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.
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 + P338  present and easy to do. Continue rinsing.
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)

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>1897-45-6</td>
<td>53.73</td>
</tr>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>3.73</td>
</tr>
<tr>
<td>Other ingredients (non-hazardous) to 100%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

SECTION 4. FIRST AID MEASURES
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
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

<table>
<thead>
<tr>
<th>Components</th>
<th>CAS-No.</th>
<th>Control parameters</th>
<th>Update</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chlorothalonil</td>
<td>1897-45-6</td>
<td>0.2 mg/m³ (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>104 mg/m³/40 ppm (STEL)</td>
<td>12 2011</td>
<td>AU NOEL</td>
</tr>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>52 mg/m³/20 ppm (TWA)</td>
<td>12 2011</td>
<td>AU NOEL</td>
</tr>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>10 mg/m³ (TWA)</td>
<td>12 2011</td>
<td>AU NOEL</td>
</tr>
<tr>
<td>Ethanediol (Vapor.)</td>
<td>107-21-1</td>
<td>10 ppm (TWA)</td>
<td></td>
<td>OES BCS*</td>
</tr>
<tr>
<td>Ethanediol</td>
<td>107-21-1</td>
<td>10 mg/m³</td>
<td></td>
<td>OES BCS*</td>
</tr>
</tbody>
</table>
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/cm³

Partition coefficient: n-octanol/water
Pow: 2.89

Partition coefficient: n-octanol/water
Chlorothalonil: log Pow: 2.94

Viscosity, dynamic
700 - 1,000 mPa⋅s

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.
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
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.

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
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
### 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**

<table>
<thead>
<tr>
<th>Abbreviation</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>ADN</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways</td>
</tr>
<tr>
<td>ADR</td>
<td>European Agreement concerning the International Carriage of Dangerous Goods by Road</td>
</tr>
<tr>
<td>ATE</td>
<td>Acute toxicity estimate</td>
</tr>
<tr>
<td>AU OEL</td>
<td>Australia. OELs. (Adopted National Exposure Standards for Atmospheric Contaminants in the Occupational Environment)</td>
</tr>
<tr>
<td>CAS-Nr.</td>
<td>Chemical Abstracts Service number</td>
</tr>
<tr>
<td>CEILING</td>
<td>Ceiling Limit Value</td>
</tr>
<tr>
<td>Conc.</td>
<td>Concentration</td>
</tr>
<tr>
<td>EC-No.</td>
<td>European community number</td>
</tr>
<tr>
<td>ECx</td>
<td>Effective concentration to x %</td>
</tr>
<tr>
<td>EINECS</td>
<td>European inventory of existing commercial substances</td>
</tr>
<tr>
<td>ELINCS</td>
<td>European list of notified chemical substances</td>
</tr>
<tr>
<td>EN</td>
<td>European Standard</td>
</tr>
<tr>
<td>EU</td>
<td>European Union</td>
</tr>
<tr>
<td>IATA</td>
<td>International Air Transport Association</td>
</tr>
<tr>
<td>IBC</td>
<td>International Code for the Construction and Equipment of Ships Carrying Dangerous Goods</td>
</tr>
</tbody>
</table>
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 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.
UN United Nations
WHO World health organization

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

END OF SDS