

# Safety Data Sheet



## Ziram Granuflo® Fungicide

Version 1 / AUS  
102000003354

Revision Date: 18.06.2019  
Print Date: 18.06.2019

### SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

#### 1.1 Product identifier

**Trade name** Ziram Granuflo® Fungicide  
**Product code (UVP)** 05948606

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

**Use** Fungicide

#### 1.3 Details of the supplier of the safety data sheet

**Supplier** Bayer Cropscience Pty Ltd  
ABN 87 000 226 022  
Level 1, 8 Redfern Road  
3123 Hawthorn East  
Victoria  
Australia

**Telephone** (03) 9248 6888

**Telefax** (03) 9248 6800

**Responsible Department** 1800 804 479 Technical Information Service

**Website** [www.crop.bayer.com.au](http://www.crop.bayer.com.au)

#### 1.4 Emergency telephone no.

**Emergency telephone no.** 1800 033 111 IXOM Operations Pty Ltd

### SECTION 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### Classification in accordance with Australian GHS Regulation

Acute toxicity: Category 4  
H302 Harmful if swallowed.

Acute toxicity: Category 2  
H330 Fatal if inhaled.

Serious eye damage: Category 1  
H318 Causes serious eye damage.

Skin sensitisation: Category 1  
H317 May cause an allergic skin reaction.

Specific target organ toxicity - single exposure: Category 3  
H335 May cause respiratory irritation.

Specific target organ toxicity - repeated exposure: Category 2  
H373 May cause damage to organs through prolonged or repeated exposure.

Acute aquatic toxicity: Category 1  
H400 Very toxic to aquatic life.

Chronic aquatic toxicity: Category 1  
H410 Very toxic to aquatic life with long lasting effects.

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### 2.2 Label elements

Hazard label for supply/use required.

#### Hazardous components which must be listed on the label:

Ziram

**Signal word:** Danger

#### Hazard statements

- H302 Harmful if swallowed.  
H330 Fatal if inhaled.  
H318 Causes serious eye damage.  
H317 May cause an allergic skin reaction.  
H335 May cause respiratory irritation.  
H373 May cause damage to organs through prolonged or repeated exposure.

#### Precautionary statements

- P260 Do not breathe dust or mist.  
P264 Wash face, hands and any exposed skin thoroughly after handling.  
P270 Do not eat, drink or smoke when using this product.  
P280 Wear protective gloves/ protective clothing/ eye protection.  
P284 Wear respiratory protection.  
P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.  
P330 Rinse mouth.  
P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.  
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.  
P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305 + P351 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
+ P338  
P310 Immediately call a POISON CENTER/doctor/ physician.  
P363 Wash contaminated clothing before reuse.  
P405 Store locked up.  
P501 Dispose of contents/container in accordance with local regulation.

### 2.3 Other hazards

No other hazards known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

### Chemical nature

Ziram 760g/kg  
Water dispersible granules (WG)

Chemical name	CAS-No.	Concentration [%]
Ziram	137-30-4	76.00
Other ingredients (non-hazardous) to 100%		

## SECTION 4. FIRST AID MEASURES

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**If poisoning occurs, immediately contact a doctor or Poisons Information Centre (telephone 13 11 26), and follow the advice given. Show this Safety Data Sheet to the doctor.**

### 4.1 Description of first aid measures

<b>Inhalation</b>	Move the victim to fresh air and keep at rest. Oxygen or artificial respiration if needed. Call a physician or poison control center immediately.
<b>Skin contact</b>	Take off contaminated clothing and shoes immediately. Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician. Clean contaminated clothing and shoes before re-use or discard if they cannot be thoroughly cleaned.
<b>Eye contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Call a physician or poison control center immediately.
<b>Ingestion</b>	Rinse mouth. Call a physician or poison control center immediately. Take victim immediately to hospital. More severe effects if alcohol is consumed.

