

**Section 1 - Identification of The Material and Supplier**

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**Chemical nature:** Metalaxyl is a phenylamide derivative; copper oxychloride is an inorganic fungicide.  
**Trade Name:** **Axiom Plus Systemic Fungicide**  
**APVMA Code:** 50833  
**Product Use:** Agricultural fungicide for use as described on the product label.  
**Creation Date:** **September, 2002**  
**This version issued:** **May, 2021** and is valid for 5 years from this date.  
**Poisons Information Centre: Phone 13 11 26 from anywhere in Australia**

**Section 2 - Hazards Identification****Statement of Hazardous Nature**

This product is classified as: Hazardous according to the criteria of SWA Australia.

Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA and IMDG/IMSBC criteria.

**SUSMP Classification:** S5

**ADG Classification:** None allocated. Not a Dangerous Good.

**UN Number:** None allocated

**GHS Signal word: WARNING.**

Acute Toxicity Oral Category 4

Skin Sensitisation Category 1

Hazardous to aquatic environment Short term/Acute Category 3

**HAZARD STATEMENT:**

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H402: Harmful to aquatic life.

**PREVENTION**

P102: Keep out of reach of children.

P261: Avoid breathing fumes, mists, vapours or spray.

P262: Do not get in eyes, on skin, or on clothing.

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P272: Contaminated work clothing should not be allowed out of the workplace.

P273: Avoid release to the environment.

P280: Wear protective gloves, protective clothing and eye or face protection.

**RESPONSE**

P337: If eye irritation persists: seek medical attention.

P363: Wash contaminated clothing before reuse.

P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P302+P352: IF ON SKIN: Wash with plenty of soap and water.

P333+P313: If skin irritation or rash occurs: Get medical advice.

P370+P378: Not combustible. Use extinguishing media suited to burning materials.

**STORAGE**

P402+P404: Store in a dry place. Store in a closed container.

**DISPOSAL**

P501: Dispose of contents and containers as specified on the registered label.

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## Emergency Overview

**Physical Description & colour:** Green/blue powdered solid in water soluble measure pack.

**Odour:** Not applicable.

**Major Health Hazards:** The oral LD<sub>50</sub> of Metalaxyl in rats is 669 mg/kg and the dermal LD<sub>50</sub> is greater than 3100 mg/kg, indicating slight toxicity by ingestion and dermal application. Rabbits exhibited slight eye and skin irritation, but guinea pigs displayed no sensitization after Metalaxyl exposure. No information was available regarding the inhalation toxicity of Metalaxyl. No significant risk factors have been found for this product.

### Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Metalaxyl	57837-19-1	15	not set	not set
Copper oxychloride	1332-40-7	35	not set	not set
Other non hazardous ingredients	secret	to 100	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that should not be exceeded for more than 15 minutes and should not be repeated for more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

### Section 4 - First Aid Measures

#### General Information:

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 13 1126 from anywhere in Australia and is available at all times. Have this SDS with you when you call.

**Inhalation:** No first aid measures normally required. However, if inhalation has occurred, and irritation has developed, remove to fresh air and observe until recovered. If irritation becomes painful or persists more than about 30 minutes, seek medical advice.

**Skin Contact:** Irritation is unlikely. However, if irritation does occur, flush with lukewarm, gently flowing water for 5 minutes or until chemical is removed.

**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed.

**Ingestion:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

### Section 5 - Fire Fighting Measures

**Fire and Explosion Hazards:** There is no risk of an explosion from this product under normal circumstances if it is involved in a fire.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Extinguishing Media:** Preferred extinguishing media are carbon dioxide, dry chemical, foam, water fog.

**Fire Fighting:** If a significant quantity of this product is involved in a fire, call the fire brigade.

**Flash point:** Not flammable.

**Upper Flammability Limit:** No data.

**Lower Flammability Limit:** No data.

**Autoignition temperature:** No data.

**Flammability Class:** No data.

### Section 6 - Accidental Release Measures

**Accidental release:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. Suitable materials for protective clothing include rubber, PVC. Stop leak if safe to do so, and contain spill. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

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## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this class of poison. Make sure that containers of this product are kept tightly closed. Make sure that the product does not come into contact with substances listed under "Materials to avoid" in Section 10. Check packaging - there may be further storage instructions on the label.

## Section 8 Exposure Controls and Personal Protection

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: AS/NZS 4501 set 2008, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

### SWA Exposure Limits

### TWA (mg/m<sup>3</sup>)

### STEL (mg/m<sup>3</sup>)

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Metalaxyl is set at 0.03mg/kg/day. The corresponding NOEL is set at 3mg/kg/day. ADI means Acceptable Daily Intake and NOEL means No-observable-effect-level. Values taken from Australian ADI List, June 2014.

