

## Section 1 - Identification of the Substance/Mixture and Supplier

### Zoetis Australia Pty Ltd

ABN 94 156 476 425

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<b>Product Identifier:</b>	<b>Startect Broad Spectrum Oral Drench for Sheep</b>
<b>APVMA Approval No:</b>	64247
<b>Other names:</b>	None.
<b>Chemical family:</b>	Derquantel/Abamectin oral drench in a suitable medium.
<b>Recommended Use:</b>	Veterinary anthelmintic (applied as a drench) for use as described on the product label.
<b>Restrictions on use</b>	For veterinary use only.
<b>Emergency Phone:</b>	<b>1800 814 883 (all hours)</b>

## Section 2 - Hazards Identification

### Statement of Hazardous Nature

This product is classified as: Xn, Harmful. N, Dangerous to the environment. Hazardous according to the criteria of SWA.

Not subject to the Australian Dangerous Goods Code

**Risk Phrases:** R50, R48/22. Very toxic to aquatic organisms. Harmful: danger of serious damage to health by prolonged exposure if swallowed.

**Safety Phrases:** S20, S36, S61, S24/25. When using, do not eat or drink. Wear suitable protective clothing. Avoid release to the environment. Refer to special instructions/Safety Data Sheets. Avoid contact with skin and eyes.

**DG Classification:** None

### GHS Label Elements:



### GHS Signal word: WARNING

### GHS Classification:

H302: Harmful if swallowed.

H332: Harmful if inhaled.

H361: Suspected of damaging the unborn child.

H373: May cause damage to organs through prolonged or repeated exposure.

H400: Very toxic to aquatic life.

### PREVENTION

P102: Keep out of reach of children.

P260: Do not breathe fumes, mists, vapours or spray.

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

P264: Wash contacted areas thoroughly after handling.

P270: Do not eat, drink or smoke when using this product.

P273: Avoid release to the environment.

P280: Wear protective clothing.

### RESPONSE

P314: Get medical advice or attention if you feel unwell.

P352: Wash with plenty of soap and water.

P301+P312: IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.

P301+P330+P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P370+P378: In case of fire, use carbon dioxide, dry chemical, water fog.

## SAFETY DATA SHEET

**STORAGE**

P410: Protect from sunlight.

P403+P235: Store in a well-ventilated place. Keep cool.

**DISPOSAL**

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

**Other/supplementary hazards. None known.****Emergency Overview****Physical Description & colour:** Clear light yellow coloured liquid.**Odour:** No data re odour.**Major Health Hazards:** Harmful if swallowed, harmful if inhaled, suspected of damaging the unborn child.

No specific medical attention is advised. Treat symptomatically.

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

Ingredients	CAS No	Conc,	TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Derquantel	187865-22-1	10g/L	not set	not set
Abamectin	71751-41-2	1g/L	not set	not set
Other non hazardous ingredients	secret	to 100%	not set	not set

This is a commercial product whose exact ratio of components may vary slightly. Minor quantities of other non hazardous ingredients are also possible.

The SWA TWA exposure value is the average airborne concentration of a particular substance when calculated over a normal 8 hour working day for a 5 day working week. The STEL (Short Term Exposure Limit) is an exposure value that may be equalled (but should not be exceeded) for no longer than 15 minutes and should not be repeated more than 4 times per day. There should be at least 60 minutes between successive exposures at the STEL. The term "peak" is used when the TWA limit, because of the rapid action of the substance, should never be exceeded, even briefly.

**Section 4 - First Aid Measures****General Information:**

You should call The Poisons Information Centre if you feel that you may have been poisoned, burned or irritated by this product. The number is 131126 from anywhere in Australia and is available at all times. Have this SDS with you when you call.

**Inhalation:** First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.**Skin Contact:** Wash gently and thoroughly with water (use non-abrasive soap if necessary) for 5 minutes or until chemical is removed.**Eye Contact:** No effects expected. If irritation does occur, flush contaminated eye(s) with lukewarm, gently flowing water for 5 minutes or until the product is removed. Obtain medical advice if irritation becomes painful or lasts more than a few minutes. Take special care if exposed person is wearing contact lenses.**Ingestion:** If swallowed, do NOT induce vomiting. Wash mouth with water and contact a Poisons Information Centre, or call a doctor.**Most Important Symptoms and Effects, Both Acute and Delayed:** None known.**Symptoms and Effects of Exposure:** None known.**Medical Conditions Aggravated by Exposure:** None known.**Indication of the Immediate Medical Attention and Special Treatment Needed:** None known.**Notes to Physician:** None.**Section 5 - Fire Fighting Measures****Hazards arising from the product:** The major hazard in fires is usually inhalation of heated and toxic or oxygen deficient (or both), fire gases. There is little risk of an explosion from this product if commercial quantities are involved in a fire. Violent steam generation or eruption may occur upon application of direct water stream on hot liquids. Vapours from this product are heavier than air and may accumulate in sumps, pits and other low-lying spaces, forming potentially explosive mixtures. They may also flash back considerable distances.

