## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Banol® Turf and Ornamental Systemic Fungicide |
| **Product code (UVP)** | 05933765 |

**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<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

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

**2.2 Label elements**

Hazard label for supply/use required.

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

Propamocarb hydrochloride

**Signal word**: Warning

**Hazard statements**

H317 May cause an allergic skin reaction.

**Precautionary statements**

P261 Avoid breathing mist and spray.
P280 Wear protective gloves.
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.
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**

Propamocarb hydrochoride 722 g/l (600g/l propamocarb)
Soluble concentrate (SL)

| Chemical name | CAS-No. | Concentration [%] |
|---|---|---|
| Propamocarb hydrochloride | 25606-41-1 | 66.50 |
| Other ingredients (non-hazardous) to 100% | | |

## 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

**General advice** Remove contaminated clothing immediately and dispose of safely.

**Inhalation** Move the victim to fresh air and keep at rest.

Keep patient warm and at rest. If symptoms persist, call a physician.

**Skin contact** Wash off with soap and water. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Do NOT induce vomiting. Rinse mouth. Call a physician or poison control center immediately.

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

**Symptoms** The following symptoms may occur:, Lethargy, Ataxia, Spasm

### 4.3 Indication of any immediate medical attention and special treatment needed

**Risks** This product, although being a carbamate, is NOT a cholinesterase inhibitor.

**Treatment** Treat symptomatically. 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.

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Unsuitable** | High volume water jet |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Carbon monoxide (CO), Hydrogen chloride (HCl), Nitrogen oxides (NOx) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | Wear self-contained breathing apparatus and protective suit. |
| **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. Avoid contact with spilled product or contaminated surfaces. 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**Not applicable

## 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. Keep people away from and upwind of spill/leak. Use personal protective equipment. |
| **6.2 Environmental precautions** | Do not allow to get into surface water, drains and ground water. |

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

| | |
|---|---|
| **Methods for cleaning up** | 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. Clean contaminated floors and objects thoroughly, observing environmental regulations. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Use only in area provided with appropriate exhaust ventilation. |
| **Advice on protection** | No special precautions required. |

**against fire and explosion**

**Hygiene measures** Avoid contact with skin, eyes and clothing. Remove soiled clothing immediately and clean thoroughly before using again. Wash hands before breaks and immediately after handling the product.

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

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

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 Control parameters**

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Propamocarb hydrochloride | 25606-41-1 | 1.1 mg/m3 (TWA) | | OES BCS* |

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

**Additional advice**
Not established.

**8.2 Exposure controls**

**Respiratory protection** Respiratory protection is not required under anticipated circumstances of exposure.
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.

**Hand protection** Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. 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.

| | |
|---|---|
| Material | Nitrile rubber |
| Rate of permeability | > 480 min |
| Glove thickness | > 0.4 mm |
| Protective index | Class 6 |
| Directive | Protective gloves complying with EN 374. |

**Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection** Wear standard coveralls and Category 3 Type 4 suit.
If there is a risk of significant exposure, consider a higher protective type 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. |
| **General protective measures** | 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** 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** | Liquid |
| **Colour** | colourless to light yellow |
| **Odour** | slightly perceptible |
| **pH** | 2.0 - 4.0 at 100 % (23 °C) |
| **Boiling point/boiling range** | ca. 100 °C |
| **Flash point** | >100 °C<br>No flash point - Determination conducted up to the boiling point. |
| **Auto-ignition temperature** | The product is not self-ignitable. |
| **Density** | ca. 1.09 g/cm³ at 20 °C |
| **Water solubility** | completely miscible |
| **Partition coefficient: n-octanol/water** | Propamocarb hydrochloride: log Pow: -1.2 |
| **Viscosity, dynamic** | 34.23 mPa.s at 20 °C |
| **9.2 Other information** | 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 normal conditions.

**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**10.5 Incompatible materials** Store only in the original container.

**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) > 5,000 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 4.95 mg/l<br>Exposure time: 4 h |
| **Acute dermal toxicity** | LD50 (Rat) > 5,000 mg/kg |
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Sensitising (Mouse)<br>OECD Test Guideline 429, local lymph node assay (LLNA) |

**Assessment mutagenicity**

Propamocarb hydrochloride was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Propamocarb hydrochloride was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

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

**Assessment developmental toxicity**

Propamocarb hydrochloride caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Propamocarb hydrochloride are related to maternal toxicity.

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

May be harmful if inhaled.
May cause skin irritation., May cause sensitisation by skin contact.
May cause eye irritation.
May be harmful 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

| | |
|---|---|
| **Toxicity to fish** | LC50 (Lepomis macrochirus (Bluegill sunfish)) > 92 mg/l<br>static test; Exposure time: 96 h<br>The value mentioned relates to the active ingredient propamocarb-hydrochloride. |
| **Chronic toxicity to fish** | Oncorhynchus mykiss (rainbow trout)<br>NOEC: > 100 mg/l<br>Exposure time: 21 d |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) > 106 mg/l<br>static test; Exposure time: 48 h<br>The value mentioned relates to the active ingredient propamocarb-hydrochloride. |
| **Toxicity to aquatic plants** | IC50 (Raphidocelis subcapitata (freshwater green alga)) > 85 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient propamocarb-hydrochloride. |
| **Toxicity to other organisms** | LD50 (Anas platyrhynchos (Mallard duck)) > 1,842 mg/kg<br>The value mentioned relates to the active ingredient propamocarb-hydrochloride.<br><br>LD50 (Colinus virginianus (Bobwhite quail)) > 1,842 mg/kg<br>The value mentioned relates to the active ingredient propamocarb-hydrochloride. |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Propamocarb hydrochloride:<br>rapidly biodegradable |
| **Koc** | Propamocarb hydrochloride: Koc: 719 |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| **Bioaccumulation** | Propamocarb hydrochloride: |

Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Propamocarb hydrochloride: Slightly mobile in soils

**12.5 Other adverse effects**

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

## 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.
Do not reuse container for any other purpose.

## SECTION 14. TRANSPORT INFORMATION

According to national and international transport regulations not classified as dangerous goods.

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 62826

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Banol® 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 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Bayfidan® Turf Fungicide |
| **Product code (UVP)** | 04902750 |

**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<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Reproductive toxicity: Category 1B
H360 May damage fertility or the unborn child.

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

Chronic aquatic toxicity: Category 3
H412 Harmful to aquatic life with long lasting effects.

**2.2 Label elements**

Hazard label for supply/use required.

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

Triadimenol
N-Methyl-2-pyrrolidone

**Signal word**: Danger

**Hazard statements**

H360 May damage fertility or the unborn child.
H335 May cause respiratory irritation.

**Precautionary statements**

| | |
|---|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P261 | Avoid breathing mist. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P281 | Use personal protective equipment as required. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P312 | Call a POISON CENTER/doctor/physician if you feel unwell. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| 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**

Triadimenol 250 g/l
Chemical nature Emulsifiable concentrate (EC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Triadimenol | 55219-65-3 | 23.00 |
| N-Methyl-2-pyrrolidone | 872-50-4 | >= 50.00 - <= 60.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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 to fresh air. Keep patient warm and 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. Call a physician or poison control center immediately.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting or give anything by mouth to an unconscious person.

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

| | |
|---|---|
| **Symptoms** | Symptoms and hazards refer to the solvent., Headache, Blurred vision, Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea., Aspiration may cause pulmonary oedema and pneumonitis. |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Watch for pulmonary edema, which may develop in serious cases of poisoning even after 24-48 hours. At first sign of pulmonary edema, the patient should be placed in an oxygen tent and treated symptomatically. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Water spray, Carbon dioxide (CO2), Foam, Sand |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Avoid contact with spilled product or contaminated surfaces. Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. Whenever possible, contain fire-fighting water by diking area with sand or earth. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. |
| **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** Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Collect and transfer the product into a properly labelled and tightly closed container. 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** Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion** Keep away from heat and sources of ignition. Vapours are heavier than air and may spread along floors.

**Hygiene measures** After each day's use, wash gloves, face shield or goggles and contaminated clothing. Avoid contact with skin, eyes and clothing. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). Wash hands before breaks and immediately after handling the product.

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

**Requirements for storage areas and containers** Keep out of the reach of children. Store in a place accessible by authorized persons only. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Triadimenol | 55219-65-3 | 1.6 mg/m3 (TWA) | | OES BCS* |
| N-Methyl-2-pyrrolidone | 872-50-4 | 309 mg/m3/75 ppm (STEL) | 12 2011 | AU NOEL |
| N-Methyl-2-pyrrolidone | 872-50-4 | 103 mg/m3/25 ppm (TWA) | 12 2011 | AU NOEL |
| N-Methyl-2-pyrrolidone | 872-50-4 | 19 ppm (TWAEV) | | OES BCS* |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

### 8.2 Exposure controls

| | |
|---|---|
| **Respiratory protection** | If product is handled while not enclosed, and if contact may occur:<br>Wear a compressed air respirator (continuous flow) conforming to European norm EN14594 or EN14563-1 or equivalent or an organic gas and vapour filter mask (protection factor 20) conforming to EN136 Type A filter or equivalent.<br>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.<br>Filter A or self-contained breathing apparatus |
| **Eye protection** | Wear goggles (conforming to EN166, Field of Use = 5 or equivalent). |
| **Skin and body protection** | Wear standard coveralls and Category 3 Type 6 suit.<br>If there is a risk of significant exposure, consider a higher protective type suit.<br>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.<br>If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer. |
| **General protective measures** | 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** | 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** | Liquid, clear |
| **Colour** | light brown |
| **Odour** | aromatic |
| **pH** | 6.0 - 8.0 at 1 % (23 °C) (deionized water) |
| **Flash point** | 93 °C |
| **Upper explosion limit** | 9.5 %(V)<br>The data refer to the solvent. |
| **Lower explosion limit** | 1.3 %(V)<br>The data refer to the solvent. |
| **Vapour pressure** | 0.32 mbar at 20 °C<br>The data refer to the solvent. |
| **Relative vapour density** | 3.4<br>The data refer to the solvent. |
| **Density** | ca. 1.09 g/cm³ at 20 °C |

| | |
|---|---|
| **Water solubility** | emulsifiable |
| **Partition coefficient: n-octanol/water** | Triadimenol: log Pow: 3.08 - 3.28<br>N-methyl-2-pyrrolidone: log Pow: -0.46 at 25 °C |
| **9.2 Other information** | 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** | No dangerous reaction known under conditions of normal use. Stable under normal conditions.<br>Strong exothermic reaction with acids.<br>Violent exothermic reaction with bases. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Acids, Bases, Oxidizing agents, Reducing 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) > 2,000 mg/kg<br>Test conducted with a similar formulation. |
| **Acute inhalation toxicity** | LC50 (Rat) > 0.412 mg/l<br>Determined in the form of a respirable aerosol.<br>Highest attainable concentration.<br>Test conducted with a similar formulation. |
| **Acute dermal toxicity** | LD50 (Rat) > 5,000 mg/kg<br>Test conducted with a similar formulation. |
| **Skin irritation** | No skin irritation (Rabbit)<br>Test conducted with a similar formulation. |
| **Eye irritation** | Slight irritant effect - does not require labelling. (Rabbit)<br>Test conducted with a similar formulation. |
| **Sensitisation** | Non-sensitizing.<br>The value mentioned relates to the active ingredient triadimenol. |

**Assessment mutagenicity**

Triadimenol was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
N-methyl-2-pyrrolidone was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Triadimenol caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The increased tumour incidence is not considered to be treatment related.
N-methyl-2-pyrrolidone was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Triadimenol caused reduced fertility, reduced lactation rate. The reproduction toxicity seen with Triadimenol is related to parental toxicity.
N-methyl-2-pyrrolidone caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. N-methyl-2-pyrrolidone caused a reduced pup survival, a reduced litter size and a reduced pup weight.

**Assessment developmental toxicity**

Triadimenol caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Triadimenol are related to maternal toxicity.
N-methyl-2-pyrrolidone caused developmental toxicity only at dose levels toxic to the dams. N-methyl-2-pyrrolidone caused a reduced pup survival.

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

Triadimenol did not cause specific target organ toxicity in experimental animal studies.
N-methyl-2-pyrrolidone caused specific target organ toxicity in experimental animal studies in the following organ(s): Testes.

**Aspiration hazard**

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

**Information on likely routes of exposure**

Harmful if inhaled., May cause upper respiratory tract irritation.
Irritating to skin., The product may be absorbed through the skin., Prolonged skin contact may cause skin irritation and/or dermatitis.
Causes eye irritation., Liquid or vapor may cause irritation, burns, corneal opacity.
Harmful 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

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 42 mg/l<br>Exposure time: 96 h |
| **Chronic toxicity to fish** | Pimephales promelas (fathead minnow)<br>NOEC: 0.17 mg/l<br>The value mentioned relates to the active ingredient triadimenol. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 253 mg/l<br>Exposure time: 48 h |
| **Toxicity to aquatic plants** | IC50 (Raphidocelis subcapitata (freshwater green alga)) 41.13 mg/l<br>Growth rate; Exposure time: 72 h |
| **Toxicity to other organisms** | LD50 (Colinus virginianus (Bobwhite quail)) > 2,000 mg/kg<br>The value mentioned relates to the active ingredient triadimenol. |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Triadimenol:<br>Not rapidly biodegradable<br>N-methyl-2-pyrrolidone:<br>rapidly biodegradable |
| **Koc** | Triadimenol: Koc: 273 |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| **Bioaccumulation** | Triadimenol: Bioconcentration factor (BCF) 21<br>Does not bioaccumulate.<br>N-methyl-2-pyrrolidone: Bioconcentration factor (BCF) 3.16<br>Does not bioaccumulate. |

### 12.4 Mobility in soil

| | |
|---|---|
| **Mobility in soil** | Triadimenol: Moderately mobile in soils<br>N-methyl-2-pyrrolidone: Highly mobile in soils |

### 12.5 Other adverse effects

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

## SECTION 13. DISPOSAL CONSIDERATIONS

Small containers (1 L/1 kg or less):
Rinse containers before disposal. Add rinsings to spray tank. Do not dispose of undiluted chemicals on site. Dispose of at 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.

5, 10, 20 litre packs
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.
Do not reuse container for any other purpose.