### 4.2 Most important symptoms and effects, both acute and delayed

<b>Symptoms</b>	Symptoms of Overexposure, Dizziness, Confusion, Drowsiness, Lethargy, Ataxia, Headache, Coma, Abdominal pain, Nausea, Vomiting, Diarrhoea, Muscular weakness, Respiratory paralysis, Cough, Rash
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### 4.3 Indication of any immediate medical attention and special treatment needed

<b>Risks</b>	This product is not a cholinesterase inhibitor.
<b>Treatment</b>	Treat symptomatically. There is no specific antidote. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Contraindication: atropine. Follow-up measures: Strict abstinence from alcohol for 1 to 2 weeks, due to antabuse effect. Forced alkaline diuresis and hemodialysis may be considered.

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

<b>Suitable</b>	Water spray, Carbon dioxide (CO <sub>2</sub> ), Foam, Dry powder
<b>Unsuitable</b>	High volume water jet

<b>5.2 Special hazards arising from the substance or mixture</b>	Accumulation of fine dust may entail the risk of a dust explosion in the presence of air., In the event of fire the following may be released:, Carbon disulphide, Sulphur oxides, Nitrogen oxides (NO <sub>x</sub> )
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### 5.3 Advice for firefighters

<b>Special protective equipment for firefighters</b>	In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit.
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**Further information**                      Contain the spread of the fire-fighting media. Evacuate personnel to safe areas. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Whenever possible, contain fire-fighting water by diking area with sand or earth. Do not allow run-off from fire fighting to enter drains or water courses.

**Hazchem Code**                              2Z

### SECTION 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment and emergency procedures

**Precautions**                                      Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Do not breathe dust. Remove all sources of ignition. Use personal protective equipment. Keep unauthorized people away. Avoid dust formation.

**6.2 Environmental precautions**                      Do not allow to get into surface water, drains and ground water. If the product contaminates rivers and lakes or drains inform respective authorities.

#### 6.3 Methods and materials for containment and cleaning up

**Methods for cleaning up**                      Clean contaminated surface thoroughly. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. Decontaminate tools and equipment following cleanup.

**6.4 Reference to other sections**                      Information regarding safe handling, see section 7.  
Information regarding personal protective equipment, see section 8.  
Information regarding waste disposal, see section 13.

### SECTION 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

**Advice on safe handling**                      Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion**                      Dust may form explosive mixture in air.

**Hygiene measures**                                      Contact with eyes and skin must be avoided. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. After each day's use, wash gloves, face shield or goggles and contaminated clothing. Remove soiled clothing immediately and clean thoroughly before using again. When using, do not eat, drink or smoke.

#### 7.2 Conditions for safe storage, including any incompatibilities

**Requirements for storage areas and containers**                      Keep out of the reach of children. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

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**Advice on common storage** Keep away from food, drink and animal feedingstuffs.

### SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters

No known occupational limit values.

#### 8.2 Exposure controls

<b>Respiratory protection</b>	Wear respirator with a particle filter mask (protection factor 20) conforming to European Norm EN149FFP3 or EN140P3 or equivalent. Respiratory protection should only be used to control residual risk of short duration activities, when all reasonably practicable steps have been taken to reduce exposure at source e.g. containment and/or local extract ventilation. Always follow respirator manufacturer's instructions regarding wearing and maintenance.
<b>Hand protection</b>	Wear CE Marked (or equivalent) nitrile rubber gloves (minimum thickness of 0,4 mm). Wash when contaminated and dispose of when contaminated inside, when perforated or when contamination on the outside cannot be removed. Wash hands frequently and always before eating, drinking, smoking or using the toilet.
<b>Eye protection</b>	Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).
<b>Skin and body protection</b>	Wear standard coveralls and Category 3 Type 5 suit. Wear two layers of clothing wherever possible. Polyester/cotton or cotton overalls should be worn under chemical protection suit and should be professionally laundered frequently.
<b>General protective measures</b>	In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.