Fire decomposition products from this product may be toxic if inhaled. Take appropriate protective measures.

**Suitable Extinguishing Media:** In case of fire, use carbon dioxide, dry chemical, water fog.**Special Protective Equipment and Precautions for Firefighters:** If a significant quantity of this product is involved in a fire, call the fire brigade. There seems little danger of a violent reaction or explosion from this product.**Hazchem Code:** None.**SAFETY DATA SHEET**

## Section 6 - Accidental Release Measures

**Personal precautions, protective equipment and emergency procedures:** In the event of a major spill, prevent spillage from entering drains or water courses. As a minimum, wear overalls, goggles and gloves. No special recommendations for clothing materials. Eye/face protective equipment should comprise as a minimum, protective goggles. If there is a significant chance that vapours or mists are likely to build up in the cleanup area, we recommend that you use a respirator. Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned below (section 8).

Stop leak if safe to do so, and contain spill. Absorb onto sand, vermiculite or other suitable absorbent material. If spill is too large or if absorbent material is not available, try to create a dike to stop material spreading or going into drains or waterways. Sweep up and shovel or collect recoverable product into labelled containers for recycling or salvage, and dispose of promptly. Recycle containers wherever possible after careful cleaning. Refer to product label for specific instructions. After spills, wash area preventing runoff from entering drains. If a significant quantity of material enters drains, advise emergency services. Full details regarding disposal of used containers, spillage and unused material may be found on the label. If there is any conflict between this SDS and the label, instructions on the label prevail. Ensure legality of disposal by consulting regulations prior to disposal. Thoroughly launder protective clothing before storage or re-use. Advise laundry of nature of contamination when sending contaminated clothing to laundry.

**Environmental Precautions:** None.

**Methods and Material for Containment and Cleaning Up.** This product is sold in small packages. No special measures are usually necessary following spills. However avoid release to the environment.

**Measures for Cleaning / Collecting:** Contain the source of the spill if it is safe to do so. Absorb spills with non-combustible absorbent material and transfer into a labelled container for disposal.

**Additional Consideration for Large Spills:** Non-essential personnel should be evacuated from affected area. Report emergency situations immediately. Clean up operations should only be undertaken by trained personnel.

## Section 7 - Handling and Storage

**Handling:** Keep exposure to this product to a minimum, and minimise the quantities kept in work areas. Check Section 8 of this SDS for details of personal protective measures, and make sure that those measures are followed. The measures detailed below under "Storage" should be followed during handling in order to minimise risks to persons using the product in the workplace. Also, avoid contact or contamination of product with incompatible materials listed in Section 10.

**Storage:** This product is a Scheduled Poison. Observe all relevant regulations regarding sale, transport and storage of this schedule of poison. Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight. Make sure that the product does not come into contact with substances listed under "Incompatibilities" in Section 10. Some liquid preparations settle or separate on standing and may require stirring before use. Check packaging - there may be further storage instructions on the label.

## Section 8 - Exposure Controls and Personal Protection

**Control Parameters:**

Derquantel OEL TWA 8-hr = 0.01 mg/m<sup>3</sup>

The following Australian Standards will provide general advice regarding safety clothing and equipment:

Respiratory equipment: **AS/NZS 1715**, Protective Gloves: **AS 2161**, Occupational Protective Clothing: **AS/NZS 4501 set 2008**, Industrial Eye Protection: **AS1336** and **AS/NZS 1337**, Occupational Protective Footwear: **AS/NZS2210**.

<b>SWA Exposure limits</b>	<b>TWA (mg/m<sup>3</sup>)</b>	<b>STEL (mg/m<sup>3</sup>)</b>
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Exposure limits have not been established by SWA for any of the significant ingredients in this product.

The ADI for Derquantel is set at 0.0005mg/kg/day. The corresponding NOEL is set at 0.1mg/kg/day.

The ADI for Abamectin is set at 0.0005mg/kg/day. The corresponding NOEL is set at 0.5mg/kg/day. ADI means Acceptable Daily Intake; NOEL means No-observable-effect-level. Data from Australian ADI List, June 2013.

**Engineering Controls:** No special equipment is usually needed when occasionally handling small quantities. The following instructions are for bulk handling or where regular exposure in an occupational setting occurs without proper containment systems.

