SAFETY DATA SHEET

According to
HSNO Hazardous Substances (Safety Data Sheets) Notice 2017

Section 1. Identification of the material and the supplier

Product:	**Divap**
Product Use:	Insecticide
Restriction of Use:	Refer to Section 15
New Zealand Supplier:	**Adria Crop Protection Solutions**
Address:	407 State Highway 16 Kumeu 0841, Auckland
Telephone:	+64 9 412 9817
Fax:	+64 9 412 9807
Website:	www.adria.nz
Emergency No:	**0800 734 607 (24hr)** **0800 764 766 (National Poison Centre)**
Date of SDS Preparation:	29 October 2018

Section 2. Hazards Identification

This substance is hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval No: HSR000213

Pictograms

Toxic Irritant Chronic Ecotoxic

Signal Word: **DANGER**

HSNO Classification	Hazard Code	Hazard Statement	GHS Category
6.1B(dermal)	H310	Fatal in contact with skin.	Acute Tox. 2
6.1B (inh)	H330	Fatal if inhaled.	Acute Tox. 2
6.1C (oral)	H301	Toxic if swallowed.	Acute Tox. 3
6.3B	H316	Causes mild skin irritation.	Skin Irrit. 3
6.4A	H319	Causes serious eye irritation.	Eye Irrit. 2A
6.5B	H317	May cause an allergic skin reaction.	Skin Sens. 1
6.6A	H340	May cause genetic defects.	Muta. 1A
6.7B	H351	Suspected of causing cancer.	Carc. 2
6.9A	H370	Causes damage to organs	STOT SE 1

6.9A	H372	Causes damage to organs through prolonged or repeated exposure.	STOT RE 1
9.1A	H410	Very toxic to aquatic life with long lasting effects.	Aquatic Chronic 1
9.2D	H423	Harmful to the soil environment.	-
9.3A	H431	Very toxic to terrestrial vertebrates.	-
9.4A	H441	Very toxic to terrestrial invertebrates.	-

Prevention Code	**Prevention Statement**
P102	Keep out of reach of children.
P103	Read label before use.
P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe fumes, mist, vapours or spray.
P262	Do not get in eyes, on skin, or on clothing.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
P273	Avoid release to the environment.
P280	Wear protective clothing as detailed in Section 8.
P281	Use personal protective equipment as required.
P284	Wear respiratory protection.

Response code	**Response Statement**
P101	If medical advice is needed, have product container or label at hand.
P310	Immediately call a POISON CENTER or doctor/physician.
P330	Rinse mouth.
P361	Remove/Take off immediately all contaminated clothing.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.
P301 + P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P302 + P350	IF ON SKIN: Gently wash with plenty of soap and water.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
P304 + P340	IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P313	IF exposed or concerned: Get medical advice/ attention.
P333 + P313	If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313	If eye irritation persists: Get medical advice/attention.

Storage Code	**Storage Statement**
P405	Store locked up.
P403 + P233	Store in a well-ventilated place. Keep container tightly closed.

Disposal Code	**Disposal Statement**
P501	Refer to Section 13.

Section 3. Composition / Information on Hazardous Ingredients

Ingredients	**Content (%w/v)**	**CAS NUMBER.**
Dichlorvos	>90	62-73-7
Emulsifier	To bal	

Section 4. First Aid Measures

Routes of Exposure:

If in Eyes	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF exposed or concerned, or if you feel unwell: call a POISON CENTRE or doctor/physician.
If on Skin	If this product comes into contact with skin, gently wash skin for at least 15 minutes with soap and water. Remove contaminated clothing and footwear. Ensure contaminated clothing is thoroughly washed before using again. See below if poisoning occurs. Immediately call a POISON CENTRE or doctor/physician. If skin irritation or rash occurs: Get medical advice/attention.
If Swallowed	If swallowed, or if any of the below symptoms occur, immediately call a POISON CENTRE or doctor/physician. Take to hospital without delay. Rinse mouth but, do not induce vomiting. Keep strictly at rest as continued movement enhances toxic effects.
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. Apply artificial respiration if not breathing. Get medical advice if breathing becomes difficult.