## 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. (TRIADIMENOL 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. (TRIADIMENOL SOLUTION) |

**IATA**

| | |
|---|---|
| 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. (TRIADIMENOL SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 30676

**SUSMP classification (Poison Schedule)**

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

## SECTION 16. OTHER INFORMATION

**Trademark information** Bayfidan® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Chipco® GT Fungicide |
| **Product code (UVP)** | 06083632 |

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

| | |
|---|---|
| **Use** | Fungicide |
| **Restrictions on use** | See product label for restrictions. |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Aspiration hazard: Category 1
H304 May be fatal if swallowed and enters airways.

Carcinogenicity: Category 2
H351 Suspected of causing cancer.

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.

**2.2 Label elements**

Hazard label for supply/use required.

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

Iprodione
Distillates (petroleum), solvent-refined light paraffinic

**Signal word**: Danger

**Hazard statements**

| | |
|---|---|
| H304 | May be fatal if swallowed and enters airways. |
| H351 | Suspected of causing cancer. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P281 | Use personal protective equipment as required. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| P331 | Do NOT induce vomiting. |
| 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**

Iprodione 240 g/L, Liquid Hydrocarbons 333 g/L
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Iprodione | 36734-19-7 | 23.30 |
| 1,2-Propanediol | 57-55-6 | >= 1.00 - <= 5.00 |
| Distillates (petroleum), solvent-refined light paraffinic | 64741-89-5 | >= 30.00 - <= 35.00 |
| 1,2-Benzisothiazol-3(2H)-one | 2634-33-5 | <= 0.05 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Inhalation** Move to fresh air. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. 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. If symptoms persist, call a physician. |
| **Eye contact** | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists. |
| **Ingestion** | Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended. |

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

| | |
|---|---|
| **Symptoms** | To date no symptoms are known. |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Risks** | Contains hydrocarbon solvents. May pose an aspiration pneumonia hazard. |
| **Treatment** | Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Carbon dioxide (CO2), Dry chemical, Foam, Water spray |
| **Unsuitable** | None known. |
| **5.2 Special hazards arising from the substance or mixture** | Dangerous gases are evolved in the event of a fire. |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | Firefighters should wear NIOSH approved self-contained breathing apparatus and full protective clothing. |
| **Further information** | Avoid contact with spilled product or contaminated surfaces. Keep out of smoke. Do not allow run-off from fire fighting to enter drains or water courses. 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. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

**Precautions**

Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces.

**6.2 Environmental precautions**

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water.

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

**Methods for cleaning up**

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. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**Additional advice**

Use personal protective equipment. If material is accidentally spilled, do not allow to enter soil, waterways or waste water canal.

**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**

Handle and open container in a manner as to prevent spillage. Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures**

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 Personal Protective Equipment (PPE) immediately after handling this product. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

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

**Requirements for storage areas and containers**

Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| 1,2-Propanediol (Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol (Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |
| Distillates (petroleum), solvent-refined light paraffinic | 64741-89-5 | 5 mg/m3 (TWA) | 12 2011 | AU NOEL |

### 8.2 Exposure controls

**Respiratory protection** When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.

**Hand protection** Chemical resistant nitrile rubber gloves

**Eye protection** Chemical resistant goggles must be worn.

**Skin and body protection** Wear long-sleeved shirt and long pants and shoes plus socks.

**General protective measures** In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the following recommendations would apply.

**Engineering Controls**

**Advice on safe handling** Handle and open container in a manner as to prevent spillage. 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** white to light beige

**Odour** aromatic

**Odour Threshold** No data available

**pH** 6.0 - 6.5 at 100 %

**Flash point** >93.3 °C

**Minimum ignition energy** No data available

**Upper explosion limit** 12 %(V)

**Lower explosion limit** 2.6 %(V)

**Dust explosion class** Not applicable.

| | |
|---|---|
| **Vapour pressure** | No data available |
| **Evaporation rate** | Not applicable |
| **Relative vapour density** | No data available |
| **Density** | ca. 1.03 g/cm³ at 20 °C |
| **Water solubility** | dispersible |
| **Partition coefficient: n-octanol/water** | No data available |
| **Viscosity, dynamic** | 1,000 - 1,500 cps |
| **Explosivity** | No data available |

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

| | |
|---|---|
| **Thermal decomposition** | No data available |
| **10.2 Chemical stability** | Stable under recommended storage conditions. |
| **10.3 Possibility of hazardous reactions** | No dangerous reaction known under conditions of normal use. |
| **10.4 Conditions to avoid** | Elevated temperatures<br>Heat, flames and sparks. |
| **10.5 Incompatible materials** | Strong acids, Strong bases, 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) 4,619 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 0.8 mg/l<br>Exposure time: 4 h<br>Determined in the form of liquid aerosol.<br>Highest attainable concentration.<br>No deaths<br><br>LC50 (Rat) > 3.2 mg/l<br>Exposure time: 1 h<br>Determined in the form of liquid aerosol.<br>Extrapolated from the 4 hr LC50. |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg |
| **Skin irritation** | slight irritation (Rabbit) |
| **Eye irritation** | Minimally irritating. (Rabbit) |

**Sensitisation** Non-sensitizing. (Guinea pig)

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

Iprodione caused at high dose levels an increased incidence of tumours in the following organ(s): Liver, Testes. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

**Assessment toxicity to reproduction**

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

**Assessment developmental toxicity**

Iprodione caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Iprodione are related to maternal toxicity.

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

Iprodione caused specific target organ toxicity in experimental animal studies in rats in the following organ(s): Adrenal gland.

**Aspiration hazard**

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

**Information on likely routes of exposure**

May cause irritation of the mucous membranes.
Low acute dermal toxicity., Avoid contact with skin.
May cause eye irritation.
Ingestion of large amounts may be harmful (see Signs and Symptoms).

**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**

Acute toxicity studies have been bridged from a similar formulation(s).
The non-acute information pertains to the active ingredient(s).

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 4.1 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient iprodione. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 0.25 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient iprodione. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) 15.3 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient iprodione. |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Iprodione:<br>Not rapidly biodegradable |
| **Koc** | Iprodione: Koc: 202 - 543 |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| **Bioaccumulation** | Iprodione: Bioconcentration factor (BCF) 70<br>Does not bioaccumulate. |

### 12.4 Mobility in soil

| | |
|---|---|
| **Mobility in soil** | Iprodione: 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.<br>(IPRODIONE 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.<br>(IPRODIONE SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(IPRODIONE SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 50954

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Chipco® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Dedicate® Turf Fungicide |
| **Product code (UVP)** | 05686600 |

**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.<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

Reproductive toxicity: Category 2

Acute aquatic toxicity: Category 1

Chronic aquatic toxicity: Category 1

**2.2 Label elements**

Hazard label for supply/use required.

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

Tebuconazole
Trifloxystrobin

**Signal word**: Warning

**Hazard statements**

| | |
|---|---|
| H361 | Suspected of damaging fertility or the unborn child. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P201 | Obtain special instructions before use. |

| | |
|---|---|
| P202 | Do not handle until all safety precautions have been read and understood. |
| P281 | Use personal protective equipment as required. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| 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**

Tebuconazole:Trifloxystrobin 200:100g/l
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Tebuconazole | 107534-96-3 | 18.20 |
| Trifloxystrobin | 141517-21-7 | 9.10 |
| 1,2-Benzisothiazol-3(2H)-one | 2634-33-5 | >= 0.005 - <= 0.05 |
| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one | 55965-84-9 | >= 0.0002 - <= 0.0015 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice** Remove contaminated clothing immediately and dispose of safely. Move out of dangerous area. Place and transport victim in stable position (lying sideways).

**Inhalation** Move to fresh air. Keep patient warm and 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.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

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

**Symptoms** No symptoms known or expected.

**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 spray, Carbon dioxide (CO2), Foam, Sand |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx), Hydrogen fluoride |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. |
| **6.2 Environmental precautions** | Do not allow to get into surface water, drains and ground water. |

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

| | |
|---|---|
| **Methods for cleaning up** | Clean contaminated floors and objects thoroughly, observing environmental regulations. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. |
| **6.4 Reference to other sections** | 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 protection against fire and explosion** | Keep away from heat and sources of ignition. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands immediately after work, if necessary take a shower. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be |

destroyed (burnt). Wash hands before breaks and immediately after handling the product.

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

**Requirements for storage areas and containers** Keep containers tightly closed in a dry, cool and well-ventilated place.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

**8.1 Control parameters**

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Tebuconazole | 107534-96-3 | 0.2 mg/m³ (SK-ABS) | | OES BCS* |
| Trifloxystrobin | 141517-21-7 | 2.7 mg/m³ (SK-SEN) | | OES BCS* |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**8.2 Exposure controls**

**Personal protective equipment - End user**

**Respiratory protection** Respiratory protection is not required under anticipated circumstances of exposure.

**Hand protection** Elbow-length PVC or nitrile gloves

**Skin and body protection** Cotton overall buttoned to the neck and wrist

**General protective measures** If product is handled while not enclosed, and if contact may occur: Complete suit protecting against chemicals

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

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

**Form** suspension

**Colour** white to light beige

**Odour** weak, characteristic

**pH** 6.0 - 8.0 at 100 % (23 °C)

**Flash point** > 100 °C
Not relevant; aqueous solution

**Density** ca. 1.10 g/cm³ at 20 °C

**Partition coefficient: n-octanol/water** Tebuconazole: log Pow: 3.7

Trifloxystrobin: log Pow: 4.5 at 25 °C

**9.2 Other information** 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** | No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Store only in the original container. |
| **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) ca. 2,500 mg/kg<br>Test conducted with a similar formulation. |
| **Acute inhalation toxicity** | LC50 (Rat) > 2.43 mg/l<br>Exposure time: 4 h<br>Highest attainable concentration.<br>Determined in the form of a respirable aerosol.<br>Test conducted with a similar formulation. |
| **Acute dermal toxicity** | LD50 (Rat) > 4,000 mg/kg<br>Test conducted with a similar formulation. |
| **Skin irritation** | No skin irritation (Rabbit)<br>Test conducted with a similar formulation. |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Magnusson & Kligman test<br>Test conducted with a similar formulation. |

**Assessment mutagenicity**

Tebuconazole was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Tebuconazole caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Liver. The mechanism of tumour formation is not considered to be relevant to man.
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Tebuconazole caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Tebuconazole is related to parental toxicity.

Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.

**Assessment developmental toxicity**

Tebuconazole caused developmental toxicity only at dose levels toxic to the dams. Tebuconazole caused an increased incidence of post implantation losses, an increased incidence of non-specific malformations.
Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

**Assessment repeated dose toxicity**

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

Low acute inhalation toxicity., Inhalation of high vapour concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.
No skin irritation
No eye irritation
Low acute oral toxicity., Ingestion of large amounts may be harmful (see Signs and Symptoms).

**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

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 0.286 mg/l<br>Exposure time: 96 h |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 0.224 mg/l<br>Exposure time: 48 h |

**Toxicity to aquatic plants** (Raphidocelis subcapitata (freshwater green alga)) 0.99 mg/l
Growth rate; Exposure time: 72 h

**12.2 Persistence and degradability**

**Biodegradability** Tebuconazole:
Not rapidly biodegradable
Trifloxystrobin:
Not rapidly biodegradable

**Koc** Tebuconazole: Koc: 769
Trifloxystrobin: Koc: 2377

**12.3 Bioaccumulative potential**

**Bioaccumulation** Tebuconazole: Bioconcentration factor (BCF) 35 - 59
Does not bioaccumulate.
Trifloxystrobin: Bioconcentration factor (BCF) 431
Does not bioaccumulate.

**12.4 Mobility in soil**

**Mobility in soil** Tebuconazole: Slightly mobile in soils
Trifloxystrobin: Slightly mobile in soils

**12.5 Other adverse effects**

**Additional ecological information** The ecological data refer to a similar formulation.

## 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.<br>(TEBUCONAZOLE, TRIFLOXYSTROBIN 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. (TEBUCONAZOLE, TRIFLOXYSTROBIN SOLUTION) |

**IATA**

| | |
|---|---|
| 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. (TEBUCONAZOLE, TRIFLOXYSTROBIN SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 62638

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Dedicate® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Destiny® Selective Turf Herbicide |
| **Product code (UVP)** | 05697270 |

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

| | |
|---|---|
| **Use** | Herbicide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

No hazard label for supply/use required.

**2.3 Other hazards**
No other hazards known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature**

contains: Iodosulfuron-methyl-sodium 10 % w/w
Chemical nature Water dispersible granules (WG)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Iodosulfuron-methyl-sodium | 144550-36-7 | 10.00 |
| Naphthalene and alkyl naphthalene sulphonic acids formaldehyde condensate, sodium salt | 68425-94-5 | < 15.00 |
| Anionic tenside | | < 5.00 |
| Docusate sodium | 577-11-7 | < 2.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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** Keep patient warm and at rest. Call a physician or poison control center immediately. Move to fresh air.

**Skin contact** Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Do NOT induce vomiting. Rinse mouth. If symptoms persist, call a physician.

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

**Symptoms** No symptoms known or expected.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment** Initial treatment: symptomatic. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Elimination by dialysis (forced alkaline diuresis).

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable** Water spray, Foam, Carbon dioxide (CO2), Dry powder

**Unsuitable** High volume water jet

| | |
|---|---|
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides, Oxides of phosphorus, Hydrogen iodide (HI) |
| **5.3 Advice for firefighters** | |
| **Special protective equipment for firefighters** | In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Do not allow run-off from fire fighting to enter drains or water courses.<br>Avoid contact with spilled product or contaminated surfaces. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Do not allow run-off from fire fighting to enter drains or water courses. 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. |
| **Hazchem Code** | 2Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Use personal protective equipment. Do not breathe dust. |
| **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** | Use mechanical handling equipment. Keep in suitable, closed containers for disposal. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. |
| **Advice on protection against fire and explosion** | Avoid dust formation by friction. |
| **Hygiene measures** | When using, do not eat, drink or smoke. Handle in accordance with good industrial hygiene and safety practice. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. |

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

**Requirements for storage areas and containers** Store in original container. Keep away from direct sunlight. Keep containers tightly closed in a dry, cool and well-ventilated place.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Iodosulfuron-methyl-sodium | 144550-36-7 | 1 mg/m3 (TWA) | | OES BCS* |
| Perlite (Inhalable dust.) | 93763-70-3 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

### 8.2 Exposure controls

**Respiratory protection** Wear respirator with a particle filter mask (protection factor 4) conforming to European norm EN149FFP1 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.

