Section 1 - Identification of The Material and Supplier

Adama Australia Pty Ltd,
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207 Pacific Highway St Leonards, NSW 2065
ACN 050 328 973

Telephone (02)9431 7800 (office hours)
Emergency 1800 033 111 (24 hours)
Fax (02)9431 7700

Chemical nature: Fungicide containing azoxystrobin and epoxiconazole.

Trade Name: **RADIAL OPTI FUNGICIDE**

Product Use: Agricultural fungicide for use as described on the product label.

Creation Date: **August, 2022**

This version issued: **April, 2024** 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

SUSMP Classification: S5
ADG Classification: Class 9: Miscellaneous Dangerous Goods.
UN Number: 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN, EPOXICONAZOLE)



GHS Signal word: DANGER

Acute Toxicity Inhalation Category 4
Carcinogenicity Category 2
Reproductive Toxicity Category 1
Hazardous to aquatic environment Short term/Chronic Category 1

HAZARD STATEMENT:

H332: Harmful if inhaled.
H351: Suspected of causing cancer.
H360Df: May damage the unborn child. Suspected of damaging fertility.
H410: Very toxic to aquatic life with long lasting effects.

PREVENTION

P201: Obtain special instructions before use.
P202: Do not handle until all safety precautions have been read and understood.
P220: Keep or store away from combustible materials.
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.

RESPONSE

P311: Call a POISON CENTRE or doctor.
P301+P310: IF SWALLOWED: Immediately call a POISON CENTRE or doctor.
P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P304+P340: IF INHALED: Remove victim to fresh air and keep comfortable for breathing.
P308+P313: If exposed or concerned: Get medical advice.
P370+P378: In case of fire: Use carbon dioxide, dry chemical, foam, to extinguish.

STORAGE

P405: Store locked up.
P410: Protect from sunlight.
P402+P404: Store in a dry place. Store in a closed container.
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: White liquid suspension.
Odour: Characteristic odour.
Major Health Hazards: may damage the unborn child. Suspected of damaging fertility, suspected of causing cancer, harmful if inhaled. This product is a cumulative poison. Minor exposures over a period of time may lead to serious health problems.

Section 3 - Composition/Information on Ingredients

Ingredients	CAS No	Conc, g/L	TWA (mg/m^3)	STEL (mg/m^3)
Azoxystrobin	131860-33-8	320	not set	not set
Epoxiconazole	133855-98-8	250	not set	not set
Propylene glycol	57-55-6	50-100	474	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 inhalation occurs, contact a Poisons Information Centre. Urgent hospital treatment is likely to be needed. Remove source of contamination or move victim to fresh air. Apply artificial respiration if not breathing. If breathing is difficult, oxygen may be beneficial if administered by trained personnel, preferably on a doctor's 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. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.
Ingestion: If swallowed, do NOT induce vomiting. Rinse mouth thoroughly with water and contact a Poisons Information Centre, or call a doctor at once. Give activated charcoal if instructed.

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.
This product is likely to decompose only after heating to dryness, followed by further strong heating.
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 or foam. 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.

Section 6 - Accidental Release Measures

Accidental release: In the event of a major spill, prevent spillage from entering drains or water courses. Evacuate the spill area and deny entry to unnecessary and unprotected personnel. Immediately call the Fire Brigade. 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. Suitable materials for protective clothing include rubber, PVC, Nitrile and butyl rubber. 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. It should be fitted with a cartridge suitable for agricultural chemicals, such as type G.
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. Because of the toxicity of this product, special personal care should be taken in any cleanup operation. 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. Take special care if handling this product over extended periods as it is a cumulative poison.

Storage: This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Store in a cool, well ventilated area. Check containers periodically for leaks. Containers should be kept closed in order to minimise contamination. Make sure that the product does not come into contact with substances listed under "Incompatibilities" 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^3)**	**STEL (mg/m^3)**
Propylene glycol	474	not set

The ADI for Azoxystrobin is set at 0.1mg/kg/day. The corresponding NOEL is set at 10mg/kg/day.

The ADI for Epoxiconazole is set at 0.01mg/kg/day. The corresponding NOEL is set at 1mg/kg/day. ADI means Acceptable Daily Intake

NOEL means No-observable-effect-level. Data from Australian ADI List, March 2017.

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: Eye protection such as protective glasses or goggles is recommended when 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 for lengthy periods. See below for suitable material types.

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

Respirator: If there is a significant chance that vapours or mists are likely to build up in the area where this product is being used, we recommend that you use a respirator. It should be fitted with a cartridge suitable for agricultural chemicals, such as type G.