Most important symptoms and effects, both acute and delayed

Symptoms:

Ingestion:	Toxic if swallowed.
Inhalation:	Fatal if inhaled.
Skin:	Fatal if in contact with skin. Causes mild skin irritation. May cause an allergic skin reaction.
Eye:	Causes serious eye irritation.
Chronic:	May cause genetic defects. Suspected of causing cancer. Causes damage to organs through single or repeated or prolonged exposure.
General:	Divap is an organophosphorus insecticide, which inhibits cholinesterase activity, and interferes with nerve pulse transmission. Onset of symptoms may be delayed for several hours. Atropine is the specific antidote and may be given immediately by qualified staff, at a level of 2 - 5mg (intravenously or intramuscularly), every 20 minutes until atropinisation occurs. Considerable amounts of atropine may be necessary. Atropine must NOT be given to cyanosed patients; administer oxygen first. Do NOT use opiates or barbiturates. If convulsions occur, administer diazepam (10mg intravenously). Take venous blood sample for determination of blood cholinesterase activity. Cholinesterase reactivators (Pralidoxime) should, if possible, be given at the same time as atropine. They are not effective after 24 hours post exposure and are not substitutes for atropine. Pralidoxime should be administered at: Mild poisoning: 1g in 2 - 3ml water (intramuscularly), Severe poisoning: 2g in 30ml water (intravenously).

Section 5. Fire Fighting Measures

Hazard Type	This product is non-flammable.
Hazards from combustion products	Decomposition products are toxic and corrosive. There is little risk of an explosion from this product if involved in a fire.
Suitable Extinguishing media	Carbon dioxide, dry chemical, foam, water fog.

Recommended protective clothing & Precautions for firefighters	Wear full protective clothing including self-contained breathing apparatus.
HAZCHEM CODE	**2X**

Section 6. Accidental Release Measures

Personal precautions:
Use protective clothing as per Section 8. Avoid contact with skin, eyes and clothing. Remove contaminated clothes and shoes immediately. Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Environmental precautions:
Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Notify authorities if product enters sewers or public waters.

Spill and Disposal procedures:
Absorb spills with inert material and place in waste containers. Wash area with water and absorb with further inert material. Dispose of waste safely, according to Local Council regulations.

Section 7. Handling and Storage

Precautions for Handling:
- Read label before use.
- **Suspected mutagen (may cause genetic defects) and carcinogen (may cause cancer): Obtain special instructions before use.**
- Do not handle until all safety precautions have been read and understood.
- Do not breathe fumes, mist, vapours or spray.
- Do not get in eyes, on skin, or on clothing.
- Wash hands thoroughly after handling.
- Do not eat, drink or smoke when using this product.
- Use only outdoors or in a well-ventilated area.
- Contaminated work clothing should not be allowed out of the workplace.
- Avoid release to the environment.
- Wear protective clothing as detailed in Section 8.
- Use personal protective equipment as required.
- Wear respiratory protection.

Precautions for Storage:
- Keep away from children.
- Store in a well-ventilated place. Keep cool.
- Keep container tightly closed.
- Store locked up.
- This product is classed as UN3018, Dangerous Goods Class 6.1 Toxic Substances. Proper Shipping name is: ORGANOPHOSPHORUS PESTICIDE, LIQUID, TOXIC. Class 6 Toxic Substances shall not be loaded in the same vehicle or packed in the same freight container with Classes 1 (Explosives), 3 (Flammable Liquids where the Flammable Liquid is nitromethane), 5.1 (Oxidising Agents where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides where the Toxic Substances are Fire Risk Substances), 8 (Corrosive Substances where the Toxic Substances are cyanides and the Corrosives are acids), Foodstuffs and foodstuff empties. They may however be loaded in the same vehicle or packed in the same freight container with Classes, 2.1 (Flammable Gases), 2.2 (Non-Flammable, Non-Toxic Gases), 2.3 (Toxic Gases), 3 (Flammable liquids, except where the flammable liquid is nitromethane), 4.1 (Flammable Solids), 4.2 (Spontaneously Combustible Substances), 4.3 (Dangerous When Wet Substances), 5.1 (Oxidising Agents except where the Toxic Substances are Fire Risk Substances), 5.2 (Organic Peroxides except where the Toxic Substances are Fire Risk Substances), 7 (Radioactive Substances), 8 (Corrosive Substances except where the Toxic Substances are cyanides and the Corrosives are acids), 9 (Miscellaneous Dangerous Goods).
- Containers should be kept closed in order to minimise contamination.

- Keep from extreme heat and open flames, and make sure the material does not come into contact with water or acids.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

Substance	TWA ppm	TWA mg/m^3	STEL ppm	STEL mg/m^3
Dichlorvos (skin) [62-73-7]	0.1	0.90	-	-

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. Workplace Exposure Standards and Biological Exposure Indices NOV 2017 9TH EDITION.

Engineering Controls / Industrial Hygiene

In industrial situations, concentration values below the TWA value should be maintained. Values may be reduced by process modification, use of local exhaust ventilation, capturing substances at the source, or other methods. If you believe air borne concentrations of mists, dusts or vapours are high, you are advised to modify the process or environment to reduce the problem.