**Hand protection** 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.

**Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection** 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.

**General protective measures** Avoid contact with skin and eyes.
Do not breathe dust.
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** Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Form** | water-dispersible granules |
| **Colour** | beige |
| **Odour** | weak, characteristic |
| **pH** | 9.5 - 10.5 at 1 % (23 °C) (deionized water) |
| **Auto-ignition temperature** | 378 °C |
| **Minimum ignition energy** | > 100 mJ |
| **Bulk density** | 0.684 - 0.803 g/ml (loose) |
| **Water solubility** | dispersible |
| **Partition coefficient: n-octanol/water** | Iodosulfuron-methyl-sodium: log Pow: -0.7 |
| **Burning number** | CN1 Does not catch fire. |
| **Oxidizing properties** | No oxidizing properties |
| **Explosivity** | Not explosive<br>92/69/EEC, A.14 / OECD 113 |
| **Dust content** | nearly dust-free |
| **9.2 Other information** | Further safety related physical-chemical data are not known. |

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

| | |
|---|---|
| **Thermal decomposition** | > 390 °C, Heating rate: 10 K/min, Decomposition energy: 41.1 J/g |
| **10.2 Chemical stability** | Stable under recommended storage conditions. |
| **10.3 Possibility of hazardous reactions** | No hazardous reactions known. Stable under recommended storage conditions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Store only in the original container. |
| **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) > 5,000 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 1.951 mg/l<br>Exposure time: 4 h<br>Highest attainable concentration. |
| **Acute dermal toxicity** | LD50 (Rat) > 5,000 mg/kg |

| | |
|---|---|
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | Slight irritant effect - does not require labelling. (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Buehler test |

**Assessment mutagenicity**

Iodosulfuron-methyl-sodium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Iodosulfuron-methyl-sodium was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Iodosulfuron-methyl-sodium did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**

Iodosulfuron-methyl-sodium did not cause developmental toxicity in rats and rabbits.

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

Iodosulfuron-methyl-sodium did not cause specific target organ toxicity in experimental animal studies.

**Aspiration hazard**

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

**Information on likely routes of exposure**

Caution!
Harmful if inhaled., Avoid breathing dust., Moderate eye irritation., Avoid contact with skin, eyes and clothing.
Do not take internally.
This product may cause adverse effects on non-target plants.

**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**

The toxicological data refer to a similar formulation.

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Cyprinus carpio (Carp)) 117 mg/l<br>Exposure time: 96 h |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 16.4 mg/l<br>Exposure time: 48 h |
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) 0.192 mg/l<br>Exposure time: 72 h |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Iodosulfuron-methyl-sodium:<br>Not rapidly biodegradable |
| **Koc** | Iodosulfuron-methyl-sodium: Koc: 45 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Iodosulfuron-methyl-sodium:<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Iodosulfuron-methyl-sodium: Mobile in soils |

**12.5 Other adverse effects**

| | |
|---|---|
| **Additional ecological information** | The ecological data refer to a similar formulation. |

## 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 | **3077** |
| Transport hazard class(es) | 9 |
| Subsidiary Risk | None |
| Packaging group | III |
| Description of the goods | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.<br>(IODOSULFURON-METHYL-SODIUM) |
| 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. (IODOSULFURON-METHYL-SODIUM) |

**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. (IODOSULFURON-METHYL-SODIUM ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 56801

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Destiny® 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 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

# Safety Data Sheet

## Exteris Stressgard® Turf Fungicide

Version 1 / AUS
102000028296

Revision Date: 30.05.2018
Print Date: 30.05.2018

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Exteris Stressgard® Turf Fungicide |
| **Product code (UVP)** | 81753938 |

**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<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

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

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.

**2.2 Label elements**

Hazard label for supply/use required.

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

Fluopyram
Trifloxystrobin

**Signal word**: Warning

**Hazard statements**

H317 May cause an allergic skin reaction.
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

| | |
|---|---|
| P280 | Wear protective gloves/ protective clothing/ eye protection. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention. |
| 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**

Fluopyram/Trifloxystrobin 12.5:12.5 g/l
Suspension concentrate (=flowable concentrate)(SC)

| Chemical name | CAS-No. | Concentration [%] |
|---|---|---|
| Fluopyram | 658066-35-4 | 1.19 |
| Trifloxystrobin | 141517-21-7 | 1.19 |
| iso-Tridecyl alcohol, ethoxylated, phosphated | 73038-25-2 | > 5.00 - < 10.00 |
| Alcohols, C12-16, ethoxylated (>5-15 EO) | 68551-12-2 | > 1.00 - < 25.00 |
| potassium hydroxide; caustic potash | 1310-58-3 | >= 0.50 - < 2.00 |
| 1,2-Benzisothiazol-3(2H)-one | 2634-33-5 | > 0.005 - < 0.05 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice**
When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Inhalation**
Move to fresh air. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. Call a physician or poison control center immediately.

**Skin contact**
Take off contaminated clothing and shoes immediately. Wash off immediately with plenty of water for at least 15 minutes. Call a physician or poison control center immediately.

**Eye contact**
Hold eye open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Call a physician or poison control center immediately.

| | |
|---|---|
| **Ingestion** | Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended. |

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

| | |
|---|---|
| **Symptoms** | No symptoms known or expected. |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Water spray, Carbon dioxide (CO2), Foam, Sand |
| **Unsuitable** | High volume water jet |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen fluoride, Hydrogen cyanide (hydrocyanic acid), Hydrogen chloride (HCl), Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. Wear self-contained breathing apparatus and protective suit. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. |
| **6.2 Environmental precautions** | Do not allow to get into surface water, drains and ground water. |

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

| | |
|---|---|
| **Methods for cleaning up** | 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. Clean floors and contaminated objects with plenty of water. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

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

**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

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

**Requirements for storage areas and containers** Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Keep away from direct sunlight. Protect from frost.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Fluopyram | 658066-35-4 | 0.34 mg/m3 (TWA) | | OES BCS* |
| Trifloxystrobin | 141517-21-7 | 2.7 mg/m3 (SK-SEN) | | OES BCS* |
| 1,2-Propanediol<br><br>(Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol<br><br>(Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |
| potassium hydroxide; caustic potash | 1310-58-3 | 2 mg/m3 (PEAK) | 12 2011 | AU NOEL |
| potassium hydroxide; caustic potash | 1310-58-3 | 2 mg/m3 (TLV) | | OES BCS* |

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

### 8.2 Exposure controls

**Respiratory protection** Respiratory protection is not required under anticipated circumstances of exposure.
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.

**Hand protection**

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. 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.

| | |
|---|---|
| Material | Nitrile rubber |
| Rate of permeability | > 480 min |
| Glove thickness | > 0.4 mm |
| Protective index | Class 6 |
| Directive | Protective gloves complying with EN 374. |

**Eye protection**

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection**

Wear standard coveralls and Category 3 Type 4 suit.
If there is a risk of significant exposure, consider a higher protective type 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.

**General protective measures**

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**

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 |
| **Odour** | characteristic |
| **pH** | 5.0 - 7.0 at 100 % (23 °C) |
| **Flash point** | > 93.3 °C |
| **Ignition temperature** | 420 °C |
| **Minimum ignition energy** | Not applicable |
| **Vapour pressure** | No data available |
| **Evaporation rate** | No data available |
| **Density** | 1.05 g/cm³ at 20 °C |
| **Water solubility** | dispersible |

| | |
|---|---|
| **Partition coefficient: n-octanol/water** | Fluopyram: log Pow: 3.3 |
| | Trifloxystrobin: log Pow: 4.5 at 25 °C |
| **Viscosity, dynamic** | 60 - 200 mPa.s at 20 °C Velocity gradient 20 /s |
| | 25 - 75 mPa.s at 20 °C Velocity gradient 100 /s |
| **Surface tension** | 33.0 mN/m at 20 °C |
| **Oxidizing properties** | No oxidizing properties |
| **Explosivity** | Not explosive |
| **9.2 Other information** | 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** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Store only in the original container. |
| **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) > 5,000 mg/kg<br>Test conducted with a similar formulation. |
| **Acute inhalation toxicity** | LC50 (Rat) > 4.62 mg/l<br>Test conducted with a similar formulation. |
| **Acute dermal toxicity** | LD50 (Rat) > 5,000 mg/kg<br>Test conducted with a similar formulation. |
| **Skin irritation** | slight irritation (Rabbit)<br>Test conducted with a similar formulation. |
| **Eye irritation** | Mild eye irritation. (Rabbit)<br>Test conducted with a similar formulation. |
| **Sensitisation** | Sensitising (Mouse)<br>OECD Test Guideline 429, local lymph node assay (LLNA)<br>Test conducted with a similar formulation. |

**Assessment mutagenicity**

Fluopyram was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Trifloxystrobin was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Fluopyram caused at high dose levels an increased incidence of tumours in rats in the following organ(s): Liver.
Fluopyram caused at high dose levels an increased incidence of tumours in mice in the following organ(s): Thyroid.
The tumours seen with Fluopyram were caused through a non-genotoxic mechanism, which is not relevant at low doses. The mechanism that triggers these tumours is not relevant to humans.
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Fluopyram caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Fluopyram is related to parental toxicity.
Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.

**Assessment developmental toxicity**

Fluopyram caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Fluopyram are related to maternal toxicity.
Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

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

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

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

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

May cause sensitisation by skin contact.
Mild eye irritation.
Skin contact, Eye contact, Ingestion, Inhalation

**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)) 1.42 mg/l<br>Exposure time: 96 h |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 0.75 mg/l<br>Exposure time: 48 h |
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) 5.25 mg/l<br>Growth rate; Exposure time: 72 h |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Fluopyram:<br>Not rapidly biodegradable<br>Trifloxystrobin:<br>Not rapidly biodegradable |
| **Koc** | Fluopyram: Koc: 279<br>Trifloxystrobin: Koc: 2377 |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| **Bioaccumulation** | Fluopyram: Bioconcentration factor (BCF) 18<br>Does not bioaccumulate.<br>Trifloxystrobin: Bioconcentration factor (BCF) 431<br>Does not bioaccumulate. |

### 12.4 Mobility in soil

| | |
|---|---|
| **Mobility in soil** | Fluopyram: Moderately mobile in soils<br>Trifloxystrobin: Slightly mobile in soils |

### 12.5 Other adverse effects

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

## 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.
Do not reuse container for any other purpose.

## 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. (TRIFLOXYSTROBIN 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. (TRIFLOXYSTROBIN SOLUTION) |

**IATA**

| | |
|---|---|
| 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. (TRIFLOXYSTROBIN SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 83704

## SECTION 16. OTHER INFORMATION

**Trademark information** Exteris Stressgard® is a Registered Trademark of the Bayer Group.

**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 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 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 |

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. |

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Initiator® Systemic Plant Insecticide and Fertiliser |
| **Product code (UVP)** | 06481345 |

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

| | |
|---|---|
| **Use** | Insecticide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

No hazard label for supply/use required.

**2.3 Other hazards**
No other hazards known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature**

Imidacloprid 200g/kg
Chemical nature Tablet (TB)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Imidacloprid | 138261-41-3 | 20.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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

**General advice** Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

**Skin contact** Wash off immediately with soap and plenty of water.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Call a physician or poison control center immediately. Rinse mouth. Induce vomiting only, if: 1. patient is fully conscious, 2. medical aid is not readily available, 3. a significant amount (more than a mouthful) has been ingested and 4. time since ingestion is less than 1 hour. (Vomit should not get into the respiratory tract.)

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

**Symptoms** If large amounts are ingested, the following symptoms may occur:

Vomiting, Dizziness, Abdominal pain, Nausea

Symptoms and hazards refer to effects observed after intake of significant amounts of the active ingredient(s).

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment** Treat symptomatically. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote.

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

| | |
|---|---|
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx) |
| **5.3 Advice for firefighters** | |
| **Special protective equipment for firefighters** | Wear self-contained breathing apparatus and protective suit. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.<br>Whenever possible, contain fire-fighting water by diking area with sand or earth. Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. |
| **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. Use personal protective equipment. When dealing with a spillage do not eat, drink or smoke. |
| **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** | Use mechanical handling equipment. Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

| | |
|---|---|
| **Advice on safe handling** | No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice. |
| **Advice on protection against fire and explosion** | No special precautions required. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). |

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

**Requirements for storage areas and containers** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight.
Keep out of reach of children and animals.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Imidacloprid | 138261-41-3 | 0.7 mg/m3 (TWA) | | OES BCS* |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

### 8.2 Exposure controls

**Respiratory protection** Respiratory protection is not required under anticipated circumstances of exposure.
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.

**Hand protection** 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.

**Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection** Wear standard coveralls and Category 3 Type 5 suit.
If there is a risk of significant exposure, consider a higher protective type 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.

**General protective measures** 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** No specific precautions required when handling unopened packs/containers; follow relevant manual handling advice.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Form** | tablet |
| **Colour** | beige to brown |
| **Odour** | weak, characteristic |
| **9.2 Other information** | 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** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Heat, flames and sparks. |
| **10.5 Incompatible materials** | Oxidizing agents |
| **10.6 Hazardous decomposition products** | Thermal decomposition can lead to release of:<br>Hydrogen chloride (HCl)<br>Hydrogen cyanide (hydrocyanic acid)<br>Carbon monoxide<br>Nitrogen oxides (NOx) |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute oral toxicity** | LD50 (Rat) >= 5,000 mg/kg |
| **Acute inhalation toxicity** | During intended and foreseen applications, no respirable aerosol is formed. |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg |
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Rabbit)<br>OECD Test Guideline 429, local lymph node assay (LLNA) |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

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

**Assessment toxicity to reproduction**

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

**Assessment developmental toxicity**

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

Caution!
Harmful if swallowed or absorbed through skin., Avoid contact with skin, eyes and clothing.
Highly toxic to aquatic invertebrates., May cause long-term adverse effects in the aquatic environment.