**Ventilation:** No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that dusts are minimised.

**Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** If you believe you may have a sensitisation to this product or any of its declared ingredients, you should prevent skin contact by wearing impervious gloves, clothes and, preferably, apron. Make sure that all skin areas are covered. See below for suitable material types.

**Protective Material Types:** There is no specific recommendation for any particular protective material type.

**Respirator:** If there is a significant chance that dusts are likely to build up in the area where this product is being used, we recommend that you use a suitable Dust Mask. Otherwise, not normally necessary.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Green/blue powdered solid in water soluble measure pack.
<b>Odour:</b>	Not applicable.
<b>Boiling Point:</b>	Not applicable.
<b>Freezing/Melting Point:</b>	Decomposes before melting.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C.
<b>Vapour Pressure:</b>	Negligible at normal room temperatures.
<b>Vapour Density:</b>	No data.
<b>Specific Gravity:</b>	No data.
<b>Water Solubility:</b>	Product is a wettable powder in a water soluble measure pack..
<b>pH:</b>	No data.
<b>Volatility:</b>	No data.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Coeff Oil/water distribution:</b>	No data.
<b>Autoignition temp:</b>	No data.

## Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Conditions to Avoid:** This product should be kept in a cool place, preferably below 30°C.

**Incompatibilities:** strong acids, strong bases, strong oxidising agents.

**Fire Decomposition:** Carbon dioxide, and if combustion is incomplete, carbon monoxide and smoke. Nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas. Hydrogen chloride gas, other compounds of chlorine. Water. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma

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and death. Hydrogen cyanide poisoning signs and symptoms are weakness, dizziness, headache, nausea, vomiting, coma, convulsions, and death. Death results from respiratory arrest. Hydrogen cyanide gas acts very rapidly; symptoms and death can both occur quickly.

**Polymerisation:** This product is unlikely to undergo polymerisation processes.

## Section 11 - Toxicological Information

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Metalaxyl	$\geq 1\% \text{Conc} < 25\%$ : Xi; R43
<ul style="list-style-type: none"><li>Acute toxicity - category 4</li><li>Skin sensitisation - category 1</li><li>Hazardous to the aquatic environment (chronic) - category 3</li></ul>	

**Toxicity: Acute toxicity:** The oral LD<sub>50</sub> of Metalaxyl in rats is 669 mg/kg and the dermal LD<sub>50</sub> is greater than 3100 mg/kg, indicating slight toxicity by ingestion and dermal application. Rabbits exhibited slight eye and skin irritation, but guinea pigs displayed no sensitization after Metalaxyl exposure. No information was available regarding the inhalation toxicity of Metalaxyl.

**Chronic toxicity:** A 90-day study of rats exposed to 0.1 to 2.5 mg/kg/day in diet, showed some cellular enlargement in the liver at the highest dose. In a similar study with dogs fed diets of approximately 0.04 to 0.8 mg/kg/day for 6 months, the dogs were adversely affected by the highest dose. Manifestations included increased blood alkaline phosphatase and increased liver-to-brain weight ratio.

**Reproductive effects:** A three-generation rat study where animals were fed up to 2.5 mg/kg/day showed no compound related maternal toxicity or reproductive effects. These data suggest that Metalaxyl is unlikely to cause reproductive effects.

**Teratogenic effects:** Rats given a dosage of 120 mg/kg/day by stomach tube on days 6 to 15 of gestation exhibited no embryotoxicity or teratogenicity, nor did rabbits given a dosage of 20 mg/kg/day by the same route on days 6 to 18. These data suggest that Metalaxyl is not teratogenic.

**Mutagenic effects:** Studies including a dominant lethal assay in male mice indicate that Metalaxyl has no mutagenic potential.

**Carcinogenic effects:** Available studies of the carcinogenicity of Metalaxyl are inconclusive.

**Organ toxicity:** The liver is the primary target organ for Metalaxyl in animal systems.

**Fate in humans and animals:** Studies with rats and goats showed rapid metabolism and excretion via the urine and faeces. Metalaxyl is metabolized to a variety of products before excretion. Forty-day feeding studies with dairy cattle at 15 ppm/day, showed less than 0.01 ppm was stored in the muscle and fat. The liver contained 0.13 to 0.20 ppm and the kidney 0.26 to 0.83 ppm. Chickens fed for 28 days at 5 ppm in the diet had less than 0.05 ppm in the eggs, skin, fat, breast, and thigh, and less than 0.1 ppm in the liver.

### Potential Health Effects

Persons sensitised to Metalaxyl should avoid contact with this product.

See section 11 for Chronic exposure studies.

