

## 1. Identification of Substance & Company

### Product

|                             |   |
|-----------------------------|---|
| <b>Product name</b>         | Protek  |
| <b>ACVM</b>                 | ACVM Approval: P004876  |
| <b>HSNO approval</b>        | HSR000464   |
| <b>Approval description</b> | Suspension concentrate containing 500 g/litre carbendazim (Substance B)   |
| <b>UN number</b>            | 3082  |
| <b>Proper Shipping Name</b> | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Carbendazim)   |
| <b>DG class</b>             | 9   |
| <b>Packaging group</b>      | III   |
| <b>Hazchem code</b>         | 3Z  |
| <b>Uses</b>                 | FUNGICIDE - A broad spectrum systemic fungicide active for controlling a range of diseases of grass seed and selected fruit, vegetable and cereal crops |

### Company Details

|                   |  |
|-------------------|--|
| <b>Company:</b>   | <b>Arxada NZ Limited</b>                                     |
| <b>Address:</b>   | 13-15 Hudson Rd<br>Bell Block<br>New Plymouth<br>New Zealand |
| <b>Telephone:</b> | +64 6 755 9234   |
| <b>Fax:</b>       | +64 6 755 1174   |
| <b>Website:</b>   | www.arxada.co.nz   |
| <b>Email:</b>     | office-newplymouth@arxada.com                                |

**Emergency Telephone Number: 0800CHEMCALL (0800 243 622)**  
**International Emergency Phone: +64 4 917 9888**

## 2. Hazard Identification

### Approval

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO, Approval HSR000464, Suspension concentrate containing 500 g/litre carbendazim (Substance B)). The substance has been classified as hazardous according to the criteria in the Hazardous substances (Hazard Classification) Notice 2020.

### GHS Classes

Skin sensitiser category 1  
Mutagen category 1  
Reproductive toxicity category 1  
STOT\* repeated exposure category 2  
Acute aquatic category 1  
Hazardous to soil organisms

### Hazard Statements

H317 - May cause an allergic skin reaction.  
H340 - May cause genetic defects.  
H360 - May damage fertility or the unborn child.  
H373 - May cause damage to organs through prolonged or repeated exposure.  
H400 - Very toxic to aquatic life.  
H422 - Toxic to the soil environment.

\*STOT – System Target Organ Toxicity

### SYMBOLS

# DANGER



### Other Classifications

There are no other classifications that are known to apply.

## Precautionary Statements

|                   |  |
|-------------------|--|
| <b>Prevention</b> | <p>P103 - Read label before use.<br/> P201 - Obtain special instructions before use.<br/> P202 - Do not handle until all safety precautions have been read and understood.<br/> P260 - Do not breathe vapours/spray.<br/> P264 - Wash hands thoroughly after handling.<br/> P270 - Do not eat, drink or smoke when using this product.<br/> P272 - Contaminated work clothing should not be allowed out of the workplace.<br/> P273 - Avoid release to the environment.<br/> P280 - Wear protective gloves/eye protection/face protection*.<br/> P281 - Use personal protective equipment as required.</p> |
| <b>Response</b>   | <p>P308+P313 - IF exposed or concerned: Get medical advice/ attention.<br/> P302+P352 - IF ON SKIN: Wash with plenty of soap and water.<br/> P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.<br/> P363 - Wash contaminated clothing before reuse.<br/> P308+P313 - IF exposed or concerned: Get medical advice/ attention.<br/> P391 - Collect spillage.</p>  |
| <b>Storage</b>    | P405 - Store locked up.  |
| <b>Disposal</b>   | P501 - Dispose of contents/container in accordance with local/regional/national/international regulation.  |

## 3. Composition / Information on Ingredients

| Component                                   | CAS/ Identification | Concentration |
|---|---------------------|---------------|
| Carbendazim                                 | 10605-21-7          | 40-45% w/w    |
| Surfactants                                 | proprietary         | <20% w/w      |
| Ingredients not contributing to GHS classes | mixture             | <20% w/w      |
| water                                       | 7732-18-5           | balance       |

This is a commercial product whose exact ratio of components may vary slightly. Trace quantities of impurities are also likely.