**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

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 85 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient imidacloprid.<br><br>EC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l |

| | |
|---|---|
| | Exposure time: 24 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Chronic toxicity to aquatic invertebrates** | EC10 (Chironomus riparius (non-biting midge)): 2,09 µg/l<br>Exposure time: 28 d<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l<br>Growth rate; Exposure time: 72 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to bacteria** | EC50 (activated sludge) > 10,000 mg/l<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to other organisms** | LD50 (Coturnix japonica (Japanese quail)) 31 mg/kg<br>The value mentioned relates to the active ingredient imidacloprid. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Not readily biodegradable.<br>The value mentioned relates to the active ingredient imidacloprid. |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Not applicable for this mixture. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Adsorbs on soil.<br>The value mentioned relates to the active ingredient imidacloprid. |

**12.5 Other adverse effects**

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

## SECTION 13. DISPOSAL CONSIDERATIONS

Dispose of empty container by wrapping in paper, placing in plastic bag and putting in the garbage. DO NOT burn empty containers or product.

## SECTION 14. TRANSPORT INFORMATION

**ADG**

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

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 60391

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Initiator® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

**Trade name** Interface StressGard® Turf Fungicide

**Product code (UVP)** 79653646, 81777721

**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**

**Classification in accordance with Australian GHS Regulation**

Carcinogenicity: Category 2
H351 Suspected of causing cancer.

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

Hazard label for supply/use required.

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

Iprodione
Trifloxystrobin

**Signal word**: Warning

**Hazard statements**

H351 Suspected of causing cancer.

| | |
|---|---|
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P201 | Obtain special instructions before use. |
| P202 | Do not handle until all safety precautions have been read and understood. |
| P281 | Use personal protective equipment as required. |
| P308 + P313 | IF exposed or concerned: Get medical advice/ attention. |
| 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**

Iprodione/Trifloxystrobin 256.40 : 16.00 g/l
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Iprodione | 36734-19-7 | 23.10 |
| Trifloxystrobin | 141517-21-7 | 1.44 |
| 1,2-Propanediol | 57-55-6 | >= 1.00 - <= 5.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Inhalation** Move to fresh air. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. 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. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

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

**Symptoms** To date no symptoms are known.

**4.3 Indication of any immediate medical attention and special treatment needed**

**Treatment** Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote.

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**Unsuitable** High volume water jet

**5.2 Special hazards arising from the substance or mixture** Dangerous gases are evolved in the event of a fire.

**5.3 Advice for firefighters**

**Special protective equipment for firefighters** In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.

**Further information** Keep out of smoke. Fight fire from upwind position. 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. Avoid contact with spilled product or contaminated surfaces.

**Hazchem Code** •3Z

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

**Precautions** Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water. Retain and dispose of contaminated wash 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** | 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. Clean contaminated floors and objects thoroughly, observing environmental regulations. |
| **Additional advice** | If material is accidentally spilled, do not allow to enter soil, waterways or waste water canal. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

| | |
|---|---|
| **Advice on safe handling** | Use only in area provided with appropriate exhaust ventilation. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Remove and wash contaminated gloves, including the inside, before re-use. Keep working clothes separately. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). |

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

| | |
|---|---|
| **Requirements for storage areas and containers** | Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Keep away from direct sunlight. Protect from freezing. |

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| 1,2-Propanediol (Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol (Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |

### 8.2 Exposure controls

| | |
|---|---|
| **Respiratory protection** | When respirators are required, select NIOSH approved equipment based on actual or potential airborne concentrations and in accordance with the appropriate regulatory standards and/or industry recommendations.<br>Respiratory protection is not required under anticipated circumstances of exposure. |

| | |
|---|---|
| | 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. |
| **Hand protection** | Chemical-resistant gloves made of waterproof material such as neoprene, butyl rubber, barrier laminate or nitrile rubber. |
| **Eye protection** | Tightly fitting safety goggles |
| **Skin and body protection** | Wear standard coveralls and Category 3 Type 6 suit.<br>If there is a risk of significant exposure, consider a higher protective type suit.<br>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. |
| **General protective measures** | 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** 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** | Liquid |
| **Colour** | green |
| **Odour** | musty |
| **Odour Threshold** | No data available |
| **pH** | 4.0 - 7.0 at 100 % (23 °C) |
| **Minimum ignition energy** | Not applicable |
| **Upper explosion limit** | No data available |
| **Lower explosion limit** | No data available |
| **Vapour pressure** | No data available |
| **Evaporation rate** | No data available |
| **Relative vapour density** | No data available |
| **Density** | 1.11 g/cm³ at 20 °C |
| **Water solubility** | dispersible |
| **Partition coefficient: n-octanol/water** | Trifloxystrobin: log Pow: 4.5 at 25 °C |
| **Viscosity, dynamic** | 550 - 1,000 cps at 25 °C |
| **9.2 Other information** | Further safety related physical-chemical data are not known. |

## SECTION 10. STABILITY AND REACTIVITY

**10.1 Reactivity**

Not applicable

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

**10.3 Possibility of hazardous reactions** No hazardous reactions when stored and handled according to prescribed instructions.

**10.4 Conditions to avoid** Extremes of temperature and direct sunlight.

**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) 5,000 mg/kg

**Acute inhalation toxicity** LC50 (Rat) > 2.56 mg/l
Exposure time: 4 h
Determined in the form of liquid aerosol.

**Acute dermal toxicity** LD50 (Rat) > 5,000 mg/kg

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

**Eye irritation** slight irritation (Rabbit)

**Sensitisation** Non-sensitizing. (Guinea pig)

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

Iprodione caused at high dose levels an increased incidence of tumours in the following organ(s): Liver, Testes. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.
Trifloxystrobin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Iprodione did not cause reproductive toxicity in a two-generation study in rats.
Trifloxystrobin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Trifloxystrobin is related to parental toxicity.

**Assessment developmental toxicity**

Iprodione caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Iprodione are related to maternal toxicity.

Trifloxystrobin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Trifloxystrobin are related to maternal toxicity.

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

Iprodione caused specific target organ toxicity in experimental animal studies in rats in the following organ(s): Adrenal gland.
Trifloxystrobin did not cause specific target organ toxicity in experimental animal studies.

**Aspiration hazard**

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

**Information on likely routes of exposure**

Caution!
Harmful if swallowed., Avoid contact with skin, eyes and clothing., Wash thoroughly with soap and water after handling.
Avoid contact or inhalation of spray mist.
Harmful if swallowed., Do not take internally.
This product or its components may have target organ effects., This product or its components may have long term (chronic) health effects.
Toxic to fish and aquatic invertebrates.

**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**

Only acute toxicity studies have been performed on the formulated product.
The non-acute information pertains to the active ingredient(s).

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 1.47 mg/l<br>Exposure time: 96 h |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 0.6 mg/l<br>Exposure time: 48 h |

| | |
|---|---|
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) 5.32 mg/l<br>Growth rate; Exposure time: 72 h |
| **Toxicity to other organisms** | LD50 (Apis mellifera (bees)) > 209.4 µg product/bee<br>Exposure time: 48 d<br>Non-hazardous for bees. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Iprodione:<br>Not rapidly biodegradable<br>Trifloxystrobin:<br>Not rapidly biodegradable |
| **Koc** | Iprodione: Koc: 202 - 543<br>Trifloxystrobin: Koc: 2377 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Iprodione: Bioconcentration factor (BCF) 70<br>Does not bioaccumulate.<br>Trifloxystrobin: Bioconcentration factor (BCF) 431<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Iprodione: Moderately mobile in soils<br>Trifloxystrobin: Slightly mobile in soils |

**12.5 Other adverse effects**

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

## SECTION 13. DISPOSAL CONSIDERATIONS

Triple or preferably pressure rinse containers before disposal. Dispose of rinsings in a disposal pit specifically marked and set up for this purpose, clear of waterways, desirable vegetation and tree roots. If recycling, replace cap and return clean containers to recycler or designated collection point. If not recycling, break, crush or puncture and deliver empty packaging for appropriate disposal to an approved waste management facility. If an approved waste management facility is not available bury the empty packaging 500 mm below the surface in a disposal pit specifically marked and set up for this purpose clear of waterways, desirable vegetation and tree roots, in compliance with relevant Local, State or Territory Government Regulations. DO NOT burn empty containers or product.

## 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.<br>(IPRODIONE 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.<br>(IPRODIONE SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(IPRODIONE SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 68029

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Interface 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Merit® Turf and Ornamental Insecticide |
| **Product code (UVP)** | 80481853 |

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

| | |
|---|---|
| **Use** | Insecticide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Acute toxicity: Category 4
H302 Harmful if swallowed.

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.

**2.2 Label elements**

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

Imidacloprid

**Signal word**: Warning

**Hazard statements**

H302 Harmful if swallowed.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

| | |
|---|---|
| P264 | Wash hands thoroughly after handling. |
| P270 | Do not eat, drink or smoke when using this product. |
| P301 + P312 | IF SWALLOWED: Call a POISON CENTER/doctor/physician if you feel unwell. |
| P330 | Rinse mouth. |
| 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**

Imidacloprid 200 g/l
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Imidacloprid | 138261-41-3 | 18.30 |
| Mixture of: 5-chloro-2-methyl-4-isothiazolin-3-one and 2-methyl-4-isothiazolin-3-one | 55965-84-9 | <= 0.001 |
| Glycerine | 56-81-5 | 10.00 |
| 1,2-Propanediol | 57-55-6 | >= 1.00 - <= 5.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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 to fresh air. When symptoms persist or in all cases of doubt seek medical advice.

**Skin contact** Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

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

**Symptoms** Dizziness, Nausea, Abdominal pain

Local:, No symptoms known or expected., Systemic:, Apathy, Respiratory disorder, Trembling

### 4.3 Indication of any immediate medical attention and special treatment needed

| | |
|---|---|
| **Risks** | This product contains a nicotinoid. |
| **Treatment** | Treat symptomatically. Monitor: blood (Hb, RBC, WBC). Carefully monitor the respiratory functions. Oxygen or artificial respiration if needed. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote. Contraindications: alcohol. |

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

| | |
|---|---|
| **Suitable** | Water spray, Alcohol-resistant foam, Dry chemical, Carbon dioxide (CO2), Sand |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx) |

### 5.3 Advice for firefighters

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus.<br>Wear self-contained breathing apparatus and protective suit. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.<br>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. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. When dealing with a spillage do not eat, drink or smoke. Keep unauthorized people away. |
| **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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

**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** Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion** No special precautions required.

**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). After each day's use, wash gloves, face shield or goggles and contaminated clothing.

### 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. Store in a place accessible by authorized persons only. Store in original container.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Glycerine (Inhalable mist.) | 56-81-5 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol (Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol (Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |

### 8.2 Exposure controls

**Respiratory protection** Not required; except in case of aerosol formation.

**Hand protection** 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. |
| **Eye protection** | Wear goggles (conforming to EN166, Field of Use = 5 or equivalent). |
| **Skin and body protection** | Wear standard coveralls and Category 3 Type 3 suit.<br>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. |
| **General protective measures** | 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** 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** | white to light beige |
| **Odour** | weak, characteristic |
| **pH** | 7.0 - 8.5 at 100 % (23 °C) |
| **Flash point** | Not applicable |
| **Auto-ignition temperature** | 405 °C |
| **Density** | ca. 1.10 g/cm³ at 20 °C |
| **Water solubility** | miscible |
| **Partition coefficient: n-octanol/water** | Imidacloprid: log Pow: 0.57 |
| **Viscosity, dynamic** | 400 - 800 mPa×s at 23 °C Velocity gradient 7.5 /s |
| **Surface tension** | 48.9 mN/m |
| **Explosivity** | Not explosive<br>92/69/EEC, A.14 / OECD 113 |
| **9.2 Other information** | Further safety related physical-chemical data are not known. |

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

| | |
|---|---|
| **Thermal decomposition** | 210 °C<br>Exothermic decomposition.<br>The value mentioned relates to the active ingredient. |
| **10.2 Chemical stability** | Stable under recommended storage conditions. |

| | |
|---|---|
| **10.3 Possibility of hazardous reactions** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Heat, flames and sparks. |
| **10.5 Incompatible materials** | Acids, Bases, Strong oxidizing agents |
| **10.6 Hazardous decomposition products** | Thermal decomposition can lead to release of:<br>Hydrogen chloride (HCl)<br>Hydrogen cyanide (hydrocyanic acid)<br>Carbon monoxide<br>Nitrogen oxides (NOx) |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute oral toxicity** | LD50 (Rat) > 1,218 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 2.238 mg/l<br>Exposure time: 4 h<br>Determined in the form of a respirable aerosol.<br>Highest attainable concentration. |
| **Acute dermal toxicity** | LD50 (Rat) > 4,000 mg/kg |
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Buehler test |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

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

**Assessment toxicity to reproduction**

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

**Assessment developmental toxicity**

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

May be harmful if inhaled.
May cause skin irritation., Repeated or prolonged skin contact may cause allergic reactions with susceptible persons.
May cause eye irritation.
Harmful 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

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) > 535 mg/l<br>Exposure time: 96 h |
| | LC50 (Leuciscus idus (Golden orfe)) 237 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| | LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| | LC50 (Cyprinus carpio (Carp)) 280 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) > 535 mg/l<br>Exposure time: 24 h |
| | EC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l<br>Exposure time: 24 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| | EC50 (Hyalella azteca (Scud)) 0.055 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient imidacloprid. |

| | |
|---|---|
| | EC50 (Daphnia magna (Water flea)) 85 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) > 1,000 mg/l<br>Growth rate; Exposure time: 72 h |
| | EC50 (Raphidocelis subcapitata (freshwater green alga)) > 100 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to bacteria** | EC50 (activated sludge) > 10,000 mg/l<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to other organisms** | LD50 (Coturnix japonica (Japanese quail)) 31 mg/kg<br>The value mentioned relates to the active ingredient imidacloprid. |
| | LD50 (Colinus virginianus (Bobwhite quail)) 152 mg/kg<br>The value mentioned relates to the active ingredient imidacloprid. |
| | (Apis mellifera (bees))<br>The value mentioned relates to the active ingredient imidacloprid.<br>Toxic to bees. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Imidacloprid:<br>Not rapidly biodegradable |
| **Koc** | Imidacloprid: Koc: 225 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Imidacloprid:<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Imidacloprid: Moderately mobile in soils |