#### Engineering Controls

**Advice on safe handling** Avoid dust formation. Use only in area provided with appropriate exhaust ventilation.

### SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

#### 9.1 Information on basic physical and chemical properties

<b>Form</b>	granular
<b>Colour</b>	brown
<b>Odour</b>	none
<b>pH</b>	ca. 5.3 (4 %) (20 °C) (deionized water)
<b>Density</b>	ca. 0.60 g/cm <sup>3</sup> (20 °C)
<b>Water solubility</b>	dispersible

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<b>Partition coefficient: n-octanol/water</b>	log Pow: 1.086
<b>Partition coefficient: n-octanol/water</b>	Ziram: log Pow: 1.65
<b>9.2 Other information</b>	Further safety related physical-chemical data are not known.

### SECTION 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

**Thermal decomposition** Stable under normal conditions.

**10.2 Chemical stability** Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions** Dust may form explosive mixture in air. Stable under recommended storage conditions.  
No hazardous reactions when stored and handled according to prescribed instructions.

**10.4 Conditions to avoid** Exposure to moisture.  
Heat, flames and sparks.  
Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Aldehydes, Acids, Iron, Copper, Strong oxidizing agents, Acid chlorides, Mercury and its alloys

**10.6 Hazardous decomposition products** Thermal decomposition can lead to release of:  
Nitrogen oxides (NO<sub>x</sub>)  
Carbon monoxide  
Sulphur oxides  
Carbon disulphide

### SECTION 11. TOXICOLOGICAL INFORMATION

#### 11.1 Information on toxicological effects

**Acute oral toxicity** LD50 (Rat) 478 mg/kg

**Acute inhalation toxicity** LC50 (Rat) 0.07 mg/l  
Exposure time: 4 h  
The value mentioned relates to the active ingredient ziram.

**Acute dermal toxicity** LD50 (Rat) > 2,000.00 mg/kg

**Skin corrosion/irritation** No skin irritation (Rabbit)

**Serious eye damage/eye irritation** Severe eye irritation. (Rabbit)

**Respiratory or skin sensitisation** Sensitising (Guinea pig)

#### Assessment mutagenicity

Ziram was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro

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and in vivo tests.

### Assessment carcinogenicity

Ziram was not carcinogenic in lifetime feeding studies in rats and mice.

### Assessment toxicity to reproduction

Ziram did not cause reproductive toxicity in a two-generation study in rats.

### Assessment developmental toxicity

Ziram did not cause developmental toxicity in rats and rabbits.

### Assessment STOT Specific target organ toxicity – single exposure

Ziram: May cause respiratory irritation.

### Assessment STOT Specific target organ toxicity – repeated exposure

Ziram caused specific target organ toxicity in experimental animal studies in the following organ(s):  
Liver, Blood.

### Aspiration hazard

Based on available data, the classification criteria are not met.

### Information on likely routes of exposure

Fatal if inhaled., May cause respiratory tract irritation., Irritation of mucous membranes  
May cause skin irritation., May cause sensitisation by skin contact.  
Corrosive to eyes.  
Toxic if swallowed.

### Early onset symptoms related to exposure

Refer to Section 4

### Delayed health effects from exposure

Refer to Section 11

### Exposure levels and health effects

Refer to Section 4

### Interactive effects

Not known

### When specific chemical data is not available

Not applicable

### Mixture of chemicals

Refer to Section 2.1

### Further information

No further toxicological information is available.

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

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<b>Toxicity to fish</b>	LC50 (Oncorhynchus mykiss (rainbow trout)) 1.9 mg/l Exposure time: 96 h The value mentioned relates to the active ingredient ziram.
<b>Toxicity to aquatic invertebrates</b>	EC50 (Daphnia magna (Water flea)) 0.048 mg/l The value mentioned relates to the active ingredient ziram.
<b>Toxicity to other organisms</b>	LD50 (Colinus virginianus (Bobwhite quail)) 97 mg/kg The value mentioned relates to the active ingredient ziram.  LD50 (Eisenia fetida (earthworms)) 190 mg/kg Exposure time: 7 d The value mentioned relates to the active ingredient ziram.  LD50 (Apis mellifera (bees)) > 0.1mg/bee The value mentioned relates to the active ingredient ziram.