## 4. First Aid

### General Information

Arxada NZ Limited has an emergency contact phone number: 0800 243 622, +64 4 917 9888

If medical advice is needed, have product container or label at hand. You should call the National Poisons Centre if you feel that you may have been harmed or irritated by this product. The number is 0800 764 766 (0800 POISON) (24 hr emergency service).

**Recommended first aid facilities** Ready access to running water is recommended. Accessible eyewash is recommended.

### Exposure

|                     |  |
|---------------------|--|
| <b>Swallowed</b>    | IF SWALLOWED: Call a POISON CENTRE or doctor/physician if you feel unwell. Rinse mouth. Do NOT induce vomiting. Give a glass of water to drink.  |
| <b>Eye contact</b>  | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.   |
| <b>Skin contact</b> | This product is non-irritating to skin. No further measures should be required.  |
| <b>Inhaled</b>      | Generally, inhalation of fumes/vapours/dusts is unlikely to result in adverse health effects. If coughing, dizziness or shortness of breath is experienced, remove the patient to fresh air immediately. If patient is unconscious, place in the recovery position (on the side) for transport and contact a doctor. |

### Advice to Doctor

Treat symptomatically

## 5. Firefighting Measures

|   |  |
|---|--|
| <b>Fire and explosion hazards:</b>          | There are no specific risks for fire/explosion for this chemical. It is non-flammable. |
| <b>Suitable extinguishing substances:</b>   | Carbon dioxide, extinguishing powder, foam.  |
| <b>Unsuitable extinguishing substances:</b> | Unknown.   |

|                                |   |
|--------------------------------|---|
| <b>Products of combustion:</b> | Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Water. May form toxic mixtures in air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. |
| <b>Protective equipment:</b>   | Self-contained breathing apparatus. Safety boots, non-flammable overalls, gloves, hat and eye protection.   |
| <b>Hazchem code:</b>           | 3Z  |

## 6. Accidental Release Measures

|                             |  |
|-----------------------------|--|
| <b>Containment</b>          | If greater than <i>100L is stored</i> , secondary containment and emergency plans to manage any potential spills must be in place. In all cases design storage to prevent discharge to storm water.  |
| <b>Emergency procedures</b> | In the event of spillage alert the fire brigade to location and give brief description of hazard.<br>Stop the source of the leak, if safe to do so. Shut off all possible sources of ignition. Wear protective equipment to prevent skin, eye and respiratory exposure. Clear area of any unprotected personnel. Contain using sand, earth or vermiculite. Do not use sawdust. Prevent by whatever means possible any spillage from entering drains, sewers, or water courses. (If this occurs contact your regional council immediately). |
| <b>Clean-up method</b>      | Use absorbent (soil, sand or other inert material). Rags are not recommended for the clean-up of spills, as they may create fire or environmental hazard. Collect and seal in properly labelled containers or drums for disposal. If contamination of crops, sewers or waterways has occurred advise local emergency services.   |
| <b>Disposal</b>             | Mop up and collect recoverable material into labelled containers for recycling or salvage. Recycle containers wherever possible. This material may be suitable for approved landfill. Dispose of only in accord with all regulations.  |
| <b>Precautions</b>          | Wear protective equipment to prevent skin and eye contamination and the inhalation of vapours. Work up wind or increase ventilation.   |

## 7. Storage & Handling

|                 |   |
|-----------------|---|
| <b>Storage</b>  | Store locked up. Store in original container only. Avoid storage of harmful substances with food. Store out of reach of children. Containers should be kept closed in order to minimise contamination. Keep from extreme heat and open flames. Avoid contact with incompatible substances as listed in Section 10.                                  |
| <b>Handling</b> | Use according to manufacturer's directions. Read the entire label before mixing or use. Records of use must be kept.<br>Keep exposure to a minimum, and minimise the quantities kept in work areas. See section 8 with regard to personal protective equipment requirements. Avoid skin and eye contact and inhalation of vapour, mist or aerosols. |