**12.5 Other adverse effects**

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

## 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. (IMIDACLOPRID 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. (IMIDACLOPRID SOLUTION) |

**IATA**

| | |
|---|---|
| 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. (IMIDACLOPRID SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 59696

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Merit® 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 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

## 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.<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if 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)

| 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

**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

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Chlorothalonil | 1897-45-6 | 0.2 mg/m³ (TWA) | | OES BCS* |
| Ethanediol | 107-21-1 | 104 mg/m³/40 ppm (STEL) | 12 2011 | AU NOEL |
| Ethanediol | 107-21-1 | 52 mg/m³/20 ppm (TWA) | 12 2011 | AU NOEL |
| Ethanediol | 107-21-1 | 10 mg/m³ (TWA) | 12 2011 | AU NOEL |
| Ethanediol (Vapor.) | 107-21-1 | 10 ppm (TWA) | | OES BCS* |
| Ethanediol | 107-21-1 | 10 mg/m³ | | OES BCS* |

| | | | | |
|---|---|---|---|---|
| (Aerosol.) | | (TWA) | | |

*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<br>Washable hat |

**Engineering Controls**

| | |
|---|---|
| **Advice on safe handling** | Avoid contact with skin, eyes and clothing. Avoid formation of aerosol.<br>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<br>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<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient chlorothalonil. |
| | LC50 (Lepomis macrochirus (Bluegill sunfish)) 62ug/L<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient chlorothalonil. |
| | LC50 (Ictalurus punctatus (Channel catfish)) 44ug/L<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient chlorothalonil. |
| **Chronic toxicity to aquatic invertebrates** | LC50 (Daphnia magna (Water flea)): 70ug/L<br>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<br>The value mentioned relates to the active ingredient chlorothalonil. |
| | LC50 (Anas platyrhynchos (Mallard duck)) > 10,000 mg/kg<br>Exposure time: 8 d<br>The value mentioned relates to the active ingredient chlorothalonil. |
| | LC50 (Colinus virginianus (Bobwhite quail)) > 10,000 mg/kg<br>Exposure time: 8 d<br>The value mentioned relates to the active ingredient chlorothalonil. |
| | The value mentioned relates to the active ingredient chlorothalonil.<br>Non-hazardous for bees. |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Chlorothalonil:<br>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<br>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.<br>(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.<br>(CHLOROTHALONIL SOLUTION) |

**IATA**

| | |
|---|---|
| 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 |

| | |
|---|---|
| | 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Ronstar® Turf and Ornamental Herbicide |
| **Product code (UVP)** | 05924065 |

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

| | |
|---|---|
| **Use** | Herbicide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

No hazard label for supply/use required.

**2.3 Other hazards**
No other hazards known.

## SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature**

Oxadiazon 20g/kg
Chemical nature Granule (GR)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Oxadiazon | 19666-30-9 | 2.00 |
| Diacetone alcohol | 123-42-2 | > 1.00 - < 20.00 |
| Nonylphenol ethoxylate | 68412-54-4 | > 0.10 - < 2.50 |
| Other ingredients (non-hazardous) to 100% | | |

## 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

**General advice** Remove contaminated clothing immediately and dispose of safely.

**Inhalation** Move the victim to fresh air and keep at rest. If symptoms persist, call a physician.

**Skin contact** Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Keep at rest. Rinse mouth. Do NOT induce vomiting. If symptoms persist, call a physician.

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

**Symptoms** Local:, To date no symptoms are known.

Systemic:, To date no symptoms are known.

### 4.3 Indication of any immediate medical attention and special treatment needed

**Treatment** Local treatment: Initial treatment: symptomatic.

Systemic treatment: Initial treatment: symptomatic. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. There is no specific antidote.

## SECTION 5. FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable** Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

| | |
|---|---|
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen chloride (HCl), Nitrogen oxides (NOx), Carbon monoxide (CO), Carbon dioxide (CO2) |
| **5.3 Advice for firefighters** | |
| **Special protective equipment for firefighters** | In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | 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. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. |
| **Hazchem Code** | 2Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid dust formation. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away. |
| **6.2 Environmental precautions** | Do not allow to get into surface water, drains and ground water. |

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

| | |
|---|---|
| **Methods for cleaning up** | Avoid dust formation. 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.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

**7.1 Precautions for safe handling**

| | |
|---|---|
| **Advice on safe handling** | Use only in area provided with appropriate exhaust ventilation. |
| **Advice on protection against fire and explosion** | Dust may form explosive mixture in air. Avoid dust formation by friction. Take measures to prevent the build up of electrostatic charge. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. 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. |

**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.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Crystalline quartz (respirable) (Respirable dust.) | 14808-60-7 | 0.1 mg/m3 (TWA) | 12 2011 | AU NOEL |
| Crystalline quartz (respirable) (Respirable dust.) | 14808-60-7 | 0.1 mg/m3 (TWA) | 12 2011 | AU NOEL |

### 8.2 Exposure controls

**Respiratory protection** Breathing apparatus only if aerosol or dust is formed.
In case of dust formation, use a fine dust face mask.

**Hand protection** Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. 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.

| | |
|---|---|
| Material | Nitrile rubber |
| Rate of permeability | > 480 min |
| Glove thickness | > 0.4 mm |
| Protective index | Class 6 |
| Directive | Protective gloves complying with EN 374. |

**Eye protection** Safety glasses with side-shields

**Skin and body protection** Use suitable protective clothing, gloves and footwear, selected with regard to use conditions and exposure potential.

**General protective measures** 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** 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** granular

| | |
|---|---|
| **Colour** | light brown |
| **Odour** | weak, characteristic |
| **Bulk density** | ca. 0.67 g/ml (loose) |
| **Water solubility** | miscible |
| **9.2 Other information** | 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** | No hazardous reactions known. |
| **10.4 Conditions to avoid** | Exposure to moisture.<br>Elevated temperatures |
| **10.5 Incompatible materials** | Strong acids, Strong bases, Strong oxidizing agents |
| **10.6 Hazardous decomposition products** | Thermal decomposition can lead to release of:<br>Hydrogen chloride (HCl)<br>Nitrogen oxides (NOx)<br>Oxides of carbon |

## SECTION 11. TOXICOLOGICAL INFORMATION

**11.1 Information on toxicological effects**

| | |
|---|---|
| **Acute oral toxicity** | LD50 (Rat) > 2,000 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 5.0 mg/l<br>Exposure time: 4 h |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg |
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig) |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

Oxadiazon caused at high dose levels an increased incidence of tumours in in the following organ(s): Liver. The mechanism that triggers tumours in rodents and the type of tumours observed are not relevant to humans.

**Assessment toxicity to reproduction**

Oxadiazon caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Oxadiazon is related to parental toxicity.

**Assessment developmental toxicity**

Oxadiazon caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Oxadiazon are related to maternal toxicity.

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

Oxadiazon caused specific target organ toxicity in experimental animal studies in the following organ(s): Liver, Blood. The observed effects do not appear to be relevant for humans.

**Aspiration hazard**

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

**Information on likely routes of exposure**

May cause upper respiratory tract irritation.
Low acute oral toxicity., May cause irritation.
This product is not listed as a carcinogen by ACGIH, NTP, IARC or OSHA. However, it may contain crystalline silica (quartz), a substance which has been listed as a carcinogen by ACGIH, NTP and IARC. Crystalline silica is a naturally-occurring mineral component of many sands and clays. Although the carcinogenic potential of crystalline silica in humans is controversial, it must be considered if it is inhaled under excessive exposure conditions. The respirable portion of the silica that may be contained in this product, however, is small, such that inhalation exposure during anticipated conditions of use is minimal.

**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**

The above values are calculated as prescribed by the "Conventional Method" according to 1999/45/EC.

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 1.2 mg/l<br>Exposure time: 96 h |

| | |
|---|---|
| | The value mentioned relates to the active ingredient oxadiazon. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) > 2.4 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient oxadiazon. |
| **Toxicity to aquatic plants** | EC50 (Desmodesmus subspicatus (green algae)) 0.00423 mg/l<br>Growth rate; Exposure time: 120 h<br>The value mentioned relates to the active ingredient oxadiazon. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Oxadiazon:<br>Not rapidly biodegradable |
| **Koc** | Oxadiazon: Koc: 1294 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Oxadiazon: Bioconcentration factor (BCF) 243<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Oxadiazon: Slightly mobile in soils |

**12.5 Other adverse effects**

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

## SECTION 13. DISPOSAL CONSIDERATIONS

Shake empty bag into granule applicator. DO NOT dispose of undiluted chemicals on site. Puncture, shred and bury empty containers in a local authority landfill. If no landfill is available bury the empty 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. Dispose of waste product via a reputable disposal contractor".

## SECTION 14. TRANSPORT INFORMATION

**ADG**

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

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 62461

**SUSMP classification (Poison Schedule)**

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

## SECTION 16. OTHER INFORMATION

**Trademark information** Ronstar® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Signature™ Stressgard® Systemic Fungicide |
| **Product code (UVP)** | 80888988 |

**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<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Eye Damage/Irritation: Category 1
H318 Causes serious eye damage.

**2.2 Label elements**

Hazard label for supply/use required.

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

Fosetyl-Aluminium

**Signal word**: Danger

**Hazard statements**

H318 Causes serious eye damage.

**Precautionary statements**

| | |
|---|---|
| P280 | Wear eye protection/ face protection. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER/doctor/ physician. |
| 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**

800 g/kg fosetyl-aluminium
Water dispersible granules (WG)

| Chemical name | CAS-No. | Concentration [%] |
|---|---|---|
| Fosetyl-Aluminium | 39148-24-8 | 80.00 |
| Synthetic amorphous silica | 112926-00-8 | <= 1.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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

**General advice** When possible, have the product container or label with you when calling a poison control center or doctor or going for treatment.

**Inhalation** Move to fresh air. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. 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. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Call a physician or poison control center immediately. Rinse out mouth and give water in small sips to drink. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Never give anything by mouth to an unconscious person. Do not leave victim unattended.

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

**Symptoms** The following symptoms may occur:, Skin, eye and mucous membrane irritation

### 4.3 Indication of any immediate medical attention and special treatment needed

**Risks** Consideration should be given to the possibility that overexposure to materials other than this product may have occurred.

| | |
|---|---|
| **Treatment** | Appropriate supportive and symptomatic treatment as indicated by the patient's condition is recommended. There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Foam, Dry powder, Carbon dioxide (CO2), Water spray |
| **Unsuitable** | None known. |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Carbon monoxide (CO), Nitrogen oxides (NOx), Oxides of phosphorus |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Keep out of smoke. Fight fire from upwind position. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. |

**Hazchem Code**Not applicable

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Keep unauthorized people away. Isolate hazard area. Avoid contact with spilled product or contaminated surfaces. |
| **6.2 Environmental precautions** | Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash water. Drift and runoff from treated areas may be hazardous to aquatic organisms in adjacent sites. Apply this product as specified on the label. |

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

| | |
|---|---|
| **Methods for cleaning up** | Avoid dust formation. Sweep up or vacuum up spillage and collect in suitable container for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations. |
| **Additional advice** | Use personal protective equipment. If the product is accidentally spilled, do not allow to enter soil, waterways or waste water canal. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

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

**Hygiene measures** Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using the toilet or applying cosmetics. Smoking, eating and drinking should be prohibited in the application area.
Remove Personal Protective Equipment (PPE) immediately after handling this product. Before removing gloves clean them with soap and water. Remove soiled clothing immediately and clean thoroughly before using again. Wash thoroughly and put on clean clothing.

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

**Requirements for storage areas and containers** Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed. Store in original container and out of the reach of children, preferably in a locked storage area.

**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.

**Additional advice**
Not established.

### 8.2 Exposure controls

**Hand protection** Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
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.

**Eye protection** Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection** 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.
If there is a risk of significant exposure, consider a higher protective type suit.

**General protective measures** 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** Use only in area provided with appropriate exhaust ventilation. Avoid dust formation. Avoid contact with skin, eyes and clothing.

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Form** | water-dispersible granules |
| **Colour** | green |
| **Odour** | slightly acidic |
| **Odour Threshold** | No data available |
| **pH** | 3.9 |
| **Flash point** | Not applicable |
| **Minimum ignition energy** | No data available |
| **Upper explosion limit** | Not applicable |
| **Lower explosion limit** | Not applicable |
| **Vapour pressure** | No data available |
| **Evaporation rate** | Not applicable |
| **Relative vapour density** | No data available |
| **Bulk density** | 512 - 609 kg/m3 (loose) |
| **Water solubility** | dispersible |
| **Partition coefficient: n-octanol/water** | Fosetyl Aluminium: log Pow: -2.1 |
| **Viscosity, dynamic** | Not applicable |
| **Explosivity** | No data available |
| **9.2 Other information** | 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** No hazardous reactions when stored and handled according to prescribed instructions.

| | |
|---|---|
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight.<br>Exposure to moisture. |
| **10.5 Incompatible materials** | Strong oxidizing agents, Strong acids, Strong bases, Store only in the original container. |
| **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) 2,860 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 5.0 mg/l<br>Exposure time: 4 h<br>Determined in the form of dust. |
| | LC50 (Rat) > 20.0 mg/l<br>Exposure time: 1 h<br>Determined in the form of dust.<br>Extrapolated from the 4 hr LC50. |
| **Acute dermal toxicity** | LD50 (Rabbit) > 2,020 mg/kg |
| **Skin irritation** | slight irritation (Rabbit) |
| **Eye irritation** | Irritating to eyes. (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig) |

**Assessment mutagenicity**

Fosetyl Aluminium was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

Fosetyl Aluminium was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

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

**Assessment developmental toxicity**

Fosetyl Aluminium did not cause developmental toxicity in rats and rabbits.

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

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

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

Caution!

Harmful if swallowed, inhaled or absorbed through the skin., Causes moderate eye injury., Avoid contact with skin and clothing.
May cause upper respiratory tract irritation.
Causes irritation, redness, swelling.
Causes redness, irritation, tearing.
This product or its components may have long term (chronic) health effects.
Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis., Skin contact may aggravate existing skin disease.