Section 9 - Physical and Chemical Properties:

Physical Description & colour:	White liquid suspension.
Odour:	Characteristic odour.
Boiling Point:	Approximately 100°C at 100kPa.
Flash point:	Will not burn until water component is driven off.
Upper Flammability Limit:	Does not burn.
Lower Flammability Limit:	Does not burn.
Flammability Class:	Does not burn.
Freezing/Melting Point:	Approximately 0°C.
Volatiles:	Water component.
Vapour Pressure:	2.37 kPa at 20°C (water vapour pressure).
Vapour Density:	As for water.

Specific Gravity:	1.136-1.166 at 20°C
Water Solubility:	Miscible.
pH:	6.5-7.5 (1% v/v aqueous mixture)
Volatility:	No data.
Odour Threshold:	No data.
Evaporation Rate:	As for water.
Coeff Oil/water distribution:	No data
Autoignition temp:	Does not burn.
Particle Characteristics:	Not applicable for liquids.

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: Keep isolated from combustible materials. 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, strong oxidising agents.
Fire Decomposition: This product is likely to decompose only after heating to dryness, followed by further strong heating. 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. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.
Polymerisation: This product will not undergo polymerisation reactions.

Section 11 - Toxicological Information

Local Effects:
Target Organs: This product may affect lungs, gastrointestinal system. Ingredients in this product have an established TWA, so exposure by inhalation should be avoided.

Classification of Hazardous Ingredients

Ingredient	Health Hazard Statement Codes
Azoxystrobin	H331, H410

- Acute toxicity – category 3 *(dusts/mists ATE = 0.7 mg/L)*
- Hazardous to the aquatic environment (acute) – category 1 *(M = 10)*
- Hazardous to the aquatic environment (chronic) – category 1 *(M = 10)*

Epoxiconazole	H351, H360Df, H411

- Carcinogenicity – category 2
- Reproductive toxicity – category 1B
- Hazardous to the aquatic environment (chronic) – category 2

Potential Health Effects

Inhalation:
Short term exposure: Available data shows that this product is harmful, but symptoms are not available. However product is unlikely to cause any discomfort or irritation.
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 may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.
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 indicates that this product is not toxic through ingestion. This product may be irritating to mucous membranes but is unlikely to cause anything more than transient discomfort.
Long Term exposure: Long term minor exposures to this product may cause serious health effects.

Carcinogen Status:

SWA: Epoxiconazole is classified by SWA as a Category 2 Carcinogen, suspected to be carcinogenic to humans. See the SWA website for further details. A web address has not been provided as addresses frequently change.
NTP: No significant ingredient is classified as carcinogenic by NTP.
IARC: No significant ingredient is classified as carcinogenic by IARC.

Section 12 - Ecological Information

This product is very toxic to aquatic life with long lasting effects. This product is not readily biodegradable; it may accumulate in the soil or water and cause long term problems.

Section 13 - Disposal Considerations

Disposal: This product may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to separate the contamination in some way. Only if neither of these options is suitable, we suggest that you contact a specialist disposal company to arrange disposal. Disposal by untrained personnel may cause a dangerous incident.

Section 14 - Transport Information

Not subject to the ADG Code when transported by Road or Rail in Australia, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by Air or Sea transport (see details below).

UN Number: 3077, ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (AZOXYSTROBIN, EPOXICONAZOLE)
Hazchem Code: 2Z
Special Provisions: 274, 331, 335, 375, AU01
Limited quantities: ADG 7 specifies a Limited Quantity value of 5 kg for this class of product.
Dangerous Goods Class: Class 9: Miscellaneous Dangerous Goods.
Packing Group: III
Packing Instruction: P002, IBC08, LP02

Class 9 Miscellaneous Dangerous Goods shall not be loaded in the same vehicle or packed in the same freight container with Dangerous Goods of Class 1 (Explosives).

Section 15 - Regulatory Information

AICS/AIIC: All of the significant ingredients in this formulation are compliant with AICIS regulations.
The following ingredients: Azoxystrobin, Epoxiconazole, are 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, 7th Edition
AICS/AIIC	Australian Inventory of Industrial Chemicals
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
SWA	Safe Work Australia, formerly ASCC and NOHSC
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

Contact Points:

Call Adama on (02)9431 7800 and ask for the technical manager. **Fax: (02)9431 7700**

Police and Fire Brigade: **Dial 000**

Emergency contact:	**1800 033 111 (24 hours)**

If ineffective: **Dial Poisons Information Centre (13 1126 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” (July 2020) and GHS Revision 7

http://www.kilford.com.au/ Phone (02)8321 8866