

Safety Data Sheet



Reserve Stressgard® Turf Fungicide

Version 1 / AUS
102000031645

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Revision Date: 20.06.2016
Print Date: 29.06.2016

SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

1.1 Product identifier

Trade name Reserve Stressgard® Turf Fungicide
Product code (UVP) 84999792

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.environmentalscience.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

Australia. GHS Hazardous Chemical Information List

Carcinogenicity: Category 2
Acute toxicity: Category 2
Specific target organ toxicity - single exposure: Category 3
Serious eye damage: Category 1
Skin sensitisation: Category 1
Acute aquatic toxicity: Category 1
Acute toxicity: Category 4

2.2 Label elements

Hazard label for supply/use required.

Hazardous components which must be listed on the label:

Chlorothalonil

Signal word: Danger

Hazard statements

H302 Harmful if swallowed.



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- H351 Suspected of causing cancer.
- H330 Fatal if inhaled.
- H335 May cause respiratory irritation.
- H318 Causes serious eye damage.
- H317 May cause an allergic skin reaction.
- H400 Very toxic to aquatic life.

Precautionary statements

- P201 Obtain special instructions before use.
- P202 Do not handle until all safety precautions have been read and understood.
- P260 Do not breathe mist.
- P264 Wash hands thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P272 Contaminated work clothing should not be allowed out of the workplace.
- P280 Wear protective gloves/protective clothing/eye protection/face protection.
- P284 Wear respiratory protection.
- P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
- P320 Specific treatment is urgent (see supplemental first aid instructions on this label).
- P301 + P312 IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell.
- P330 Rinse mouth.
- 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.
- P302 + P352 IF ON SKIN: Wash with plenty of water/ soap.
- P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
- P363 Wash contaminated clothing before reuse.
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- 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

Chlorothalonil 720g/L

Chemical nature Suspension concentrate (=flowable concentrate)(SC)

Chemical Name	CAS-No.	Concentration [%]
Chlorothalonil	1897-45-6	53.73
Ethanediol	107-21-1	3.73
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

Inhalation	Move the victim to fresh air and keep at rest. Call a physician or poison control center immediately.
Skin contact	Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. Take off contaminated clothing and shoes immediately. If symptoms persist, call a physician.
Eye contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Do NOT induce vomiting. Keep at rest. Call a physician or poison control center immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms Allergic reactions, Skin, eye and mucous membrane irritation

4.3 Indication of any immediate medical attention and special treatment needed

Treatment Treat symptomatically.

SECTION 5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable Water, Foam, Carbon dioxide (CO₂), Dry chemical

5.2 Special hazards arising from the substance or mixture In the event of fire the following may be released:, Hydrogen chloride (HCl)

5.3 Advice for firefighters

Special protective equipment for firefighters In the event of fire, wear self-contained breathing apparatus.

Further information 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. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

Hazchem Code •3Z



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SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Precautions When dealing with a spillage do not eat, drink or smoke. Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. Keep unauthorized people away.

6.2 Environmental precautions Contain contaminated water and fire fighting water. 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 Dike area to prevent runoff. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Collect and transfer the product into a properly labelled and tightly closed container.

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 contact with skin, eyes and clothing. Avoid formation of aerosol. Use only in area provided with appropriate exhaust ventilation.

7.2 Conditions for safe storage, including any incompatibilities

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

SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control parameters

Components	CAS-No.	Control parameters	Update	Basis
Chlorothalonil	1897-45-6	0.2 mg/m ³ (TWA)		OES BCS*
Ethenediol	107-21-1	104 mg/m ³ /40 ppm (STEL)	12 2011	AU NOEL
Ethenediol	107-21-1	52 mg/m ³ /20 ppm (TWA)	12 2011	AU NOEL
Ethenediol	107-21-1	10 mg/m ³ (TWA)	12 2011	AU NOEL
Ethenediol (Vapor.)	107-21-1	10 ppm (TWA)		OES BCS*
Ethenediol	107-21-1	10 mg/m ³		OES BCS*

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(Aerosol.)		(TWA)		
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*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

8.2 Exposure controls

Personal protective equipment - End user

General advice Eye wash facility and safety shower should be available.

Hand protection Elbow-length PVC or nitrile gloves

Eye protection Goggles

Skin and body protection Cotton overall buttoned to the neck and wrist
Washable hat

Engineering Controls

Advice on safe handling Avoid contact with skin, eyes and clothing. Avoid formation of aerosol.
Use only in area provided with appropriate exhaust ventilation.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Form	suspension
Colour	green
pH	6 - 8 6.5 - 9.5
Density	1.33 - 1.37 g/cm ³
Partition coefficient: n-octanol/water	Pow: 2.89
Partition coefficient: n-octanol/water	Chlorothalonil: log Pow: 2.94
Viscosity, dynamic	700 - 1,000 mPaxs

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

Not applicable

10.2 Chemical stability Stable under recommended storage conditions.

10.5 Incompatible materials Strong oxidizing agents

10.6 Hazardous decomposition products No decomposition products expected under normal conditions of use.



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SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute oral toxicity LD50 (Rat) > 1,000 mg/kg
The value mentioned relates to the active ingredient chlorothalonil.
LD50 (Dog) > 5,000 mg/kg
The value mentioned relates to the active ingredient chlorothalonil.