**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**

Acute toxicity studies have been bridged from a similar formulation(s).

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) > 122 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient fosetyl aluminium.<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)) > 120 mg/l<br>Exposure time: 96 h<br>Test conducted with a similar formulation. |
| **Toxicity to aquatic invertebrates** | LC50 (Daphnia magna (Water flea)) > 100 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient fosetyl aluminium.<br><br>EC50 (Daphnia magna (Water flea)) 37 mg/l<br>Exposure time: 48 h<br>Test conducted with a similar formulation. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) > 16 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient fosetyl aluminium. |

| | |
|---|---|
| | EC50 (Desmodesmus subspicatus (green algae)) 8 mg/l<br>Test conducted with a similar formulation. |
| | EC50 (Desmodesmus subspicatus (green algae)) 27.7 mg/l<br>Growth rate; Exposure time: 72 h<br>Test conducted with a similar formulation. |
| **Toxicity to other organisms** | LD50 (Colinus virginianus (Bobwhite quail)) > 8,000 mg/kg<br>The value mentioned relates to the active ingredient fosetyl aluminium. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Fosetyl Aluminium:<br>rapidly biodegradable |
| **Koc** | Fosetyl Aluminium: Koc: 0.1 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Fosetyl Aluminium:<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Fosetyl Aluminium: Highly 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

According to national and international transport regulations not classified as dangerous goods.

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 56565

**SUSMP classification (Poison Schedule)**

Exempt (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Signature™ is a Trademark of the Bayer Group.
Stressgard® is a Registered Trademark of the Bayer Group.

**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 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 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

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. |

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Silvashield® Injectable Tree Insecticide |
| **Product code (UVP)** | 06364284 |

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

| | |
|---|---|
| **Use** | Insecticide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Eye irritation: Category 2A
H319 Causes serious eye irritation.

Skin irritation: Category 2
H315 Causes skin irritation.

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

Hazard label for supply/use required.

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

Imidacloprid

**Signal word**: Warning

**Hazard statements**

| | |
|---|---|
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P280 | Wear protective gloves/protective clothing/eye protection/face protection. |
| P264 | Wash hands thoroughly after handling. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water/ soap. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P337 + P313 | If eye irritation persists: Get medical advice/ attention. |
| 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**

Imidacloprid 200 g/l
Chemical nature Soluble concentrate (SL)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Imidacloprid | 138261-41-3 | 17.10 |
| Propylene carbonate | 108-32-7 | > 1.00 - < 25.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

| | |
|---|---|
| **General advice** | Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely. |
| **Inhalation** | Call a physician or poison control center immediately. Move to fresh air. Keep patient warm and at rest. |
| **Skin contact** | Wash off immediately with polyethylene glycol 400, then with plenty of water. If symptoms persist, call a physician. |

| | |
|---|---|
| **Eye contact** | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists. |
| **Ingestion** | Call a physician or poison control center immediately. Rinse mouth. Induce vomiting only, if: 1. patient is fully conscious, 2. medical aid is not readily available, 3. a significant amount (more than a mouthful) has been ingested and 4. time since ingestion is less than 1 hour. (Vomit should not get into the respiratory tract.) |

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

| | |
|---|---|
| **Symptoms** | If large amounts are ingested, the following symptoms may occur:, Abdominal pain, Nausea, Dizziness |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Treat symptomatically. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Unsuitable** | High volume water jet |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen chloride (HCl), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx), Sulphur oxides |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.<br>Remove product from areas of fire, or otherwise cool containers with water in order to avoid pressure being built up due to heat. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Contain the spread of the fire-fighting media. Whenever possible, contain fire-fighting water by diking area with sand or earth. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

**Precautions** Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment.

**6.2 Environmental precautions** Do not allow to get into surface water, drains and ground water.

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

**Methods for cleaning up** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. Clean contaminated floors and objects thoroughly, observing environmental regulations.

**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** Use only in area provided with appropriate exhaust ventilation.

**Advice on protection against fire and explosion** Take measures to prevent the build up of electrostatic charge. Keep away from heat and sources of ignition.

**Hygiene measures** Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt).

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

**Requirements for storage areas and containers** Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Imidacloprid | 138261-41-3 | 0.7 mg/m3 (TWA) | | OES BCS* |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

### 8.2 Exposure controls

| | |
|---|---|
| **Respiratory protection** | Wear respirator with an organic vapours and gas filter mask (protection factor 10) conforming to EN140 type A or equivalent. |
| **Hand protection** | 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. |
| **Eye protection** | Wear goggles (conforming to EN166, Field of Use = 5 or equivalent). |
| **Skin and body protection** | Wear standard coveralls and Category 3 Type 6 suit.<br>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. |
| **General protective measures** | 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** 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** | Liquid, clear |
| **Colour** | yellow to light brown |
| **Odour** | aromatic |
| **pH** | 6.0 - 8.0 at 1 % (23 °C) (deionized water) |
| **Flash point** | 97 °C |
| **Auto-ignition temperature** | 295 °C |
| **Density** | ca. 1.17 g/cm³ at 20 °C<br>1.1495 g/cm³ at 40 °C |
| **Water solubility** | completely soluble |
| **Partition coefficient: n-octanol/water** | Imidacloprid: log Pow: 0.57 |
| **Viscosity, dynamic** | 0.004 mPa×s at 40 °C |
| **Surface tension** | 41.9 mN/m at 40 °C |
| **Explosivity** | Not explosive<br>92/69/EEC, A.14 / OECD 113 |
| **9.2 Other information** | 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** | No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Store only in the original container. |
| **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) ca. 2,500 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 6.312 mg/l<br>Exposure time: 4 h<br>Determined in the form of a respirable aerosol.<br>Highest attainable concentration.<br>Test conducted with a similar formulation. |
| **Acute dermal toxicity** | LD50 (Rat) > 4,000 mg/kg |
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | Slight irritant effect - does not require labelling. (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Magnusson & Kligman test |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

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

**Assessment toxicity to reproduction**

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.

**Assessment developmental toxicity**

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.

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

Imidacloprid 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

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 85 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient imidacloprid.<br><br>LC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l<br>Exposure time: 24 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Chronic toxicity to aquatic invertebrates** | EC10 (Chironomus riparius (non-biting midge)): 2,09 µg/l<br>Exposure time: 28 d<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l<br>Growth rate; Exposure time: 72 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to other organisms** | LD50 (Coturnix japonica (Japanese quail)) 31 mg/kg<br><br>LD50 (Colinus virginianus (Bobwhite quail)) 152 mg/kg |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Imidacloprid:<br>Not rapidly biodegradable |

| | |
|---|---|
| **Koc** | Imidacloprid: Koc: 225 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Imidacloprid:<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Imidacloprid: Moderately mobile in soils |

**12.5 Other adverse effects**

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

## 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.<br>(IMIDACLOPRID 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.<br>(IMIDACLOPRID SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(IMIDACLOPRID SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 62475

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Silvashield® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Spearhead® Selective Herbicide |
| **Product code (UVP)** | 06069215 |

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

| | |
|---|---|
| **Use** | Herbicide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Acute toxicity: Category 4
H302 Harmful if swallowed.

Skin irritation: Category 2
H315 Causes skin irritation.

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

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

Hazard label for supply/use required.

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

MCPA
Clopyralid
Diflufenican

**Signal word**: Danger

**Hazard statements**

| | |
|---|---|
| H302 | Harmful if swallowed. |
| H315 | Causes skin irritation. |
| H318 | Causes serious eye damage. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P264 | Wash hands thoroughly after handling. |
| P280 | Wear protective gloves/protective clothing/eye protection/face 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. |
| P332 + P313 | If skin irritation occurs: Get medical advice/ attention. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. |
| 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

MCPA/Clopyralid/Diflufenican 300:20:15 g/l
Suspension concentrate (=flowable concentrate)(SC)

| Chemical name | CAS-No. | Concentration [%] |
|---|---|---|
| MCPA | 94-74-6 | 25.64 |
| Clopyralid | 1702-17-6 | 1.71 |
| Diflufenican | 83164-33-4 | 1.28 |
| 1,2-Propanediol | 57-55-6 | >= 1.00 - <= 5.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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 to fresh air. If symptoms persist, call a physician. |
| **Skin contact** | Wash off thoroughly with plenty of soap and water, if available with polyethyleneglycol 400, subsequently rinse with water. If symptoms persist, call a physician. |
| **Eye contact** | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. If eye irritation or redness persists, see an ophthalmologist. |
| **Ingestion** | Rinse mouth. Keep at rest. Obtain medical attention. |

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

| | |
|---|---|
| **Symptoms** | Local:, Prolonged and repeated contact with skin, eyes or mucous membranes may cause irritation., Systemic:, Mild acidosis, Tachycardia, Irregular cardiac activity, Low blood pressure, Circulatory collapse, Cough, Shortness of breath, Nausea, Vomiting, Diarrhoea, Abdominal pain, Rhabdomyolysis, Somnolence, Coma, Fever, Convulsions |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Treat symptomatically. Gastric lavage is not normally required. However, if a significant amount (more than a mouthful) has been ingested, administer activated charcoal and sodium sulphate. Elimination by dialysis (forced alkaline diuresis). There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Water, Foam, Dry chemical |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Carbon monoxide (CO), Carbon dioxide (CO2), Nitrogen oxides (NOx), Hydrogen fluoride, Hydrogen chloride (HCl) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | Wear self-contained breathing apparatus and protective suit. |
| **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. Do not allow run-off from fire fighting to enter drains or water courses. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Whenever possible, contain fire-fighting water by diking area with sand or earth. |
| **Hazchem Code** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

**Precautions** An emergency shower must be readily accessible to the work area. Avoid contact with spilled product or contaminated surfaces. When dealing with a spillage do not eat, drink or smoke. Use personal protective equipment. Keep unauthorized people away.

**6.2 Environmental precautions** Do not contaminate surface or ground water by cleaning equipment or disposal of wastes, including equipment wash 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** 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

**Hygiene measures** Avoid contact with skin, eyes and clothing.

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

**Requirements for storage areas and containers** Keep out of the reach of children. Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Store in a cool, dry place and in such a manner as to prevent cross contamination with other crop protection products, fertilizers, food, and feed.

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| 1,2-Propanediol<br><br>(Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol<br><br>(Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |

### 8.2 Exposure controls

**Respiratory protection** Use respiratory protection for organic vapours.

| | |
|---|---|
| **Hand protection** | PVC or nitrile rubber gloves |
| **Eye protection** | Safety glasses with side-shields |
| **Skin and body protection** | Impermeable protective clothing. |
| **General protective measures** | In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply. |

## SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

| | |
|---|---|
| **Form** | suspension |
| **Colour** | brown |
| **Odour** | almost odourless |
| **pH** | 9.0 - 11.0 at 100 % (23 °C) |
| **Density** | ca. 1.17 g/cm³ at 20 °C |
| **Partition coefficient: n-octanol/water** | MCPA: log Pow: -0.81<br><br>Clopyralid: log Pow: -2.63<br>Diflufenican: log Pow: 4.2 |

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable

| | |
|---|---|
| **10.2 Chemical stability** | Stable under recommended storage conditions. |
| **10.3 Possibility of hazardous reactions** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | No data available |
| **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 2,675 - 3,738 mg/kg<br>The value mentioned relates to the active ingredient clopyralid.<br>LD50 > 2,000 mg/kg<br>The value mentioned relates to the active ingredient diflufenican. |

| | |
|---|---|
| | LD50 900 - 1,160 mg/kg<br>The value mentioned relates to the active ingredient MCPA. |
| **Acute inhalation toxicity** | LC50 (Rat) > 0.38 mg/l<br>Exposure time: 4 h<br>The value mentioned relates to the active ingredient clopyralid. |
| | LC50 (Rat) > 2.34 mg/l<br>Exposure time: 4 h<br>The value mentioned relates to the active ingredient diflufenican. |
| | LC50 (Rat) > 6.36 mg/l<br>Exposure time: 4 h<br>The value mentioned relates to the active ingredient MCPA. |
| **Acute dermal toxicity** | LD50 (Rabbit) > 2,000 mg/kg<br>The value mentioned relates to the active ingredient clopyralid.<br>LD50 (Rat) > 2,000 mg/kg<br>The value mentioned relates to the active ingredient diflufenican.<br>LD50 (Rat) > 4,000 mg/kg<br>The value mentioned relates to the active ingredient MCPA. |
| **Skin irritation** | Mild skin irritation.<br>Data refer to main components. |
| **Eye irritation** | Severe eye irritation.<br>Data refer to main components. |

**Assessment mutagenicity**

MCPA was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Clopyralid was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Diflufenican was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.

**Assessment carcinogenicity**

MCPA was not carcinogenic in lifetime feeding studies in rats and mice.
Clopyralid was not carcinogenic in lifetime feeding studies in rats and mice.
Diflufenican was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

MCPA did not cause reproductive toxicity in a two-generation study in rats.
Clopyralid did not cause reproductive toxicity in a two-generation study in rats.
Diflufenican did not cause reproductive toxicity in a two-generation study in rats.

**Assessment developmental toxicity**

MCPA caused developmental toxicity only at dose levels toxic to the dams. MCPA caused a delayed foetal growth.
Clopyralid did not cause developmental toxicity in rats and rabbits.
Diflufenican did not cause developmental toxicity in rats and rabbits.