No special ventilation requirements are normally necessary for this product. However make sure that the work environment remains clean and that vapours and mists are minimised. **Eye Protection:** Eye protection such as protective glasses or goggles is recommended when this product is being used.

**Skin Protection:** You should avoid contact even with mild skin irritants. Therefore you should wear suitable impervious elbow-length gloves and facial protection when handling this product. See below for suitable material types.

**Protective Material Types:** We suggest that protective clothing be made from the following materials: PVC.

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**Respirator:** Usually, no respirator is necessary when using this product. However, if you have any doubts consult the Australian Standard mentioned above.

Safety deluge showers should, if practical, be provided near to where this product is being handled commercially.

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## Section 9 - Physical and Chemical Properties:

<b>Appearance:</b>	Clear light yellow coloured liquid.
<b>Odour:</b>	No data re odour.
<b>Odour Threshold:</b>	No data.
<b>pH:</b>	No data.
<b>Freezing/Melting Point:</b>	No specific data. Liquid at normal temperatures.
<b>Boiling Point:</b>	Not available.
<b>Flash point:</b>	Approx 122°C, based on flash point of ingredients
<b>Upper Flammability Limit:</b>	No data.
<b>Lower Flammability Limit:</b>	No data.
<b>Autoignition temperature:</b>	No data.
<b>Flammability Class:</b>	Not flammable (GHS); C1 combustible (AS 1940)
<b>Upper Flammability Limit:</b>	Does not burn.
<b>Lower Flammability Limit:</b>	Does not burn.
<b>Autoignition temperature:</b>	Not applicable - does not burn.
<b>Flammability (solid, gas):</b>	Not applicable.
<b>Flammability Class:</b>	Does not burn.
<b>Decomposition Temperature:</b>	No data.
<b>Volatiles:</b>	No data.
<b>Vapour Pressure:</b>	No data.
<b>Vapour Density:</b>	No data.
<b>Relative Density:</b>	1.016 at 20°C
<b>Water Solubility:</b>	No data. Believed to be partially or slightly soluble.
<b>Solvent Solubility:</b>	No data.
<b>Volatility:</b>	No data.
<b>Evaporation Rate:</b>	No data.
<b>Partition Coefficient (n-octanol/water):</b>	No data
<b>Autoignition temp:</b>	No data.
<b>Viscosity:</b>	Not applicable.

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## Section 10 - Stability and Reactivity

**Reactivity:** This product is unlikely to react or decompose under normal storage conditions. However, if you have any doubts, contact the supplier for advice on shelf life properties.

**Stability:** Stable if stored under normal conditions.

**Conditions to Avoid:** Protect this product from light. Store in the closed original container in a dry, cool, well-ventilated area out of direct sunlight.

**Incompatibilities:** strong oxidising agents.

**Hazardous decomposition products:** Combustion forms carbon dioxide, and if incomplete, carbon monoxide and possibly smoke. Water is also formed. Carbon monoxide poisoning produces headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgment, and unconsciousness followed by coma and death.

**Polymerisation:** This product will not undergo polymerisation reactions.

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## Section 11 - Toxicological Information

### Symptoms caused by Exposure

**General Information:** No data.

## SAFETY DATA SHEET

**Routes of exposure:** No data.

**Symptoms of exposure:** No data.

#### Inhalation:

**Short term exposure:** Available data indicates that this product is not harmful. However product may be mildly irritating, although unlikely to cause anything more than mild transient discomfort.

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

#### Skin Contact:

**Short term exposure:** Available data indicates that this product is not harmful. It should present no hazards in normal use. However product may be irritating, but is unlikely to cause anything more than mild transient discomfort.

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

#### Eye Contact:

**Short term exposure:** This product may be irritating to eyes, but is unlikely to cause anything more than mild transient discomfort.

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

#### Ingestion:

**Short term exposure:** Significant oral exposure is considered to be unlikely. Available data shows that this product is harmful, but symptoms are not available. However, this product may be mildly irritating to mucous membranes but is unlikely to cause anything more than mild transient discomfort.