## 8. Exposure Controls / Personal Protective Equipment

### Workplace Exposure Standards

A workplace exposure standard (WES) has not been established by WorkSafe NZ for this product. There is a general limit of 3mg/m<sup>3</sup> for respirable particulates and 10mg/m<sup>3</sup> for inhalable particulates when limits have not otherwise been established.

| NZ Workplace Exposure Stds | Ingredient           | WES-TWA | WES-STEL |
|----------------------------|----------------------|---------|----------|
|                            | No ingredient listed |         |          |

### Engineering Controls

In industrial situations, it is expected that employee exposure to hazardous substances will be controlled to a level as far below the WES as practicable by applying the hierarchy of control required by the Health and Safety at Work Act (2015) and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016. Exposure can 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 processes or increase ventilation.

### Personal Protective Equipment

|                |   |
|----------------|---|
| <b>General</b> | Personal Protective Equipment (PPE) should not be used as the primary means of exposure protection, except in the event of an accident or emergency situation or where all other means of protection have proven to inadequate. Clean PPE after use or dispose of as appropriate. Store PPE for re-use in a clean place. Regular training on the correct use of PPE should be provided. In particular the correct fitting and use of respirators and where applicable the cleaning of respirators should be undertaken. |
|----------------|---|

|                    |  |
|--------------------|--|
| <b>Eyes</b>        | Protective eyewear is not normally necessary when using this product. However, it always prudent to use protective eyewear if splashes are likely.   |
| <b>Skin</b>        | Avoid repeated or prolonged skin contact. Wear overalls, rubber boots and impervious gloves. PVC-coated gloves are recommended. Protective gloves or suitably resistant material must comply with AS 2161. Replace frequently. Gloves should be checked for tears or holes before use. Protective clothing must comply with AS 2919, AS3765.1 or AS3765.2. PVC or rubber boots must comply with AS/NZS 2210.2 and selected and maintained in accordance with AS/NS2210.1. Remove protective clothing and wash exposed areas with soap and water prior to eating, drinking or smoking. Wash hands after handling. |
| <b>Respiratory</b> | A respirator when airborne concentrations approach the WES (section 8). Respirators must have filters appropriate to the duty and comply with AS/NZS1716 and selected, used and maintained in accordance with AS/NS 1715. Use a respirator with an organic vapour cartridge. If using a respirator, ensure that the cartridges are correct for the potential air contamination and are in good working order. Fit testing and clear guidelines and training for use and maintenance of PPE are necessary.  |



### WES Additional Information

Not applicable

## 9. Physical & Chemical Properties

|   |                                  |
|---|----------------------------------|
| <b>Appearance</b>                         | off white suspension concentrate |
| <b>Odour</b>                              | not specified                    |
| <b>pH</b>                                 | 7.5                              |
| <b>Vapour pressure</b>                    | no data                          |
| <b>Viscosity</b>                          | no data                          |
| <b>Boiling point</b>                      | no data                          |
| <b>Volatile materials</b>                 | no data                          |
| <b>Freezing / melting point</b>           | no data                          |
| <b>Solubility</b>                         | miscible in water                |
| <b>Specific gravity / density</b>         | 1.180                            |
| <b>Flash point</b>                        | no data                          |
| <b>Danger of explosion</b>                | no data                          |
| <b>Auto-ignition temperature</b>          | no data                          |
| <b>Upper &amp; lower flammable limits</b> | no data                          |
| <b>Corrosiveness</b>                      | no data                          |