Acute inhalation toxicity LC50 (Rat) > 4.7 mg/l
Exposure time: 1 h
LC50 (Rat) > 0.1 mg/l
LC50 (Rat) 0.092 mg/l
(hammer milled unground)
Exposure time: 1 h
LC50 (Rat) 0.10 mg/l
(finely ground, 1.3-4.5 micron)
Exposure time: 4 h

Acute dermal toxicity LD50 (Rabbit) > 10,000 mg/kg
The value mentioned relates to the active ingredient chlorothalonil.

Assessment mutagenicity

Chlorothalonil was not mutagenic or genotoxic based on the overall weight of evidence in a battery of in vitro and in vivo tests.

Assessment carcinogenicity

Chlorothalonil caused at high dose levels an increased incidence of tumours in the following organ(s): Kidney, forestomach. The tumours seen with Chlorothalonil were caused through a non-genotoxic mechanism, which is not relevant at low doses.

Assessment toxicity to reproduction

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

Assessment developmental toxicity

Chlorothalonil did not cause developmental toxicity in rats and rabbits.

Assessment repeated dose toxicity

Chlorothalonil did not cause specific target organ toxicity in experimental animal studies.

Aspiration hazard

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

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



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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

Toxicity to fish

LC50 (*Oncorhynchus mykiss* (rainbow trout)) 49ug/L
Exposure time: 96 h
The value mentioned relates to the active ingredient chlorothalonil.

LC50 (*Lepomis macrochirus* (Bluegill sunfish)) 62ug/L
Exposure time: 96 h
The value mentioned relates to the active ingredient chlorothalonil.

LC50 (*Ictalurus punctatus* (Channel catfish)) 44ug/L
Exposure time: 96 h
The value mentioned relates to the active ingredient chlorothalonil.

Chronic toxicity to aquatic invertebrates

LC50 (*Daphnia magna* (Water flea)): 70ug/L
The value mentioned relates to the active ingredient chlorothalonil.

LC50 The value mentioned relates to the active ingredient chlorothalonil.

LC50 The value mentioned relates to the active ingredient chlorothalonil.

Toxicity to other organisms

LD50 (*Anas platyrhynchos* (Mallard duck)) > 4,640 mg/kg
The value mentioned relates to the active ingredient chlorothalonil.

LC50 (*Anas platyrhynchos* (Mallard duck)) > 10,000 mg/kg
Exposure time: 8 d
The value mentioned relates to the active ingredient chlorothalonil.

LC50 (*Colinus virginianus* (Bobwhite quail)) > 10,000 mg/kg
Exposure time: 8 d
The value mentioned relates to the active ingredient chlorothalonil.

The value mentioned relates to the active ingredient chlorothalonil.
Non-hazardous for bees.

12.2 Persistence and degradability

Biodegradability

Chlorothalonil:
Not rapidly biodegradable

Koc

Chlorothalonil: Koc: 850



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12.3 Bioaccumulative potential

Bioaccumulation

The value mentioned relates to the active ingredient chlorothalonil.
low

Bioaccumulation

Chlorothalonil: Bioconcentration factor (BCF) < 100
Does not bioaccumulate.

12.4 Mobility in soil

Mobility in soil

Chlorothalonil: Moderately mobile in soils

12.5 Other adverse effects

Additional ecological information

No further ecological information is available.

SECTION 13. DISPOSAL CONSIDERATIONS

Metal drums and plastic containers:

Triple or preferably pressure rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and bury empty containers 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 containers and product should not be burnt.

SECTION 14. TRANSPORT INFORMATION

ADG

UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL SOLUTION)
Hazchem Code	•3Z

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	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Marine pollutant	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL SOLUTION)

IATA



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UN number	3082
Transport hazard class(es)	9
Subsidiary Risk	None
Packaging group	III
Environm. Hazardous Mark	YES
Description of the goods	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (CHLOROTHALONIL SOLUTION)

SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994
Australian Pesticides and Veterinary Medicines Authority approval number: 81269

SUSMP classification (Poison Schedule)

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

SECTION 16. OTHER INFORMATION

Trademark information Reserve Stressgard® is a registered trademark of the Bayer Group.

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.

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 %
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



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	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 CropScience "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 sensitiser
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

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

END OF SDS