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## Section 1 - Identification of the Material and Supplier

**Chemical nature:** Zineb is a dithiocarbamate derivative.  
**Trade Name:** **Barmac Zineb Fungicide**  
**APVMA Code:** 30628  
**Product Use:** Agricultural fungicide for use as described on the product label.

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**Creation Date:** **February, 2016**  
**This version issued:** **March, 2016** 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: Xi, Irritating. 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: **WARNING**

Skin Sensitisation Category 1

Specific Target Organ Toxicity - Single Exposure Category 3

### HAZARD STATEMENT:

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

### PREVENTION

P102: Keep out of reach of children.

P261: Avoid breathing dusts.

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

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

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

### RESPONSE

P363: Wash contaminated clothing before reuse.

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: In case of fire, use carbon dioxide, dry chemical, foam.

### 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.

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**DISPOSAL**

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

**Emergency Overview**

**Physical Description & Colour:** Light coloured fine powder.

**Odour:** No data re odour.

**Major Health Hazards:** respiratory tract irritant, possible skin sensitiser.

**Section 3 - Composition/Information on Ingredients**

Ingredients	CAS No	Conc, %	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Zineb	12122-67-7	800g/kg	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 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 irritation occurs, contact a Poisons Information Centre, or call a doctor. 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. In severe cases, symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.

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

**Eye Contact:** Quickly and gently brush particles from eyes. 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 product is swallowed or gets in mouth, do NOT induce vomiting; wash mouth with water and give some water to drink. If symptoms develop, or if in doubt contact a Poisons Information Centre or 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 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:** In case of fire, use carbon dioxide, dry chemical, foam.

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

**Flash point:** No data

**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. Wear full protective clothing including eye/face protection. All skin areas should be covered. See below under Personal

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Protection regarding Australian Standards relating to personal protective equipment. Suitable materials for protective clothing include rubber, PVC. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that dusts are likely to build up in cleanup area, we recommend that you use a suitable dust mask.

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. Consider vacuuming if appropriate. 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. 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. 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 Zineb is set at 0.005mg/kg/day. The corresponding NOEL is set at 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:** 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:** We suggest that protective clothing be made from the following materials: rubber, PVC.

**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.

## Section 9 - Physical and Chemical Properties:

<b>Physical Description &amp; colour:</b>	Light coloured fine powder.
<b>Odour:</b>	No data re odour.
<b>Boiling Point:</b>	Not applicable.
<b>Freezing/Melting Point:</b>	Decomposes at 157°C without melting.
<b>Volatiles:</b>	No specific data. Expected to be low at 100°C.
<b>Vapour Pressure:</b>	Negligible at normal ambient temperatures.
<b>Vapour Density:</b>	Not applicable.
<b>Specific Gravity:</b>	No data.

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<b>Water Solubility:</b>	Forms suspensions.
<b>pH:</b>	No data.
<b>Volatility:</b>	Negligible at normal ambient temperatures.
<b>Odour Threshold:</b>	No data.
<b>Evaporation Rate:</b>	Not applicable.
<b>Coeff Oil/water Distribution:</b>	No data
<b>Viscosity:</b>	Not applicable.
<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:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** No particular Incompatibilities.

**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. Zinc compounds. 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:** There is no data to hand indicating any particular target organs.

Zineb is classed by SWA as a potential sensitiser by skin contact.

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Zineb	Conc>=20%: Xi; R43, R37
<ul style="list-style-type: none"> <li>Specific target organ toxicity (single exposure) - category 3</li> <li>Skin sensitisation - category 1</li> </ul>	
<b>Zineb:</b> LD <sub>50</sub> Oral, Rat >5200mg/kg	LD <sub>50</sub> Dermal, Rabbit >6000mg/kg
LC <sub>50</sub> Inhalation, Rat >5.26mg/L/4hr	

**CARCINOGENICITY:**

Zineb may be a carcinogen, since lung cancer was detected in animals. No human data available.

**TERATOGENIC EFFECTS:**

Limited evidence that Zineb is a teratogen in animals was found. No human data available.

### Potential Health Effects

Persons sensitised to Zineb should avoid contact with this product.

**Inhalation:**

**Short Term Exposure:** This product is an inhalation irritant. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become evident, but they should disappear after exposure has ceased if treatment is prompt.

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

**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.

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

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**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. 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:** Zineb is Class 3 - unclassifiable as to carcinogenicity to humans.

See the IARC website for further details. A web address has not been provided as addresses frequently change.

## Section 12 - Ecological Information

This product is biodegradable. It will not accumulate in the soil or water or cause long term problems.

**ECOTOXICOLOGY:**

Birds: Toxic to birds.

Fish: Slightly toxic to fish.

LC50: for perch = 2 mg/l

for roach = 6 to 8 mg/l

Daphnia: No information currently available

Bees: Non-toxic to bees.

Earthworms: No information currently available

Soil micro-organisms: No information currently available

**ENVIRONMENTAL BREAKDOWN:**

**Degradability:** Zineb probably does not hydrolyse in water, but degrades rapidly in water under anaerobic conditions. Ethylene thiourea is probably a major degradation product. Zineb absorbs to soils

**Mobility:**

The product has low mobility and is not likely to leach.

**Accumulation:**

The product shows little tendency to bio-accumulate.

## 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: Zineb, 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<sup>th</sup> edition)

**AICS**

Australian Inventory of Chemical Substances

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<b>SWA</b>	Safe Work Australia, formerly ASCC and NOHSC
<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>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

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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## SAFETY DATA SHEET