## 10. Stability & Reactivity

|   |   |
|---|---|
| <b>Stability</b>                          | Stable  |
| <b>Conditions to be avoided</b>           | Containers should be kept closed in order to avoid contamination. Keep from extreme heat and open flames. |
| <b>Incompatible groups</b>                | none known  |
| <b>Substance Specific Incompatibility</b> | none known  |
| <b>Hazardous decomposition products</b>   | none known  |
| <b>Hazardous reactions</b>                | none known  |

## 11. Toxicological Information

### Summary

IF SWALLOWED: no acute effect anticipated. See chronic toxicity below.  
 IF IN EYES: not classed as an eye irritant.  
 IF ON SKIN: susceptible individuals may experience an allergic skin reaction such as dermatitis.  
 IF INHALED: no acute effect anticipated. See chronic toxicity below.  
 CHRONIC TOXICITY: possible long term health effects may include genetic effects, damaged fertility and developmental toxicity for unborn child. Repeated exposure may affect the liver, respiratory system and kidneys.

### Supporting Data

|              |                |   |
|--------------|----------------|---|
| <b>Acute</b> | <b>Oral</b>    | Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (oral) for the mixture is >2,000 mg/kg. Data considered includes: Carbendazim 6400 mg/kg (rat).          |
|              | <b>Dermal</b>  | Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (dermal) for the mixture is >2,000 mg/kg. Data considered includes: Carbendazim 8500 mg/kg (rabbit).     |
|              | <b>Inhaled</b> | Using LD <sub>50</sub> 's for ingredients, the Acute Toxicity Estimate (ATE) (inhalation) for the mixture is >5mg/L/4h. Data considered includes: Carbendazim 820 mg/m <sup>3</sup> . |

|                |   |   |
|----------------|---|---|
| <b>Chronic</b> | <b>Eye<br/>Skin<br/>Sensitisation</b>                       | The mixture is not considered to be an eye irritant.<br>The mixture is not considered to be a skin irritant.  |
|                | <b>Mutagenicity</b>   | The mixture is considered to be a contact sensitizer, because carbendazim present in greater than 0.1% is known to be a contact sensitizer.   |
|                | <b>Carcinogenicity<br/>Reproductive /<br/>Developmental</b> | The mixture is considered to be a known or presumed mutagen, because carbendazim present in greater than 0.1% is known or presumed to be a mutagen.<br>No ingredient present at concentrations > 0.1% is considered a carcinogen.<br>The mixture is considered to be a known or presumed reproductive or developmental toxicant, because carbendazim present in greater than 0.1% is known or presumed to be a reproductive or developmental toxicant. Carbendazim may affect male fertility and has developmental toxicity (reduced pup weight, resorption and reduced litter size in animal experiments). |
|                | <b>Systemic</b>   | The mixture is considered to be a suspected target organ toxicant, because carbendazim present in greater than 1% is suspected to be a target organ toxicant.   |
|                | <b>Aggravation of<br/>existing conditions</b>               | None known.   |

## 12. Ecological Data

### Summary

This mixture is very toxic towards aquatic organisms and toxic towards soil organisms.

### Supporting Data

|  |   |
|--|---|
| <b>Aquatic</b>   | Using EC <sub>50</sub> 's for ingredients, the calculated EC <sub>50</sub> for the mixture <1mg/L. Data considered includes:<br><b>Carbendazim</b> 0.014 mg/l (96hr, Channel catfish), 0.11 mg/l (48hr, Daphnia magna), 0.34 mg/l (48hr, green algae), LogP(octanol/water): 1.52. |
| <b>Bioaccumulation<br/>Degradability</b>                   | No evidence of bioaccumulation.<br><b>Carbendazim</b> decomposes in the environment, DT <sub>50</sub> - 6 to 12 month (bare soil), - 3 to 6 month turf, - 2 to 25 month in water under aerobic and anaerobic conditions.<br>LogP (octanol/water): 1.52                            |
| <b>Soil</b>  | EPA has classified the mixture as ecotoxic to the soil environment, with a soil ecotoxicity value between 1 and 10 mg/kg.<br>Data considered includes: <b>Carbendazim</b> LC <sub>50</sub> : 8.4 mg/kg (14 days, earthworm).  |
| <b>Terrestrial vertebrate<br/>Terrestrial invertebrate</b> | See acute toxicity. Not toxic towards birds.<br>No evidence of toxicity towards terrestrial invertebrates. Data considered includes:<br><b>Carbendazim</b> : Bees: LD <sub>50</sub> (Contact) >50 µg/bee.   |
| <b>Biocidal</b>  | no data   |