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

**Specific Target Organ Toxicity (STOT) – single exposure:** No data.

**Specific Target Organ Toxicity (STOT) – repeated exposure:** No data.

**Aspiration Hazard:** No data.

**Early Onset Symptoms Related to Exposure:** No data.

**Delayed Health Effects from Exposure:** No data.

**Exposure Levels and Health Effects:** No data.

**Interactive Effects:** No data.

### Classification of Hazardous Ingredients

Ingredient	Risk Phrases
Abamectin	>=0.1%Conc<1%: Xn; R20/22

#### Acute Toxicity: (Species, Route, End Point, Dose)

##### Abamectin

Rat	Oral	LD <sub>50</sub>	8.7 mg/kg
Mouse	Oral	LD <sub>50</sub>	14 mg/kg
Rabbit	Dermal	LD <sub>50</sub>	> 330 mg/kg
	Eye	Irritation	Moderate
	Skin	Irritation	Mild

##### Derquantel (PF-00520904)

Rat	Oral	Minimum Symptomatic Dose	500 mg/kg
Mouse	Oral	Minimum Symptomatic Dose	12.5 mg/kg
Rat	Dermal	LD <sub>50</sub>	> 2000 mg/kg
Dog	Oral	Minimum Symptomatic Dose	5 mg/kg
Rat	Inhalation	Minimum Symptomatic Dose	2.4 mg/L

#### Repeated Dose Toxicity: (Duration, Species, Route, Dose, End Point, Target Organ)

##### Abamectin

1 Year(s)	Dog	Oral	0.25 mg/kg/day	NOEL	None identified
2 Year(s)	Rat	Oral	2 mg/kg/day	NOEL	None identified
94 Week(s)	Mouse	Oral	8 mg/kg/day	LOEL	Spleen Skin Central Nervous System

##### Derquantel (PF-00520904)

1 Year(s)	Rat	Oral	5 mg/kg/day	NOAEL Liver, Kidney, Male reproductive system, Bile duct	
28 Day(s)	Rat	Oral	< 20 mg/kg/day	NOAEL Liver Blood Nervous System	
1 Month(s)	Dog	Oral	0.1 mg/kg/day	NOEL No effects at maximum dose	
1 Year(s)	Rat	Oral	0.01 mg/kg/day	NOEL Bile duct	
3 Month(s)	Dog	Oral	1.0 mg/kg/day	NOAEL Heart Kidney Nervous System	

#### Reproduction & Developmental Toxicity: (Study Type, Species, Route, Dose, End Point, Effect(s))

##### Abamectin

Reproductive & Fertility	Rat	No route specified	0.12 mg/kg/day	NOEL Foetotoxicity
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### SAFETY DATA SHEET

Embryo / Foetal Development	Rat	No route specified	1 mg/kg/day	NOEL Teratogenic
<b>Derquantel (PF-00520904)</b>				
Embryo / Foetal Development	Rat	Oral	70 mg/kg/day	NOAEL Maternal toxicity, Developmental toxicity
Embryo / Foetal Development	Rabbit	Oral	1 mg/kg/day	NOAEL Maternal Toxicity, Developmental toxicity
Fertility and Embryonic Development	Rat	Oral	5 mg/kg/day	NOAEL Maternal Toxicity, Not Teratogenic

**Genetic Toxicity: (Study Type, Cell Type/Organism, Result)****Abamectin**

<i>In Vitro</i> Bacterial Mutagenicity (Ames)	<i>Salmonella</i>	Negative
<i>In Vitro</i> Chromosome Aberration Chinese Hamster	Ovary (CHO) cells	Negative
<i>In Vivo</i> Bone Marrow Metaphase Analysis	Mouse	Negative
<i>In Vitro</i> Mammalian Cell Mutagenicity	Hamster	Negative
<i>In Vitro</i> Direct DNA Damage Rat	Hepatocyte	Positive

**Derquantel (PF-00520904)**

<i>In Vitro</i> Bacterial Mutagenicity (Ames)	<i>Salmonella</i>	Negative
<i>In Vivo</i> Micronucleus Mouse	Bone Marrow	Negative
<i>In Vitro</i> Chromosome Aberration	Human Lymphocytes	Positive without activation
<i>In Vivo</i> Micronucleus	Rat Hepatocyte	Negative

**Carcinogenicity: (Duration, Species, Route, Dose, End Point, Effect(s))****Abamectin**

24 Month(s)	Rat	Oral	2 mg/kg/day	NOEL	Not carcinogenic
22 Month(s)	Mouse	Oral	8 mg/kg/day	NOEL	Not carcinogenic

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

**Respiratory or Skin Sensitisation:** No data.

**Germ Cell Mutagenicity:** No data.

**Carcinogenicity:** None of the components of this formulation are listed as a carcinogen by IARC, NTP or OSHA.

**Reproductive Toxicity:** No data.

**Carcinogen Status:**

**SWA:** No significant ingredient is classified as carcinogenic by SWA.

**NTP:** No significant ingredient is classified as carcinogenic by NTP.

**IARC:** No significant ingredient is classified as carcinogenic by IARC.

**Section 12 - Ecological Information**

This product is very toxic to aquatic organisms.

