



SAFETY DATA SHEET

Section 1. Identification of the material and the supplier

Product: **MAVRIK® DUO**
Synonyms: Tau-Fluvalinate 18g/L + Pirimicarb 50g/L EW
Product Use: Insecticide
Restriction of Use: Refer to Section 15

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

Emergency Telephone: 0800 764 766 (National Poison Centre)

Date of SDS Preparation: 28 May 2019

Section 2. Hazards Identification

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

EPA Approval No: HSR101197

Pictograms

Pictograms



Toxic

Chronic

Ecotoxic

Signal Word: **DANGER**

Signal Word: **Warning**

| HSNO Classification | Hazard Code | Hazard Statement | GHS Category |
|---------------------|-------------|---|-----------------------------------|
| 6.1E (oral) | H302 | May be harmful if swallowed | Acute Tox. 5 |
| 6.9B | H373 | May cause damage to organs through prolonged or repeated exposure | STOT RE 2 |
| 9.1A | H400 | Very toxic to aquatic life. | Aquatic Acute 1/Aquatic Chronic 1 |
| 9.4C | H443 | Harmful to terrestrial invertebrates | - |

Prevention

Prevention Statement

| Code | |
|------|---|
| P103 | Read label before use. |
| P264 | Wash exposed skin thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P260 | Do not breathe vapours or spray mist. |
| P273 | Avoid release to the environment. |

| Response Code | Response Statement |
|---------------|--|
| P301+312 | IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell. |
| P330 | Rinse mouth. |
| P314 | Get medical advice/attention if you feel unwell. |
| P391 | Collect spillage. |

| Storage Code | |
|----------------|--|
| None Allocated | |

| Disposal Code | Disposal Statement |
|---------------|--|
| P501 | <p>Container Disposal - Triple rinse empty container and add rinsate to spray tank. Submit clean empty container to an Agrecovery® depot for recycling. Alternatively, puncture and bury in a suitable landfill. Avoid contamination of any water supply with product or empty container.</p> <p>Product Disposal - Dispose of this product only by using according to the label, or through the Agrecovery® Chemical Recovery service or other approved facility.</p> |

Section 3. Composition / Information on Ingredients

| Ingredients | Wt% | CAS NUMBER. |
|-----------------|-------|-------------|
| Acetophenone | 18-22 | 98-86-2 |
| Pirimicarb | 4-6 | 23103-98-2 |
| Tau fluvalinate | 1-2 | 102851-06-9 |
| Methanol | <1 | 67-56-1 |

Section 4. First Aid Measures

Routes of Exposure:

| | |
|----------------|--|
| General advice | In case of accident or feeling of unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible). First aider: Pay attention to self-protection!. |
| If in Eyes | Rinse cautiously with water for 15 minutes. If needed: Get medical advice. |
| If on Skin | Wash with plenty of soap and water. If needed: get medical advice/attention. |
| If Swallowed | Do NOT induce vomiting. Rinse mouth. Drink plenty of water. If symptoms persist, call a physician. |
| 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.

Inhalation: Not applicable.

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Skin: Not applicable.
Eye: Not applicable.
Chronic: May cause damage to organs through prolonged or repeated exposure.

Note to physician: Treat symptomatically.

Section 5. Fire Fighting Measures

| | |
|---|---|
| Hazard Type | Non Flammable. |
| Hazards from combustion products | No specific hazard known. |
| 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 | 3Z |

Section 6. Accidental Release Measures

Exclude all bystanders from the vicinity of the spill and prevent material from entering waterways.

Wear full protective clothing as specified in SECTION 8 to clean up spills. Absorb spill with an inert material (such as vermiculite, earth, sand or synthetic absorbent substance) and place in waste containers. Wash area with water and alkaline detergent then absorb any remaining liquid with further inert material.

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 the waste safely according to Local and national regulations, using a licensed waste disposal company.

Section 7. Handling and Storage

General Hygiene Considerations:

Regular cleaning of equipment, work area and clothing is recommended.

Precautions for Handling:

- Read label before use.
- Do not eat, drink or smoke when using this product.
- Avoid release to the environment.
- Use personal protective equipment and local exhaust ventilation as required.

Precautions for Storage:

- Store away from incompatible materials listed in Section 10.
- Keep container tightly closed in a dry, cool and well-ventilated place.
- Keep in properly labeled containers.

Section 8 Exposure Controls / Personal Protection

WORKPLACE EXPOSURE STANDARDS (provided for guidance only)

TWA

STEL

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| Substance | ppm | mg/m3 | ppm | mg/m3 |
|--------------------------------------|-----|-------|-----|-------|
| Methyl alcohol (skin, bio) [67-56-1] | 200 | 262 | 250 | 328 |

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

Ensure adequate ventilation, especially in confined areas.