Personal Protection Equipment

Eyes	Safety goggles with side-shields.
Hands	Wear suitable gloves resistant to chemical penetration.
Skin	When mixing or applying, wear chemical resistant overalls, chemical resistant boots and gloves, chemical resistant footwear plus socks, chemical resistant head gear.
Respiratory	Respirator (organic vapour and particulate matter) should be used if airborne particles are generated when handling this material.
Equipment	Apply using calibrated and maintained equipment in accordance with the NZ Standard for the Management of Agrichemicals (NZS8409). Divap must be applied via ground-based methods only.
Spray Drift	The person applying the substance must not cause adverse effects beyond the boundary of the treated property and must also avoid adverse effects from spray drift occurring. Mitigation measures employed must be recorded as part of the application records.
BEES:	**THIS PRODUCT IS VERY TOXIC TO BEES. Do not apply this product to any plant or tree likely to be visited by bees:** a) At the time of application; or b) Immediately after application until spray has dried; or c) In areas where bees are foraging.
General	Do not eat, drink or smoke while using. Remove protective clothing and wash hands and face thoroughly before meals and after work. Avoid handling, mixing or use of the product or container near heat, flame or other sources of ignition. Do not use near air vents or ducts. Apply with well-maintained and calibrated spray equipment. Always wash hands before smoking, eating, drinking or using the toilet. Wash contaminated clothing and other protective equipment before storing or re-using.

Section 9 Physical and Chemical Properties

Appearance	Oily Liquid
Colour	Colourless to straw
Odour	Characteristic pungent odour
Odour Threshold	Not available
pH	Not available
Melting Point/Boiling Point	Not available
Freezing Point	Not available
Flash Point	Not available
Flammability	Not available
Upper and Lower Explosive Limits	Not available
Vapour Pressure	Not available
Vapour Density	Not available
Specific Gravity	1.36 approx
Water Solubility	Forms emulsions.
Partition Coefficient:	Not available
Ignition Temperature	Not available
Decomposition Temperature	Not available
Viscosity	Expected to be nil.
Particle Characteristics	Not available

Section 10. Stability and Reactivity

Stability of Substance	This product is stable under normal conditions.
Possibility of hazardous reactions	None known.
Conditions to Avoid	None known.
Incompatible Materials	Strong acids, strong bases, strong oxidising agents.
Hazardous Decomposition Products	Carbon dioxide, carbon monoxide, hydrogen chloride gas, chlorides, oxides of phosphorus, water.

Section 11 Toxicological Information

Acute Effects:

Swallowed	Toxic if swallowed. Acute Oral LD50 (Rat) 50 mg/kg
Dermal	Fatal in contact with skin.
Inhalation	Fatal if inhaled. Inhalation LC50 (4 hr) (Rat) > 0.34 mg/l
Eye	Causes serious eye damage.
Skin	Causes mild skin irritation. May cause an allergic skin reaction.

Chronic Effects:

Carcinogenicity	Suspected of causing cancer.
Reproductive Toxicity	Not applicable.
Germ Cell Mutagenicity	May cause genetic defects.
Aspiration	Not applicable.
STOT/SE	Causes damage to organs through single exposure.
STOT/RE	Causes damage to organs through prolonged or repeated exposure.

Acute Toxicity -

Chemical Name	LD50 (Oral)	LD50 (Dermal)	LC50 (inhalation)
Dichlorvos (62-73-7)	46.4mg/kg (Rat)	75mg/kg (rat)	0.23 mg/l (rat) Dust/mist

Section 12. Ecotoxicological Information

Ecological effects information	9.1A = Very toxic to aquatic life with long lasting effects. 9.2D = Harmful to the soil environment. 9.3A = Very toxic to terrestrial vertebrates. 9.4A = Very toxic to terrestrial invertebrates.
Persistence and degradability	No data available
Bioaccumulation	No data available
Mobility in Soil	No data available
Other adverse effects	No data available
Acute fish toxicity:	Acute: Rainbow trout (Oncorhynchus mykiss) LC50 = 0.1mg/l (96h) Chronic: Rainbow trout (Oncorhynchus mykiss) NOEL = 0.0052 mg/l (61days)
Toxicity for daphnia:	Acute: 48 Hour-EC50 - Daphnia pulex = 0.00007mg/L Chronic: 28 days – NOEC – Mysid (Mysidopsis bahia) = 0.0000014mg/L
Ecotoxic in the soil environment	Eisenia fetida (earthworm) = LC50 = 1.4mg/kg soil (14 days).
Very ecotoxic to terrestrial vertebrates	Anas platyrhunchos mallard duck. LD50 = 7.8 mg/kg
Very ecotoxic to terrestrial invertebrates	Honey bee (Apis mellifera) LD50 = 0.029ug/bee
Bees:	**THIS PRODUCT IS VERY TOXIC TO BEES. Do not apply this product to any plant or tree likely to be visited by bees:** a) at the time of application; or b) Immediately after application until spray has dried; or c) In areas where bees are foraging.
Precautions:	Do not allow to enter waterways.