## 13. Disposal Considerations

|                               |  |
|-------------------------------|--|
| <b>Restrictions</b>           | There are no product-specific restrictions, however, local council and resource consent conditions may apply, including requirements of trade waste consents.  |
| <b>Disposal method</b>        | Disposal of this product must comply with the Hazardous Substances (Disposal) Notice 2017 and the requirements of the Resource Management Act for which approval should be sought from the Regional Authority. The substance must be treated and therefore rendered non-hazardous before discharge to the environment. Triple rinse empty container and add rinsate to the spray tank.   |
| <b>Contaminated packaging</b> | Disposal of contaminated packaging must comply with the Hazardous Substances (Disposal) Notice 2017 clause 12. Ensure that the package is rendered incapable of containing any substance and is disposed in a manner that is consistent with the requirements of the substance it contained and the material of the package. If possible reuse or recycle packaging. If recycling, discard cap and deliver clean container to an Agrecovery depot. Alternatively crush and bury in an approved landfill. |

## 14. Transport Information

### Land Transport Rule: Dangerous Goods 2005 - NZS 5433:2007

Transport according to NZS 5433 (Transport of Hazardous Substances on Land). Considered a dangerous good for transport.

|                     |           |                              |   |
|---------------------|-----------|------------------------------|---|
| <b>UN number:</b>   | 3082      | <b>Proper shipping name:</b> | ENVIRONMENTALLY HAZARDOUS<br>SUBSTANCE, LIQUID, N.O.S.<br>(Carbendazim) |
| <b>Class(es)</b>    | 9         | <b>Packing group:</b>        | III   |
| <b>Precautions:</b> | Ecotoxic. | <b>Hazchem code:</b>         | 3Z  |

## 15. Regulatory Information

This product is an approved substance under the Hazardous Substances and New Organisms Act (HSNO). Approval code: HSR000464, Suspension concentrate containing 500 g/litre carbendazim (Substance B). All ingredients appear on the New Zealand Inventory of Chemicals NZIoC.

### Specific Controls

Key workplace requirements are:

|                                  |   |
|----------------------------------|---|
| SDS                              | To be available within 10 minutes in workplaces storing any quantity.   |
| Inventory                        | An inventory of all hazardous substances must be prepared and maintained.   |
| Packaging                        | All hazardous substances should be appropriately packaged including substances that have been decanted, transferred or manufactured for own use or have been supplied |
| Labelling                        | Must comply with the Hazardous Substances (Labelling) Notice 2017.  |
| Emergency plan                   | Required if > 100L is stored.   |
| Certified handler                | Certified handlers and supervision and training of workers required.  |
| Tracking                         | Records of use must be kept.  |
| Bundling & secondary containment | Required if > 100L is stored.   |
| Signage                          | Required if > 100L is stored.   |
| Location compliance certificate  | Not required.   |
| Flammable zone                   | Not required.   |
| Fire extinguisher                | Not required.   |
| Application rate                 | See label for details.  |

Note: The above workplace requirements apply if only this particular substance is present. The complete set of controls for a location will depend on the classification and total quantities of other substances present in that location.

### Other Legislation

In New Zealand, the use of this product may come under the Resource Management Act and Regulations, the Health and Safety at Work Act 2015 and the Health and Safety at Work (General Risk and Workplace Management) Regulations 2016, local Council Rules and Regional Council Plans.