Personal Protection Equipment



| | |
|-----------------------|--|
| Eyes | Tightly sealing safety goggles. |
| Hands and Skin | Suitable protective clothing: chemical resistant coveralls, gloves and footwear, and chemical resistant headgear for overhead exposures |
| Respiratory | Not normally required. |
| General | When using do not eat, drink or smoke. Wash exposed skin thoroughly after handling. 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 | Opaque white liquid |
| Odour | Odourless |
| Odour Threshold | Not applicable |
| pH – 1% aqueous solution | 5.5 – 6.5 (CIPAC MT 75.2) |
| Boiling Point | Not applicable |
| Melting Point | Not applicable |
| Crystallization temperature | Not applicable |
| Flash Point | >110.5°C (EEC A.9) |
| Flammability | Not applicable for liquids |
| Upper and Lower Exposure Limits | Not applicable |
| Vapour Pressure | Not applicable |
| Density | Not applicable |
| Relative Density | 1.02-1.07 (EEC A.3) |
| Solubilities | Not applicable |
| Partition Coefficient: | Not applicable |
| Auto-ignition Temperature | 488°C (EEC A15) |
| Surface tension @ 25°C | 40.6 (EEC A.5) |
| Kinematic Viscosity mm²/s 40°C | 144 (OECD 114) |
| Bulk Density | Not applicable. |

Section 10. Stability and Reactivity

| | |
|-------------------------------|---|
| Stability of Substance | This product is stable under normal conditions. |
| Conditions to Avoid | Heat, flames and sparks. |
| Incompatible Materials | No information available. |

| | |
|---|---------------------------|
| Hazardous Decomposition Products | No information available. |
|---|---------------------------|

| |
|---|
| Section 11 Toxicological Information |
|---|

Acute Effects:

| | |
|-------------------|-----------------|
| Swallowed | Not applicable. |
| Dermal | Not applicable. |
| Inhalation | Not applicable. |
| Eye | Not applicable. |
| Skin | Not applicable. |

Chronic Effects:

| | |
|-------------------------------|-----------------|
| Carcinogenicity | Not applicable. |
| Reproductive Toxicity | Not applicable. |
| Germ Cell Mutagenicity | Not applicable. |
| Aspiration | Not applicable. |
| STOT/SE | Not applicable. |
| STOT/RE | Not applicable. |

Information on toxicological effects

Acute toxicity

| | | Values | Method | Remarks |
|--|------------------------------|---------------|----------------------|----------------------------------|
| Oral LD50 mg/kg | : > 2000 | Rat | OECD 420 | |
| Dermal LD50 mg/kg | : > 2000 | Rat | OECD 402 | |
| Inhalation LC50 mg/l/4h | : > 4.7 | Rat | OECD 403 | Maximum attainable concentration |
| Skin corrosion/irritation | : Non-irritating to the skin | Rabbit | OECD 404 | |
| Serious eye damage/eye irritation | : Not irritating to eyes | Rabbit | OECD 405 | |
| Respiratory/skin sensitization | : Not a skin sensitizer | Guinea pig | OECD 406, (M&K test) | |

Chronic toxicity

Germ cell mutagenicity

| | |
|----------------------|------------------|
| Chemical Name | |
| Tau fluvalinate | : Not classified |
| Pirimicarb | : Not classified |

Carcinogenicity

| | |
|----------------------|--------------------|
| Chemical Name | |
| Tau fluvalinate | : Not Carcinogenic |
| Pirimicarb | : Not Carcinogenic |

Reproductive toxicity

| | |
|----------------------|---|
| Chemical Name | |
| Tau fluvalinate | : Not toxic for the reproductive system |
| Pirimicarb | : Not toxic for the reproductive system |

STOT - single exposure

| | |
|----------------------|---------------------|
| Chemical Name | |
| Tau fluvalinate | : No data available |
| Pirimicarb | : No data available |

STOT - repeated exposure

| | |
|----------------------|---------------------|
| Chemical Name | |
| Tau fluvalinate | : No data available |
| Pirimicarb | : Not classified |

Section 12. Ecotoxicological Information

HSNO Classes: 9.1A = Very toxic to aquatic life.
9.4A = Harmful to terrestrial invertebrates

Do not allow to enter waterways

Aquatic toxicity

| | <u>Values</u> | <u>Species</u> | <u>Method</u> | <u>Remarks</u> |
|------------------------------|---------------|---------------------|-------------------|-------------------|
| Acute toxicity | | | | |
| Fish 96-hour LC50 mg/l | : 0.032 | Oncorhynchus mykiss | OECD 203 | |
| Crustacea 48-hour EC50 mg/l | : 0.0424 | Daphnia magna | OECD 202 | |
| Algae 72-hour EC50 mg/l | : 0.411 | P. subcapitata | OECD 201 | |
| Other plants EC50 mg/l | : ---- | | | No data available |
| Terrestrial Toxicity | | | | |
| Birds Oral LD50 mg/kg | | | | |
| Chemical Name | | | | |
| Tau fluvalinate | : >455 | | | |
| Pirimicarb | : -- | No data available | | No data available |
| Bees Oral LD50 µg/bee | | | | |
| Chemical Name | | | | |
| Tau fluvalinate | : 12.6 | | OECD 213 OECD 214 | |
| Pirimicarb | : ---- | | | No data available |