Section 13. Disposal Considerations

Disposal Method:
Triple rinse container and add residue to spray tank. Return empty container to an AgRecovery collection point for disposal.

Empty container precautions:
Avoid contamination of any water supply with chemical or empty container.

Precautions or methods to avoid: Avoid release to the environment.

Section 14 Transport Information

This product is classified as a Dangerous Good for transport in NZ; NZS 5433:2012

Road, Rail, Sea and Air Transport

UN No	3018
Class - Primary	6.1
Packing Group	II
Proper Shipping Name	**ORGANOPHOSPHORUS PESTICIDE, LIQUID, FLAMMABLE, TOXIC (Dichlorvos)**
Marine Pollutant	Yes
Special Provisions-Limited Quantities	If the product's individual container is below 100ml, 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 classified hazardous according to the EPA Hazardous Substances (Classification) Notice 2017

EPA Approval Code: HSR000213

HSNO Classification: 6.1B (dermal & inh), 6.1C(oral), 6.3B, 6.4A, 6.5B, 6.6A, 6.7B, 6.9A, 9.1A, 9.2D, 9.3A, 9.4A

HSW (HS) Regulations 2017	**Trigger Quantity**
Certified Handlers	Yes, any quantity
Location Certificate	250L
Signage Trigger Quantities (Schedule 3)	100L (9.1A)
Emergency Response Plan (Schedule 5)	100L (9.1A)
Secondary Containment (Schedule 5)	100L (9.1A)
Tracking (Schedule 26)	Yes, any quantity
Record Keeping	A record of each application must be made. This must include: - The measures implemented to comply with the REI - Size of application area and any enclosed space - Location and extent of any Exclusion Zone or Buffer Zone - Application method used - Quantity of product used by each person during the application - Measures implemented to monitor worker exposure - Where notification was required and who was notified
Exclusion Zone:	For indoor applications only, and Exclusion Zone must be established, from which persons must be excluded (unless wearing personal protective equipment. This zone extends 20m from the outside edge of the building or structure being treated. Persons must be excluded from the start of the

	application until a minimum of 2 hours after the end of the application.
HSNO Additional Controls (Restrictions of use)	
77A	Refer to EPA www.epa.govt.nz for controls document - HSR000213 for extensive list of controls for this product.
Hazardous Property Controls Notice 2017	
HPC Notice Part 4 Clause 47	Equipment for class 9 substances must be appropriate
HPC Notice Part 4 Clause 48	Records of application of class 9 pesticides and plant growth regulators
HPC Notice Part 2	Certain substances restricted to workplaces only.
HPC Notice Part 3	Hazardous substances in a place other than a workplace.
HPC Notice Part 4 Subpart A	Site and storage controls for class 9 substances
HPC Notice Part 4 Subpart C	Qualifications required for application of class 9 pesticides.
ACVM Act and Regulations	
ACVM Approval No See www.foodsafety.govt.nz for registration controls	P6080

Section 16 Other Information

For proper and safe use of this product, please refer to the approval conditions laid down on the product label. The data contained in this safety data sheet is based on our current knowledge and describes the product only with regard to safety requirements. The data does not describe the products properties. Neither should any agreed property nor the suitability of the product for any specific purpose be deduced from the data contained in the safety data sheet. It is the responsibility of the recipient of the product to ensure any existing laws and legislation are observed.

Glossary

EC_{50}	Median effective concentration.
EEL	Environmental Exposure Limit.
EPA	Environmental Protection Authority
HSNO	Hazardous Substances and New Organisms.
HSW	Health and Safety at Work.
LC_{50}	Lethal concentration that will kill 50% of the test organisms inhaling or ingesting it.
LD_{50}	Lethal dose to kill 50% of test animals/organisms.
LEL	Lower explosive level.
OSHA	American Occupational Safety and Health Administration.
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 5433:2012
5. HSW (Hazardous Substances) Regulations 2017

Disclaimer

This document has been prepared by TCC (NZ) Ltd and serves as the suppliers Safety Data Sheet ('SDS'). It is based on information concerning the product which has been provided to TCC (NZ) Ltd or 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. Further clarification regarding any aspect of the product should be obtained directly from the manufacturer. While TCC (NZ) 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, TCC (NZ) 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

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Please contact Adria, if further information is required.

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