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

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

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

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

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

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

May be harmful if inhaled.
Irritating to skin.
May cause irreversible eye damage.
Harmful 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

| | |
|---|---|
| **Toxicity to fish** | LC50 (Oncorhynchus mykiss (rainbow trout)) 232 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient MCPA.<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)) 56 - 100mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient diflufenican.<br><br>LC50 (Oncorhynchus mykiss (rainbow trout)) 103.5 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient clopyralid. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia (water flea)) 225 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient clopyralid.<br><br>LC50 (Daphnia (water flea)) > 100 mg/l The value mentioned relates to |

| | |
|---|---|
| | the active ingredient MCPA. |
| | LC50 (Daphnia (water flea)) 10 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient diflufenican. |
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) 6.9 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient clopyralid. |
| | (Algae) 10 mg/l<br>The value mentioned relates to the active ingredient diflufenican. |
| **Toxicity to other organisms** | LD50 (Colinus virginianus (Bobwhite quail)) 377 mg/kg<br>The value mentioned relates to the active ingredient MCPA. |
| | LD50 (Colinus virginianus (Bobwhite quail)) > 2,000 mg/kg<br>The value mentioned relates to the active ingredient clopyralid. |
| | LD50 (Colinus virginianus (Bobwhite quail)) > 2,150 mg/kg<br>The value mentioned relates to the active ingredient diflufenican. |
| | (Apis mellifera (bees))<br>The value mentioned relates to the active ingredient clopyralid.<br>Non-hazardous for bees. |
| | (Apis mellifera (bees))<br>The value mentioned relates to the active ingredient diflufenican.<br>Non-hazardous for bees. |
| | (Apis mellifera (bees))<br>The value mentioned relates to the active ingredient MCPA.<br>Non-hazardous for bees. |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | MCPA:<br>Not rapidly biodegradable<br>Clopyralid:<br>Not rapidly biodegradable<br>Diflufenican:<br>Not rapidly biodegradable |
| **Koc** | MCPA: Koc: 10 - 157<br>Clopyralid: Koc: 0.4 - 12.9<br>Diflufenican: Koc: 3417 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | MCPA: Bioconcentration factor (BCF) 1<br>Does not bioaccumulate.<br>Clopyralid: Bioconcentration factor (BCF) < 1<br>Does not bioaccumulate.<br>Diflufenican: Bioconcentration factor (BCF) 1,596<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | MCPA: Mobile in soils<br>Clopyralid: Highly mobile in soils<br>Diflufenican: Slightly 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. (DIFLUFENICAN 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. (DIFLUFENICAN SOLUTION) |

**IATA**

| | |
|---|---|
| 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. (DIFLUFENICAN SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 53833

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Spearhead® is a Registered Trademark of the Bayer Group.

**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 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 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 |

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.

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Specticle® Herbicide |
| **Product code (UVP)** | 79930208 |

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

| | |
|---|---|
| **Use** | Herbicide |

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

| | |
|---|---|
| **Supplier** | Bayer CropScience Pty Ltd.<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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 (Hazardous Substances Information System (HSIS)**

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

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.

**2.2 Label elements**

Hazard label for supply/use required.

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

Indaziflam

**Signal word**: Warning

**Hazard statements**

H373 May cause damage to organs through prolonged or repeated exposure.
H400 Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

P260 Do not breathe mist.
P314 Get medical advice/ attention if you feel unwell.
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**

Indaziflam 200 g/L
Suspension concentrate (=flowable concentrate)(SC)

| Chemical name | CAS-No. | Concentration [%] |
|---|---|---|
| Indaziflam | 950782-86-2 | 19.05 |
| Ethoxylated polyarylphenol | 99734-09-5 | >= 1.00 - <= 25.00 |
| 1,2-Benzisothiazol-3(2H)-one | 2634-33-5 | >= 0.005 - <= 0.05 |
| 1,2-Propanediol | 57-55-6 | >= 5.00 - <= 10.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice** Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

**Inhalation** Move to fresh air. In case of respiratory arrest induce breathing with a respiratory device. Seek medical advice. 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. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists.

**Ingestion** Do NOT induce vomiting. Call a physician or poison control center immediately. Rinse mouth.

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

| | |
|---|---|
| **Symptoms** | No symptoms known or expected. |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. |
| **Unsuitable** | High volume water jet |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Hydrogen fluoride, Carbon monoxide (CO), Nitrogen oxides (NOx) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses.<br>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** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. |
| **6.2 Environmental precautions** | Do not allow to get into surface water, drains and ground water. |

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

| | |
|---|---|
| **Methods for cleaning up** | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal. |

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

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

| | |
|---|---|
| **Advice on safe handling** | Use only in area provided with appropriate exhaust ventilation. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). |

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

| | |
|---|---|
| **Requirements for storage areas and containers** | Keep containers tightly closed in a dry, cool and well-ventilated place. Store in original container. Store in a place accessible by authorized persons only. Protect from frost. Keep away from direct sunlight. |
| **Advice on common storage** | Keep away from food, drink and animal feedingstuffs. |

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Indaziflam | 950782-86-2 | 0.56 mg/m3 (TWA) | | OES BCS* |
| 1,2-Propanediol<br><br>(Total vapour and particulates.) | 57-55-6 | 474 mg/m3/150 ppm (TWA) | 12 2011 | AU NOEL |
| 1,2-Propanediol<br><br>(Particulate.) | 57-55-6 | 10 mg/m3 (TWA) | 12 2011 | AU NOEL |

*OES BCS: Internal Bayer AG, Crop Science Division "Occupational Exposure Standard"

### 8.2 Exposure controls

**Personal protective equipment - End user**

| | |
|---|---|
| **Respiratory protection** | Respiratory protection is not required under anticipated circumstances of exposure.<br>Use respiratory protection for organic vapours. |
| **Hand protection** | Impervious gloves |
| **Eye protection** | Goggles |
| **Skin and body protection** | Long-sleeved shirt and long pants |

**Engineering Controls**

| | |
|---|---|
| **Advice on safe handling** | 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** | white |
| **Odour** | characteristic |
| **pH** | 7.0 - 8.5 at 1 % (23 °C) (deionized water) |
| **Flash point** | >100 °C<br>Not relevant; aqueous solution |
| **Density** | ca. 1.05 g/cm³ at 20 °C |
| **Partition coefficient: n-octanol/water** | Indaziflam: log Pow: 3.7 at 20 °C at pH 7<br><br>Ethoxylated polyarylphenol:<br>No data available |
| **9.2 Other information** | 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** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Store only in the original container. |
| **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) > 2,000 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rabbit) > 3.624 mg/l<br>Exposure time: 4 h<br>Determined in the form of a respirable aerosol.<br>Highest attainable concentration. |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg |

| | |
|---|---|
| **Skin irritation** | No skin irritation (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Buehler test |

**Assessment mutagenicity**

Indaziflam was not mutagenic or genotoxic in a battery of in vitro and in vivo tests.
Ethoxylated polyarylphenol was not genotoxic in a battery of in vitro tests.

**Assessment carcinogenicity**

Indaziflam was not carcinogenic in lifetime feeding studies in rats and mice.
Ethoxylated polyarylphenol: This information is not available.

**Assessment toxicity to reproduction**

Indaziflam was not a primary reproductive toxicant in a two-generation study in rats.
Ethoxylated polyarylphenol: This information is not available.

**Assessment developmental toxicity**

Indaziflam did not cause developmental toxicity in rats and rabbits.
Ethoxylated polyarylphenol: This information is not available.

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

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

Ethoxylated polyarylphenol: This information is not available.

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

Indaziflam caused neurobehavioral effects and/or neuropathological changes in subchronic studies in rats and dogs.
Ethoxylated polyarylphenol: This information is not available.

**Aspiration hazard**

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

**Information on likely routes of exposure**

Caution!
Harmful if swallowed, inhaled or absorbed through the skin., Avoid contact with skin, eyes and clothing., Avoid breathing spray mist.
Harmful if inhaled.
Harmful if absorbed through skin.
Harmful if swallowed.
Eye contact, Inhalation, Skin Absorption, Ingestion
Toxic to fish and aquatic invertebrates., This product may cause adverse effects on non-target plants.

**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

## SECTION 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

| | |
|---|---|
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 149 mg/l<br>Exposure time: 48 h |
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) 0.75 mg/l<br>Growth rate; Exposure time: 72 h |

### 12.2 Persistence and degradability

| | |
|---|---|
| **Biodegradability** | Indaziflam:<br>Not rapidly biodegradable<br>Ethoxylated polyarylphenol:<br>No data available |
| **Koc** | Indaziflam: Koc: 496<br>Ethoxylated polyarylphenol:No data available |

### 12.3 Bioaccumulative potential

| | |
|---|---|
| **Bioaccumulation** | Indaziflam: Bioconcentration factor (BCF) 66<br>Does not bioaccumulate.<br>Ethoxylated polyarylphenol:<br>No data available |

### 12.4 Mobility in soil

| | |
|---|---|
| **Mobility in soil** | Indaziflam: Moderately mobile in soils<br>Ethoxylated polyarylphenol: No data available |

### 12.5 Other adverse effects

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

## 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.<br>(INDAZIFLAM 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.<br>(INDAZIFLAM SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(INDAZIFLAM SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 64673

**SUSMP classification (Poison Schedule)**

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

## SECTION 16. OTHER INFORMATION

**Trademark information** Specticle® is a Registered Trademark of the Bayer Group.

**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 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 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 |

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. |

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Tempo® Xtra Turf and Ornamental Insecticide |
| **Product code (UVP)** | 79726996 |

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

| | |
|---|---|
| **Use** | Insecticide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Acute toxicity: Category 4
H332 Harmful if inhaled.

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.

**2.2 Label elements**

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

Beta-Cyfluthrin
Imidacloprid

**Signal word**: Warning

**Hazard statements**

H332 Harmful if inhaled.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.

**Precautionary statements**

| | |
|---|---|
| P261 | Avoid breathing mist. |
| P304 + P340 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. |
| P312 | Call a POISON CENTER/doctor/physician if you feel unwell. |
| 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**

Beta-Cyfluthrin 25 g/L, Imidacloprid 50 g/L
Chemical nature Suspension concentrate (=flowable concentrate)(SC)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Beta-Cyfluthrin | 68359-37-5 | 2.31 |
| Imidacloprid | 138261-41-3 | 4.63 |
| Glycerine | 56-81-5 | > 10.00 - <= 30.00 |
| Sulfonated aromatic polymer, sodium salt | 68425-94-5 | > 1.00 - < 10.00 |
| 1,2-Benzisothiazol-3(2H)-one | 2634-33-5 | > 0.05 - < 1.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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**

**General advice** Move out of dangerous area. Place and transport victim in stable position (lying sideways). Remove contaminated clothing immediately and dispose of safely.

**Inhalation** Move to fresh air. Keep patient warm and at rest. Call a physician or poison control center immediately.

**Skin contact** Immediately wash with plenty of soap and water for at least 15 minutes. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. In case of skin irritation, application of oils or lotions containing vitamin E may be considered. If symptoms persist, call a physician.

**Eye contact** Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Warm water may increase the subjective severity of the irritation/paresthesia. This is not a sign of systemic poisoning. Apply soothing eye drops, if needed anaesthetic eye drops. Get medical attention if irritation develops and persists.

| | |
|---|---|
| **Ingestion** | Rinse out mouth and give water in small sips to drink. Do NOT induce vomiting. Do not leave victim unattended. Call a physician or poison control center immediately. |

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

| | |
|---|---|
| **Symptoms** | Local:, Skin and eye paraesthesia which may be severe, Usually transient with resolution within 24 hours, Skin, eye and mucous membrane irritation, Cough, Sneezing<br><br>Systemic:, discomfort in the chest, Tachycardia, Hypotension, Nausea, Abdominal pain, Diarrhoea, Vomiting, Blurred vision, Headache, anorexia, Somnolence, Coma, Convulsions, Tremors, Prostration, Airway hyperreaction, Pulmonary oedema, Palpitation, Muscular fasciculation, Apathy, Dizziness |

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Risks** | This product contains a pyrethroid. Pyrethroid poisoning should not be confused with carbamate or organophosphate poisoning. |
| **Treatment** | Systemic treatment: Initial treatment: symptomatic. Monitor: respiratory and cardiac functions. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. Keep respiratory tract clear. Oxygen or artificial respiration if needed. In case of convulsions, a benzodiazepine (e.g. diazepam) should be given according to standard regimens. If not effective, phenobarbital may be used. Contraindication: atropine. Contraindication: derivatives of adrenaline. There is no specific antidote. Recovery is spontaneous and without sequelae.<br><br>In case of skin irritation, application of oils or lotions containing vitamin E may be considered. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Water spray, Carbon dioxide (CO2), Foam, 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), Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Avoid contact with spilled product or contaminated surfaces. Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or water courses. 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. |

**Hazchem Code** •3Z

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

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

**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** Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal.

**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** Use only in area provided with appropriate exhaust ventilation.

**Hygiene measures** Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated gloves, including the inside, before re-use. Keep working clothes separately. Garments that cannot be cleaned must be destroyed (burnt). Remove soiled clothing immediately and clean thoroughly before using again.

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

**Requirements for storage areas and containers** Keep out of the reach of children. Store in original container. Store in a place accessible by authorized persons only. Keep containers tightly closed in a dry, cool and well-ventilated place.

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

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Beta-Cyfluthrin | 68359-37-5 | 0.01 mg/m3 (TWAEV) | | OES BCS* |
| Imidacloprid | 138261-41-3 | 0.7 mg/m3 | | OES BCS* |

| | | | | |
|---|---|---|---|---|
| | | (TWA) | | |
| Glycerine<br>(Inhalable mist.) | 56-81-5 | 10 mg/m3<br>(TWA) | 12 2011 | AU NOEL |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

**8.2 Exposure controls**

**Respiratory protection**

Respiratory protection is not required under anticipated circumstances of exposure.
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.

**Hand protection**

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time.
Wash gloves when contaminated. 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.

| | |
|---|---|
| Material | Nitrile rubber |
| Rate of permeability | > 480 min |
| Glove thickness | > 0.4 mm |
| Protective index | Class 6 |
| Directive | Protective gloves complying with EN 374. |

**Eye protection**

Wear goggles (conforming to EN166, Field of Use = 5 or equivalent).

**Skin and body protection**

Wear standard coveralls and Category 3 Type 4 suit.
If there is a risk of significant exposure, consider a higher protective type 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.
If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer.