#### Inhalation

**Short term exposure:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

#### Skin Contact:

**Short term exposure:** Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

#### Eye Contact:

**Short term exposure:** Available data shows that this product is not harmful. However product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

#### Ingestion:

**Short term exposure:** Available data shows that this product is not harmful. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

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**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

**Section 12 - Ecological Information**

**Effects on birds:** Metalaxyl is reported to be practically nontoxic to birds.

**Effects on aquatic organisms:** Metalaxyl is practically nontoxic to freshwater fish. The 96-hour LC<sub>50</sub> values in rainbow trout, carp, and bluegill are all above 100 mg/L. Freshwater aquatic invertebrates are slightly more susceptible to Metalaxyl. *Daphnia magna*, a small freshwater crustacean, has an LC<sub>50</sub> of 12.5 to 28 mg/L, depending on the product formulation. This indicates that Metalaxyl is slightly toxic to this organism. There is little tendency for Metalaxyl to accumulate in the edible portion of fish. Metalaxyl did not accumulate beyond seven times the background concentration and it was quickly eliminated after exposed fish were placed in fresh (Metalaxyl-free) water.

**Effects on other organisms:** Metalaxyl is nontoxic to bees.

**Environmental Fate:**

**Breakdown in soil and groundwater:** Under field conditions, Metalaxyl has a half-life of 7 to 170 days in the soil environment. A representative half-life in moist soils is about 70 days. Increased sunlight may increase the rate of breakdown in the soil. It is poorly sorbed by soils and highly soluble in water; these properties in combination with its long persistence pose a threat of contamination to groundwater. It readily leaches in sandy soil, although increased organic matter may decrease the rate of leaching. In a large-scale, national survey, Metalaxyl was detected in the groundwater of several American states at concentrations of 0.27 µg/L to 2.3 mg/L.

**Breakdown in water:** At pH levels of 5 to 9 and temperatures of 20 to 30°C, the half-life in water was greater than 4 weeks. However, exposure to sunlight reduced the half-life to 1 week.

**Breakdown in vegetation:** Plants absorb foliar applications through the leaves and stems, and can translocate the compound throughout the plant. Metalaxyl is not absorbed directly from the soil by plants. The parent compound is the major residue in potato tubers and grapes, but in potato leaves and on lettuce, metabolites are the major product.

**Section 13 - Disposal Considerations**

**Disposal:** Special help is available for the disposal of Agricultural Chemicals. The product label will give general advice regarding disposal of small quantities, and how to cleanse containers. However, for help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182 <http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster <http://www.drummuster.com.au/> where you will find contact details for your area.

**Section 14 - Transport Information**

**UN Number:** This product is not classified as a Dangerous Good by ADG, IATA or IMDG/IMSBC criteria. No special transport conditions are necessary unless required by other regulations.

**Section 15 - Regulatory Information**

**AICS:** All of the significant ingredients in this product are compliant with NICNAS regulations.

**Section 16 - Other Information**

**This SDS contains only safety-related information. For other data see product literature.**

**Acronyms:**

<b>ADG Code</b>	Australian Code for the Transport of Dangerous Goods by Road and Rail, 7th Edition
<b>AICS</b>	Australian Inventory of Chemical Substances
<b>CAS number</b>	Chemical Abstracts Service Registry Number
<b>Hazchem Code</b>	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
<b>IARC</b>	International Agency for Research on Cancer
<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<b>NOS</b>	Not otherwise specified
<b>NTP</b>	National Toxicology Program (USA)
<b>R-Phrase</b>	Risk Phrase
<b>SUSMP</b>	Standard for the Uniform Scheduling of Medicines & Poisons
<b>UN Number</b>	United Nations Number

**Contact Points:**

Call Adama on (02)9431 7800 and ask for the technical manager.

Fax: (02)9431 7700

**SAFETY DATA SHEET**

Issued by: Adama Australia Pty Ltd

Phone: (02)9431 7800 (office hours)

Poisons Information Centre: 13 1126 from anywhere in Australia, (0800 764 766 in New Zealand)



**Police and Fire Brigade:  
Emergency contact:**

**Dial 000  
1800 033 111 (24 hours)**

**If ineffective:**

**Dial Poisons Information Centre  
(13 11 26 from anywhere in Australia)**

THIS SDS SUMMARISES OUR BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION OF THE PRODUCT AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE. EACH USER MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THE WORKPLACE.

IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT THIS COMPANY SO WE CAN ATTEMPT TO OBTAIN ADDITIONAL INFORMATION FROM OUR SUPPLIERS. OUR RESPONSIBILITY FOR PRODUCTS SOLD IS SUBJECT TO OUR STANDARD TERMS AND CONDITIONS, A COPY OF WHICH IS SENT TO OUR CUSTOMERS AND IS ALSO AVAILABLE ON REQUEST.

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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<http://www.kilford.com.au/> Phone (02)9251 4532

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