSW	Health and Safety at Work Act 2015.
HSW (HS) Regulations 2017.	Health and Safety at Work (Hazardous Substances) Regulations 2017.
LC50	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD50	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
TEL	Tolerable Exposure Limit.
TLV	Threshold Limit Value-an exposure limit set by responsible authority.
UEL	Upper Explosive Level.
WES	Workplace Exposure Limit.

References:

1. EPA Hazardous Substances (Safety Data Sheets) Notice 2017
2. Workplace Exposure Standards and Biological Exposure Indices Nov 2017 edition.
3. Assigning a hazardous substance to a HSNO Approval (Aug 2013).
4. Transport of Dangerous goods on land NZS 5433
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer:

This document has been issued by Adama New Zealand Ltd and serves as their Safety Data Sheet ('SDS'). It is based on information concerning the product which is held by Adama New Zealand Ltd or has been obtained from third party sources and is believed to represent the current state of knowledge as to the appropriate safety and handling precautions for the product at the time of issue. While Adama New Zealand Ltd have taken all due care to include accurate and up-to-date information in this SDS, it does not provide any warranty as to accuracy or completeness. As far as lawfully possible, Adama New Zealand Ltd accept no liability for any loss, injury or damage (including consequential loss) which may be suffered or incurred by any person as a consequence of their reliance on the information contained in this SDS. The information herein is given in good faith, but no warranty, express or implied is made.

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