**General protective measures**

In normal use and handling conditions please refer to the label and/or leaflet. In all other cases the above mentioned recommendations would apply.
If product is handled while not enclosed, and if contact may occur:
Complete suit protecting against chemicals

**Engineering Controls**

**Advice on safe handling**

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** | light beige to light brown |
| **pH** | 4.5 - 7.0 at 100 % (23 °C) |
| **Density** | ca. 1.08 g/cm³ at 20 °C |
| **Partition coefficient: n-octanol/water** | Beta-Cyfluthrin: log Pow: 6.18 at 22 °C<br>Imidacloprid: log Pow: 0.57 |
| **9.2 Other information** | 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** | No hazardous reactions when stored and handled according to prescribed instructions. |
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Strong acids, Strong bases, Strong oxidizing agents |
| **10.6 Hazardous decomposition products** | Thermal decomposition can lead to release of:<br>Hydrogen chloride (HCl)<br>Hydrogen cyanide (hydrocyanic acid)<br>Hydrogen fluoride<br>Carbon monoxide<br>Nitrogen oxides (NOx) |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute oral toxicity** | LD50 (Rat) > 1,044 mg/kg<br>Test conducted with a similar formulation. |
| **Acute inhalation toxicity** | LC50 (Rat) > 2.03 mg/l<br>Exposure time: 4 h<br>Highest attainable concentration.<br>Determined in the form of liquid aerosol.<br>Test conducted with a similar formulation. |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg<br>Test conducted with a similar formulation. |

| | |
|---|---|
| **Skin irritation** | slight irritation (Rabbit)<br>The value mentioned relates to the active ingredient beta-cyfluthrin.<br>No skin irritation (Rabbit)<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Eye irritation** | Mild eye irritation. (Rabbit)<br>The value mentioned relates to the active ingredient beta-cyfluthrin.<br>No eye irritation (Rabbit)<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Sensitisation** | Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Magnusson & Kligman test<br>The value mentioned relates to the active ingredient beta-cyfluthrin.<br>Non-sensitizing. (Guinea pig)<br>OECD Test Guideline 406, Magnusson & Kligman test<br>The value mentioned relates to the active ingredient imidacloprid. |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

Imidacloprid was not carcinogenic in lifetime feeding studies in rats and mice.
Cyfluthrin was not carcinogenic in lifetime feeding studies in rats and mice.

**Assessment toxicity to reproduction**

Imidacloprid caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Imidacloprid is related to parental toxicity.
Cyfluthrin caused reproduction toxicity in a two-generation study in rats only at dose levels also toxic to the parent animals. The reproduction toxicity seen with Cyfluthrin is related to parental toxicity.

**Assessment developmental toxicity**

Imidacloprid caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Imidacloprid are related to maternal toxicity.
Cyfluthrin caused developmental toxicity only at dose levels toxic to the dams. The developmental effects seen with Cyfluthrin are related to maternal toxicity.

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

Imidacloprid did not cause specific target organ toxicity in experimental animal studies.
The toxic effects of Cyfluthrin are related to transient hyperactivity typical for pyrethroid neurotoxicity.

**Aspiration hazard**

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

**Information on likely routes of exposure**

Toxic by inhalation.
May cause skin irritation.
May cause eye irritation.

**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)) 0.068 µg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient beta-cyfluthrin. |
| | LC50 (Oncorhynchus mykiss (rainbow trout)) 211 mg/l<br>Exposure time: 96 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 0.29 µg/L<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient beta-cyfluthrin. |
| | EC50 (Daphnia magna (Water flea)) 85 mg/l<br>Exposure time: 48 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| | LC50 (Chironomus riparius (non-biting midge)) 0.0552 mg/l<br>Exposure time: 24 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Chronic toxicity to aquatic invertebrates** | EC10 (Chironomus riparius (non-biting midge)): 2,09 µg/l<br>Exposure time: 28 d<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to aquatic plants** | IC50 (Desmodesmus subspicatus (green algae)) > 0.01 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient beta-cyfluthrin.<br>No acute toxicity was observed at its limit of water solubility. |
| | IC50 (Desmodesmus subspicatus (green algae)) > 10 mg/l<br>Exposure time: 72 h<br>The value mentioned relates to the active ingredient imidacloprid. |
| **Toxicity to other organisms** | LD50 (Coturnix japonica (Japanese quail)) > 2,000 mg/kg |

The value mentioned relates to the active ingredient beta-cyfluthrin.

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Beta-Cyfluthrin:<br>Not rapidly biodegradable<br>Imidacloprid:<br>Not rapidly biodegradable |
| **Koc** | Beta-Cyfluthrin: Koc: 508 - 3179<br>Imidacloprid: Koc: 225 |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Beta-Cyfluthrin: Bioconcentration factor (BCF) 506<br>Does not bioaccumulate.<br>Imidacloprid:<br>Does not bioaccumulate. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Beta-Cyfluthrin: Immobile in soil<br>Imidacloprid: Moderately mobile in soils |

**12.5 Other adverse effects**

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

## 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.<br>(BETA-CYFLUTHRIN, IMIDACLOPRID 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.<br>(BETA-CYFLUTHRIN, IMIDACLOPRID SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(BETA-CYFLUTHRIN, IMIDACLOPRID SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 64371

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Tempo® 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 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

## SECTION 1: IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**1.1 Product identifier**

| | |
|---|---|
| **Trade name** | Tribute® Selective Turf Herbicide |
| **Product code (UVP)** | 79644205 |

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

| | |
|---|---|
| **Use** | Herbicide |

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

| | |
|---|---|
| **Supplier** | Bayer Cropscience Pty Ltd<br>ABN 87 000 226 022<br>Level 1, 8 Redfern Road<br>3123 Hawthorn East<br>Victoria<br>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**

**Classification in accordance with Australian GHS Regulation**

Aspiration hazard: Category 1
H304 May be fatal if swallowed and enters airways.

Skin irritation: Category 2
H315 Causes skin irritation.

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

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.

**2.2 Label elements**

**Labelling according to specific Australian legislation**

Hazard label for supply/use required.

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

Foramsulfuron

**Signal word**: Danger

**Hazard statements**

| | |
|---|---|
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

**Precautionary statements**

| | |
|---|---|
| P261 | Avoid breathing mist. |
| P264 | Wash hands thoroughly after handling. |
| P280 | Wear protective gloves. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER/doctor/ physician. |
| P331 | Do NOT induce vomiting. |
| P302 + P352 | IF ON SKIN: Wash with plenty of water/ soap. |
| P362 | Take off contaminated clothing and wash before reuse. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention. |
| 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**

Foramsulfuron 22.5 g/L
Chemical nature Oil dispersion (OD)

| Chemical Name | CAS-No. | Concentration [%] |
|---|---|---|
| Foramsulfuron | 173159-57-4 | 2.34 |
| Solvent Naphtha (petroleum), heavy aromatic | 64742-94-5 | > 25.00 |
| Calcium dodecylbenzenesulfonate, branched | 70528-83-5 | > 1.00 - < 5.00 |
| 1-Octanol | 111-87-5 | > 1.00 - < 5.00 |
| Other ingredients (non-hazardous) to 100% | | |

## 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 to fresh air. Keep patient warm and 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. If symptoms persist, call a physician. |
| **Eye contact** | Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. Get medical attention if irritation develops and persists. |
| **Ingestion** | Rinse mouth. Do NOT induce vomiting. Call a physician or poison control center immediately. |

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

**4.3 Indication of any immediate medical attention and special treatment needed**

| | |
|---|---|
| **Treatment** | Treat symptomatically. In case of ingestion gastric lavage should be considered in cases of significant ingestions only within the first 2 hours. However, the application of activated charcoal and sodium sulphate is always advisable. There is no specific antidote. |

## SECTION 5. FIRE FIGHTING MEASURES

**5.1 Extinguishing media**

| | |
|---|---|
| **Suitable** | Water spray, Carbon dioxide (CO2), Foam, Sand |
| **5.2 Special hazards arising from the substance or mixture** | In the event of fire the following may be released:, Hydrogen cyanide (hydrocyanic acid), Carbon monoxide (CO), Nitrogen oxides (NOx), Hydrogen chloride (HCl) |

**5.3 Advice for firefighters**

| | |
|---|---|
| **Special protective equipment for firefighters** | In the event of fire and/or explosion do not breathe fumes. In the event of fire, wear self-contained breathing apparatus. |
| **Further information** | Contain the spread of the fire-fighting media. 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** | •3Z |

## SECTION 6. ACCIDENTAL RELEASE MEASURES

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

| | |
|---|---|
| **Precautions** | Avoid contact with spilled product or contaminated surfaces. Use personal protective equipment. |
| **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** | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Clean contaminated floors and objects thoroughly, observing environmental regulations. Keep in suitable, closed containers for disposal. |
| **6.4 Reference to other sections** | Information regarding safe handling, see section 7.<br>Information regarding personal protective equipment, see section 8.<br>Information regarding waste disposal, see section 13. |

## SECTION 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling

| | |
|---|---|
| **Advice on safe handling** | Use only in area provided with appropriate exhaust ventilation. |
| **Advice on protection against fire and explosion** | Keep away from heat and sources of ignition. |
| **Hygiene measures** | Avoid contact with skin, eyes and clothing. Keep working clothes separately. Wash hands before breaks and immediately after handling the product. Remove soiled clothing immediately and clean thoroughly before using again. Garments that cannot be cleaned must be destroyed (burnt). |

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

| | |
|---|---|
| **Requirements for storage areas and containers** | Store in original container. Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from direct sunlight. Protect from freezing. |
| **Advice on common storage** | Keep away from food, drink and animal feedingstuffs. |

## SECTION 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### 8.1 Control parameters

| Components | CAS-No. | Control parameters | Update | Basis |
|---|---|---|---|---|
| Foramsulfuron | 173159-57-4 | 10 mg/m3 (TWA) | | OES BCS* |

*OES BCS: Internal Bayer CropScience "Occupational Exposure Standard"

### 8.2 Exposure controls

| | |
|---|---|
| **Respiratory protection** | Respiratory protection is not required under anticipated circumstances of exposure.<br>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. |
| **Hand protection** | 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. |
| **Eye protection** | Wear goggles (conforming to EN166, Field of Use = 5 or equivalent). |
| **Skin and body protection** | Wear standard coveralls and Category 3 Type 6 suit.<br>If there is a risk of significant exposure, consider a higher protective type suit.<br>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.<br>If chemical protection suit is splashed, sprayed or significantly contaminated, decontaminate as far as possible, then carefully remove and dispose of as advised by manufacturer. |
| **General protective measures** | 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** | 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** | Liquid |
| **Colour** | beige |
| **Odour** | aromatic |
| **pH** | 5.0 - 7.0 at 10 % (23 °C) (deionized water) |
| **Flash point** | 128 °C |
| **Density** | ca. 0.96 g/cm³ at 20 °C |
| **Water solubility** | dispersible |
| **9.2 Other information** | Further safety related physical-chemical data are not known. |

## SECTION 10. STABILITY AND REACTIVITY

### 10.1 Reactivity

Not applicable

| | |
|---|---|
| **10.2 Chemical stability** | Stable under recommended storage conditions. |
| **10.3 Possibility of hazardous reactions** | No hazardous reactions when stored and handled according to prescribed instructions. |

| | |
|---|---|
| **10.4 Conditions to avoid** | Extremes of temperature and direct sunlight. |
| **10.5 Incompatible materials** | Oxidizing agents, Strong acids, Strong bases |
| **10.6 Hazardous decomposition products** | Thermal decomposition can lead to release of:<br>Hydrogen chloride (HCl)<br>Hydrogen cyanide (hydrocyanic acid)<br>Carbon monoxide<br>Nitrogen oxides (NOx) |

## SECTION 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

| | |
|---|---|
| **Acute oral toxicity** | LD50 (Mouse) > 2,000 mg/kg |
| **Acute inhalation toxicity** | LC50 (Rat) > 5,250 mg/l |
| **Acute dermal toxicity** | LD50 (Rat) > 2,000 mg/kg |
| **Skin irritation** | Irritating to skin. (Rabbit) |
| **Eye irritation** | No eye irritation (Rabbit) |
| **Sensitisation** | Sensitising (Mouse)<br>OECD Test Guideline 429, local lymph node assay (LLNA) |

**Assessment mutagenicity**

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

**Assessment carcinogenicity**

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

**Assessment toxicity to reproduction**

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

**Assessment developmental toxicity**

Foramsulfuron did not cause developmental toxicity in rats and rabbits.

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

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

**Aspiration hazard**

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

**Information on likely routes of exposure**

Avoid inhalation of vapour or mist.
Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals., May cause skin irritation., Avoid contact with skin and clothing.
May cause eye irritation., Avoid contact with eyes.
May be harmful if swallowed., Do not take internally.

**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**

The toxicological data refer to a similar formulation.

## SECTION 12. ECOLOGICAL INFORMATION

**12.1 Toxicity**

| | |
|---|---|
| **Toxicity to fish** | LC50 (Lepomis macrochirus (Bluegill sunfish)) 7.8 mg/l<br>Exposure time: 96 h |
| **Toxicity to aquatic invertebrates** | EC50 (Daphnia magna (Water flea)) 6.9 mg/l<br>Exposure time: 48 h |
| **Toxicity to aquatic plants** | EC50 (Raphidocelis subcapitata (freshwater green alga)) > 5 mg/l<br>Growth rate; Exposure time: 96 h |
| | EC50 (Lemna gibba (gibbous duckweed)) 0.75 µg/l<br>Growth rate; Exposure time: 7 d |

**12.2 Persistence and degradability**

| | |
|---|---|
| **Biodegradability** | Not applicable for this mixture. |

**12.3 Bioaccumulative potential**

| | |
|---|---|
| **Bioaccumulation** | Not applicable for this mixture. |

**12.4 Mobility in soil**

| | |
|---|---|
| **Mobility in soil** | Not applicable for this mixture. |

**12.5 Other adverse effects**

| | |
|---|---|
| **Additional ecological information** | The ecological data refer to a similar formulation.<br>No other effects to be mentioned. |

## 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.<br>(ALKYL (C3-C6) BENZENE 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.<br>(ALKYL (C3-C6) BENZENE SOLUTION) |

**IATA**

| | |
|---|---|
| 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.<br>(ALKYL (C3-C6) BENZENE SOLUTION ) |

## SECTION 15. REGULATORY INFORMATION

Registered according to the Agricultural and Veterinary Chemicals Code Act 1994

Australian Pesticides and Veterinary Medicines Authority approval number: 63240

**SUSMP classification (Poison Schedule)**

Schedule 5 (Standard for the Uniform Scheduling of Medicines and Poisons)

## SECTION 16. OTHER INFORMATION

**Trademark information** Tribute® 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 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