Persistence and degradability

| | <u>Values</u> | <u>Method</u> | <u>Remarks</u> |
|----------------------------|-----------------------------|-----------------|----------------|
| Abiotic Degradation | | | |
| Water DT50 days | | | |
| Chemical Name | | | |
| Tau fluvalinate | : 1.96 | EPA-FIFRA 162-4 | |
| Pirimicarb | : 36 - 55 | | days |
| Soil DT50 days | | | |
| Chemical Name | | | |
| Tau fluvalinate | : 31 | | |
| Pirimicarb | : 29 - 365 | | days |
| Biodegradation | | | |
| Chemical Name | | | |
| Tau fluvalinate | : Not readily biodegradable | | |
| Pirimicarb | : No data available | | |

Bioaccumulative potential

| | <u>Values</u> | <u>Method</u> | <u>Remarks</u> |
|--|---------------|---------------|----------------|
| Partition Coefficient (n-octanol/water) Log | | | |
| Chemical Name | | | |
| Tau fluvalinate | : 7.02 | | pH 7 |
| Pirimicarb | : 1.7 | | |

Bioconcentration factor (BCF)

| | |
|----------------------|--------|
| Chemical Name | |
| Tau fluvalinate | : 1979 |
| Pirimicarb | : ---- |

Mobility in soil

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| Absorption/Desorption | Values | Method | Remarks |
|------------------------------|---------------|---------------|----------------|
| Chemical Name | | | |
| Tau fluvalinate | 750746 | | Koc |
| Pirimicarb | | | Mobile |

Section 13. Disposal Considerations

Disposal Method:

Container Disposal - Triple rinse empty container and add rinsate to spray tank. Submit clean empty container to an Agrecovery® depot for recycling. Alternatively, puncture and bury in a suitable landfill. Avoid contamination of any water supply with product or empty container.

Product Disposal - Dispose of this product only by using according to the label, or through the Agrecovery® Chemical Recovery service or other approved facility.

Precautions: Do not allow product to enter waterways.

Disposal methods to avoid: Do not burn product or container. Improper disposal or reuse of this container may be dangerous and illegal.

Section 14 Transport Information

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

Road and Rail Transport

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

Air Transport

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

Marine Transport

| | |
|-----------------------|---|
| UN No: | 3082 |
| Class-primary | 9 |
| Packing Group | III |
| Proper Shipping Name: | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Tau-Fluvalinate) |
| 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 (Classification) Notice 2017

EPA Approval Code: HSR101197
 HSNO Classification: 6.1E(oral), 6.9B, 9.1A, 9.4C

Refer to EPA website www.epa.govt.nz for controls document - HSR101197

| HSW (HS) Regulations 2017 | Trigger Quantity/Regulation |
|--|---|
| HSW(Hazardous substance) Regulations Part 4 Certified Handlers and supervision and training of workers | HSW Reg 4.5 – 4.6 Information, instruction, training and supervision. |
| Location Certificate | Not required |
| Signage Trigger Quantities (Schedule 3) | 100Kg (9.1A) |
| Emergency Response Plan (Schedule 5) | 100Kg (9.1A) |
| Secondary Containment (Schedule 5) | 100Kg (9.1A) |
| Tracking (Schedule 26) | Not required |
| HSNO Additional Controls (Restrictions of use) | |
| 77A | The substance must not be applied onto or into water. Do not re-enter the treated area within 24 hours unless wearing full personal protective equipment. |
| CONTROL R-4: Spray drift mitigation | Spray drift mitigation (1) No person may apply the substance in a manner that results in adverse effects beyond the boundary of the subject property. (2) A person applying the substance must take all practicable steps to avoid off-target movement of the substance. |
| CONTROL/ R-8: Identification as an organophosphate or carbamate substance | Identification as carbamate substance (1) A person must not supply this hazardous substance to any other person unless the substance label clearly states that the substance is a carbamate-containing substance. (2) A person who is in charge of this hazardous substance must ensure that the substance label shows the information required by (1). |
| 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 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 | P009373 |

Section 16 Other Information

Glossary

| | |
|------|---|
| EC50 | Median effective concentration. |
| EEL | Environmental Exposure Limit. |
| EPA | Environmental Protection Authority |
| HSNO | Hazardous Substances and New Organisms. |
| 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. |

| | |
|------|---|
| 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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in text.

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