### 12.2 Persistence and degradability

**Biodegradability** Ziram:  
Not rapidly biodegradable

**Koc** Ziram: Koc: 3007

### 12.3 Bioaccumulative potential

**Bioaccumulation** Ziram: Bioconcentration factor (BCF) 470  
Does not bioaccumulate.

### 12.4 Mobility in soil

**Mobility in soil** Ziram: Slightly mobile in soils

### 12.5 Other adverse effects

**Additional ecological information** No other effects to be mentioned.

## SECTION 13. DISPOSAL CONSIDERATIONS

Plastic and foil bags:

Single rinse before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Puncture and bury empty bags in a local authority landfill. If no landfill is available, bury the containers below 500 mm in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots. Empty bags and product should not be burnt.

## SECTION 14. TRANSPORT INFORMATION

### ADG

UN number	<b>3077</b>
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZIRAM MIXTURE)



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Hazchem Code 2Z

According to AU01, Environmentally Hazardous Substances in packagings, IBC or any other receptacle not exceeding 500 kg or 500 L are not subject to the ADG Code.

### IMDG

UN number	3077
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZIRAM MIXTURE)

### IATA

UN number	3077
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (ZIRAM MIXTURE )

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994  
Australian Pesticides and Veterinary Medicines Authority approval number: 47127

### SUSMP classification (Poison Schedule)

Schedule 6 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Granuflo® is a Registered Trademark of Taminco.

### Abbreviations and acronyms

ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute toxicity estimate
AU OEL	Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)
CAS-Nr.	Chemical Abstracts Service number
CEILING	Ceiling Limit Value
Conc.	Concentration
EC-No.	European community number
ECx	Effective concentration to x %

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EINECS	European inventory of existing commercial substances
ELINCS	European list of notified chemical substances
EN	European Standard
EU	European Union
IATA	International Air Transport Association
IBC	International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IBC Code)
ICx	Inhibition concentration to x %
IMDG	International Maritime Dangerous Goods
LCx	Lethal concentration to x %
LDx	Lethal dose to x %
LOEC/LOEL	Lowest observed effect concentration/level
MARPOL	MARPOL: International Convention for the prevention of marine pollution from ships
N.O.S.	Not otherwise specified
NOEC/NOEL	No observed effect concentration/level
OECD	Organization for Economic Co-operation and Development
OES BCS	OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"
PEAK	PEAK: Exposure Standard - Peak means a maximum or peak airborne concentration of a particular substance determined over the shortest analytically practicable period of time which does not exceed 15 minutes.
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SK-SEN	Skin sensitizer
SKIN_DES	SKIN_DES: Skin notation: Absorption through the skin may be a significant source of exposure.
STEL	STEL: Exposure standard - short term exposure limit (STEL): A 15 minute TWA exposure which should not be exceeded at any time during a working day even if the eight-hour TWA average is within the TWA exposure standard. Exposures at the STEL should not be longer than 15 minutes and should not be repeated more than four times per day. There should be at least 60 minutes between successive exposures at the STEL.
TWA	TWA: Exposure standard - time-weighted average (TWA): The average airborne concentration of a particular substance when calculated over a normal eight-hour working day, for a five-day working week.
TWA	Time weighted average
UN	United Nations
WHO	World health organisation

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 should read this SDS and consider the information in the context of how the product will be handled and used in the workplace including in conjunction with other products.

If clarification or further information is needed to ensure that an appropriate risk assessment can be made, the user should contact this company.

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.

Changes since the last version are highlighted in the margin. This version replaces all previous versions.