

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

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Chemical nature: Emulsifiable concentrate containing imazalil
Trade Name: **Campbell Magnate 500EC Fungicide**
APVMA Code: 59648
Product Use: Agricultural fungicide for use as described on the product label.
Creation Date: **March, 2017**
This version issued: **March, 2017** and is valid for 5 years from this date.
Poisons Information Centre: Phone 13 1126 from anywhere in Australia

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

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

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

SUSMP Classification: S5

ADG Classification: None allocated. Not a Dangerous Good according to Australian Dangerous Goods (ADG) Code, IATA or IMDG/IMSBC criteria.

UN Number: None allocated

**GHS Signal word: DANGER**

Acute Toxicity Oral Category 4

Serious eye damage/eye irritation Category 1

Acute Toxicity Inhalation Category 4

Hazardous to aquatic environment Short term/Chronic Category 1

HAZARD STATEMENT:

H302: Harmful if swallowed.

H318: Causes serious eye damage.

H332: Harmful if inhaled.

H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

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.

P271: Use only outdoors or in a well ventilated area.

P273: Avoid release to the environment.

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

RESPONSE

P310: Immediately call a POISON CENTRE or doctor/physician.

P362: Take off contaminated clothing and wash before reuse.

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

P304+P340: IF INHALED: Remove victim 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.

P337+P313: If eye irritation persists: Get medical advice.

P391: Collect spillage.

SAFETY DATA SHEET



P370+P378: In case of fire, use carbon dioxide, dry chemical, foam, water fog. Water fog or fine spray is the preferred medium for large fires.

STORAGE

P410: Protect from sunlight.

P403+P235: Store in a well-ventilated place. Keep cool.

DISPOSAL

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

Emergency Overview

Physical Description & Colour: Translucent orange to light brown liquid

Odour: No odour.

Major Health Hazards: Test animals have experienced symptoms such as excitation of hair follicles (goose pimples), muscle incoordination, reduced arterial tension, tremors, and vomiting. Contact dermatitis has been noted in some cases in sensitive individuals. May cause serious damage to eyes, harmful by inhalation and if swallowed.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, g/L	TWA (mg/m ³)	STEL (mg/m ³)
Imazalil	35554-44-0	500	not set	not set
Other non hazardous ingredients	secret	to 1 L	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 SWA 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 may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated 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 (0800 764 766 in New Zealand) and is available at all times. Have this SDS with you when you call.

Inhalation: If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove source of contamination or move victim to fresh air. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's advice. DO NOT allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

Skin Contact: Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.

Eye Contact: Immediately flush the contaminated eye(s) with lukewarm, gently flowing water for 15 minutes or until the product is removed, while holding the eyelid(s) open. Take care not to rinse contaminated water into the unaffected eye or onto the face. Obtain medical attention immediately. Take special care if exposed person is wearing contact lenses.

Ingestion: If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.

Section 5 - Fire Fighting Measures

Fire and Explosion Hazards: The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire.

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

Extinguishing Media: In case of fire, use carbon dioxide, dry chemical, foam or water fog. Water fog or fine spray is the preferred medium for large fires. Try to contain spills, minimise spillage entering drains or water courses.

Fire Fighting: If a significant quantity of this product is involved in a fire, call the fire brigade. There is little danger of a violent reaction or explosion if significant quantities of this product are involved in a fire. Recommended personal protective equipment is liquid-tight chemical protective clothing and breathing apparatus.

Flash point: 130°C (Closed cup)

Upper Flammability Limit: No data.

SAFETY DATA SHEET



Lower Flammability Limit:	No data.
Autoignition temperature:	No data.
Flammability Class:	Not flammable (GHS); C1 combustible (AS 1940)

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Wear full protective chemically resistant clothing including eye/face protection, gauntlets and self contained breathing apparatus. See below under Personal Protection regarding Australian Standards relating to personal protective equipment. No special recommendations for clothing materials. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8). Otherwise, not normally necessary.

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. 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.

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 schedule of poison. Keep containers dry and away from water. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. 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**. Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Imazalil is set at 0.03mg/kg/day. The corresponding NOEL is set at 2.5mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2014.

No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

Ventilation: This product should only be used in a well ventilated area. If natural ventilation is inadequate, use of a fan is suggested.

Eye Protection: Protective glasses or goggles must be worn when this product is being used. Failure to protect your eyes may lead to severe harm to them or to general health. Emergency eye wash facilities must also be available in an area close to where this product is being used.

Skin Protection: You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

Protective Material Types: We suggest that protective clothing be made from the following materials: PVC.

Respirator: Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above. Otherwise, not normally necessary.

SAFETY DATA SHEET



Eyebaths or eyewash stations and safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	Translucent orange to light brown liquid
Odour:	No odour.
Boiling Point:	Not available.
Freezing/Melting Point:	No specific data. Liquid at normal temperatures.
Volatiles:	No data.
Vapour Pressure:	Negligible for imazalil, no data regarding other components
Vapour Density:	No data.
Specific Gravity:	1.1226 at 20°C
Water Solubility:	Emulsifiable.
pH:	7.12
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	No data.
Coeff Oil/water Distribution:	No data
Autoignition temp:	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: Containers should be kept dry. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

Incompatibilities: strong acids, strong bases.

Fire Decomposition: Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulfur (sulfur dioxide is a respiratory hazard) and other sulfur compounds. Most will have a foul odour. May form hydrogen chloride gas, other compounds of chlorine. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

Polymerisation: Polymerisation reactions are unlikely; they are not expected to occur.