ACVM approval number: P004876

## 16. Other Information

### Abbreviations

|                        |   |
|------------------------|---|
| <b>Approval Code</b>   | Approval HSR000464, Suspension concentrate containing 500 g/litre carbendazim (Substance B) Controls, EPA. <a href="http://www.epa.govt.nz">www.epa.govt.nz</a>                             |
| <b>CAS Number</b>      | Unique Chemical Abstracts Service Registry Number   |
| <b>EC<sub>50</sub></b> | Ecotoxic Concentration 50% – concentration in water which is fatal to 50% of a test population (e.g. daphnia, fish species)   |
| <b>EPA</b>             | Environmental Protection Authority (New Zealand)  |
| <b>GHS</b>             | Globally Harmonised System of Classification and Labelling of Chemicals, 7 <sup>th</sup> revised edition, 2017, published by the United Nations.  |
| <b>HAZCHEM Code</b>    | Emergency action code of numbers and letters that provide information to emergency services, especially fire fighters   |
| <b>HSNO</b>            | Hazardous Substances and New Organisms (Act and Regulations)  |
| <b>IARC</b>            | International Agency for Research on Cancer   |
| <b>LEL</b>             | Lower Explosive Limit   |
| <b>LD<sub>50</sub></b> | Lethal Dose 50% – dose which is fatal to 50% of a test population (usually rats).   |
| <b>LC<sub>50</sub></b> | Lethal Concentration 50% – concentration in air which is fatal to 50% of a test population (usually rats)   |
| <b>NZIoC</b>           | New Zealand Inventory of Chemicals  |
| <b>STEL</b>            | Short Term Exposure Limit - The maximum airborne concentration of a chemical or biological agent to which a worker may be exposed in any 15 minute period, provided the TWA is not exceeded |
| <b>STOT RE</b>         | System Target Organ Toxicity – Repeated Exposure  |
| <b>STOT SE</b>         | System Target Organ Toxicity – Single Exposure  |
| <b>TWA</b>             | Time Weighted Average – generally referred to WES averaged over typical work day (usually 8 hours)  |
| <b>UEL</b>             | Upper Explosive Limit   |
| <b>UN Number</b>       | United Nations Number   |

**WES** Workplace Exposure Standard - The airborne concentration of a biological or chemical agent to which a worker may be exposed during work hours (usually 8 hours, 5 days a week). The WES relates to exposure that has been measured by personal monitoring using procedures that gather air samples in the worker's breathing zone.

## References

**Data** Unless otherwise stated comes from the EPA HSNO chemical classification information database (CCID).  
**Controls** EPA notices, [www.epa.govt.nz](http://www.epa.govt.nz), Health and Safety at Work (Hazardous Substances) Regulations 2017, [www.legislation.govt.nz](http://www.legislation.govt.nz)  
**WES** The latest NZ Workplace Exposure Standards, published by WorkSafe NZ and available on their web site – [www.worksafe.govt.nz](http://www.worksafe.govt.nz).  
**Other References:** Suppliers SDS

## Review

| Date        | Reason for review        |
|-------------|--------------------------|
| August 2022 | Not applicable - New SDS |

## Disclaimer

This SDS was prepared by Datachem LTD and is based on our current state of knowledge, including information obtained from suppliers. The SDS is given in good faith and constitutes a guideline (not a guarantee of safety). The level of risk each substance poses is relevant to its properties (as summarised in the SDS) AND HOW THE SUBSTANCE IS USED. While guidelines are given for personal protective equipment, such precautions must be relevant to the use. The likely GHS 7 classifications for this SDS have been estimated based on general information from the supplier (e.g., hazard, toxicological). This SDS is copyright Datachem and must not be copied, edited or used for other than intended purpose. To contact the SDS author, email [info@datachem.co.nz](mailto:info@datachem.co.nz) or phone: **+64 21 1040951**.