Section 11 - Toxicological Information

Toxicity: Acute toxicity: Imazalil is moderately toxic by ingestion, with a reported oral LD₅₀ of 227 to 343 mg/kg in rats. The LD₅₀ in dogs is greater than 640 mg/kg. The reported dermal LD₅₀ is 4200 to 4880 mg/kg in rats, indicating slight toxicity. Test animals have experienced symptoms such as excitation of hair follicles (goose pimples), muscle incoordination, reduced arterial tension, tremors, and vomiting. Contact dermatitis has been noted in some cases in sensitive individuals.

Chronic toxicity: Rats fed Imazalil nitrate at dietary levels of up to 0.4 mg/kg/day for 14 weeks were not affected in appearance, behaviour, survival, food consumption, urinalysis, or tissue composition. There were slight liver, body weight, and bilirubin changes at higher doses. Groups of rats fed up to 0.4 mg/kg/day for 6, 12, and 24 months did not show compound or dose related effects on body weight gain, food consumption, appearance, behaviour, or survival. Similar results were found in a dog study where animals received up to 0.5 mg/kg/day for 2 years. The liver showed some slight effects at the higher doses, but all other measured and observed parameters were within normal limits.

Reproductive effects: In three separate three-generation rat studies at low to moderate doses of 0.4 mg/kg/day, there was a trend to a lower number of live births at the highest dose level. No differences were noted in percent of pregnancies or duration of pregnancy. These data suggest that Imazalil is unlikely to cause reproductive effects under normal conditions.

Teratogenic effects: None of the rat studies mentioned above resulted in foetal abnormalities. A mouse study at doses up to 4.8 mg/kg/day was also negative. It is unlikely that Imazalil is teratogenic.

Mutagenic effects: Dominant lethal mutagenic effects were not evident in male and female mice. Based on these data, it appears that Imazalil is not mutagenic.

Carcinogenic effects: In a group of rats given Imazalil for 30 months at a dose of 5.0 mg/kg/day, there were no increases in tumours compared to the controls. This suggests that Imazalil is noncarcinogenic.

Organ toxicity: Based on animal tests, Imazalil affects the nervous system and liver.

SAFETY DATA SHEET



Fate in humans and animals: Imazalil is rapidly absorbed, distributed, metabolized, and excreted by rats. Following a single dose of Imazalil sulphate, 90% was excreted in metabolized form within 96 hours. Only 3% was eliminated via the faeces in nonmetabolized form, indicating almost complete absorption from the gastrointestinal tract. At least four metabolites are formed 48 hours after administration. Accumulation in fatty tissue did not occur. There is no data to hand indicating any particular target organs.

Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Imazalil	Conc>=25%: Xn; R20/22; R41
<ul style="list-style-type: none">Acute toxicity - category 4Eye damage - category 1Hazardous to the aquatic environment (acute) - category 1Hazardous to the aquatic environment (chronic) - category 1	

Potential Health Effects

Inhalation:

Short Term Exposure: Available data shows that this product is harmful, but symptoms are not available. In addition product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term inhalation.

Skin Contact:

Short Term Exposure: Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

Long Term Exposure: No data for health effects associated with long term skin exposure.

Eye Contact:

Short Term Exposure: This product is a severe eye irritant. Symptoms may include stinging and reddening of eyes and watering which may become copious. Other symptoms such as swelling of eyelids and blurred vision may also become evident. If exposure is brief, symptoms should disappear once exposure has ceased. However, lengthy exposure or delayed treatment is likely to cause permanent damage.

Long Term Exposure: No data for health effects associated with long term eye exposure.

Ingestion:

Short Term Exposure: Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.

Long Term Exposure: No data for health effects associated with long term ingestion.

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

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

Effects on birds: Both the mallard duck and the Japanese quail are relatively insensitive to the fungicide. The 8-day LC₅₀ values in these birds range from about 5500 to 6300 mg/kg/day. These values indicate that the compound is practically nontoxic to birds.

Effects on aquatic organisms: Imazalil is moderately toxic to fish. The LC₅₀ for Imazalil in trout is 2.5 mg/L and in the bluegill sunfish is 3.2 mg/L.

Effects on other organisms: The compound is non-toxic to bees.

Environmental Fate:

Breakdown in soil and groundwater: Imazalil is highly persistent in the soil environment, with a reported field half-life of between 120 and 190 days. A representative value is estimated to be 150 days for most soils. It is soluble in water, but strongly bound to soils, and thus unlikely to pose a risk to groundwater. In a plot where seven applications were made at 14-day intervals, leaching was practically nonexistent and accumulation did not appear to be a problem.

Breakdown in water: In acid to neutral aqueous solutions, Imazalil is stable for at least 8 weeks at 40 F.

Decomposition occurs at elevated temperatures and under the influence of light.

SAFETY DATA SHEET



Breakdown in vegetation: One week after treated barley seed was sown in soil, about 76% of the Imazalil was in the adjacent soil and about 29% was in the seed coat. After 3 weeks, only 6% was in the green plant parts. Under normal storage conditions, oranges dipped in 2000 mg active ingredient/L and stored have residues (89%) present as the parent compound. Only a small amount of Imazalil was present in the pulp, and part of this may have resulted from handling during peeling. Studies with apples gave similar results.

Birds: LD₅₀ mallard: >2000mg/kg

Fish: LC₅₀ Oncorhynchus mykiss (rainbow trout): 1.48mg/L

Algae: EC₅₀ 0.87mg/L

Daphnia: EC₅₀ 3.5mg/L

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 formulation are compliant with NICNAS regulations. The following ingredient: Imazalil, is mentioned in the SUSMP.

Section 16 - Other Information

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

Acronyms:

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

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" (Feb 2016)

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