**Aquatic Toxicity: (Species, Method, End Point, Duration, Result)****Abamectin**

**Abamectin is very highly toxic to aquatic organisms.**

<i>Oncorhynchus mykiss</i> (Rainbow Trout)	OECD	LC <sub>50</sub> 96 Hours	0.0030 mg/L
<i>Lepomis macrochirus</i> (Bluegill Sunfish)		LC <sub>50</sub> 96 Hours	0.096 mg/L
<i>Daphnia Magna</i> (Water Flea)	OECD	EC <sub>50</sub> 48 Hours	0.00012 mg/L
<i>Pseudokirchneriella subcapitata</i> (Green Alga)	OECD	EC <sub>50</sub> 72 Hours	> 47.1 mg/L
<i>Pseudokirchneriella subcapitata</i> (Green Alga)	OECD	EC <sub>50</sub> 72 Hours	1.59 mg/L

**Derquantel (PF-00520904)**

Ecotoxicity studies have demonstrated Derquantel is slightly toxic to fish, aquatic invertebrates and algae. Based on toxicity studies, it is not expected to affect terrestrial invertebrates, dung flies, dung beetles, soil micro-organisms, or non-target vegetation at the proposed application rate.

<i>Daphnia magna</i> (Water Flea)	OECD	EC <sub>50</sub> 48 Hours	21.17 mg/L
<i>Cyprinodon variegatus</i> (Sheepshead Minnow)	OECD	LC <sub>50</sub> 96 Hours	> 2.2 mg/L
<i>Oncorhynchus mykiss</i> (Rainbow Trout)	OECD	LC <sub>50</sub> 96 Hours	57.7 mg/L
<i>Daphnia magna</i> (Water Flea)	OECD	NOEC 21 Days	0.044 mg/L
<i>Pseudokirchneriella subcapitata</i> (Green Alga)	OECD	EC <sub>50</sub> 72 Hours	> 47.1 mg/L

**Toxicity information:** See above for active ingredients.

**Persistence and degradability:** No data.

**Bioaccumulative potential:** No data.

**Mobility in soil:** No data.

**Other adverse effects:** No data.

**SAFETY DATA SHEET**

## Section 13 - Disposal Considerations

Disposal: Special help is available for the disposal of Agricultural Chemicals. Triple rinse containers before disposal. Dispose of rinsate or any undiluted chemical according to State legislative requirements. If not recycling, break, crush or puncture and deliver empty packaging to an approved waste management facility. DO NOT burn empty containers or product.

For help with the collection of unwanted rural chemicals, contact ChemClear 1800 008 182

<http://www.chemclear.com.au/> and for help with the disposal of empty drums, contact DrumMuster

<http://www.drummuster.com.au/> where you will find contact details for your area.

## Section 14 - Transport Information

Not regulated for transport

Hazchem Code: •3Z

Special precaution for user: None known.

Additional Information: None known.

Environmental Hazard: This product is classed as environmentally hazardous. Take appropriate precautions when transporting, handling or cleaning up spills.

## Section 15 - Regulatory Information

Poison Schedule: S6

AICS: All of the significant ingredients in this formulation are compliant with NICNAS regulations.

The following ingredients: Abamectin, Derquantel are mentioned in the SUSMP.

## Section 16 - Other Information

This SDS contains only safety-related information. For other data see product literature.

Data Sources: The data contained in this SDS may have been gathered from confidential internal sources, raw material suppliers, or from the published literature.

### Acronyms:

ADG Code	Australian Code for the Transport of Dangerous Goods by Road and Rail (7 <sup>th</sup> edition)
AICS	Australian Inventory of Chemical Substances
SWA	Safe Work Australia, formerly ASCC and NOHSC
CAS number	Chemical Abstracts Service Registry Number
Hazchem Code	Emergency action code of numbers and letters that provide information to emergency services especially firefighters
IARC	International Agency for Research on Cancer
NOS	Not otherwise specified
NTP	National Toxicology Program (USA)
R-Phrase	Risk Phrase
SUSMP	Standard for the Uniform Scheduling of Medicines & Poisons
UN Number	United Nations Number

This version issued: 2 September 2014 and is valid for 5 years from this date.

Supersedes: None, first issue.

### Revision History:

Date of Revision	Reason
2 Sep 2014	First issue

### Contact Points:

Zoetis	1800 814 883
Police and Fire Brigade:	Dial 000

If ineffective:

Dial Poisons Information Centre

## SAFETY DATA SHEET

Issued by: Zoetis Australia Pty Ltd

Phone: 1800 814 883

Poisons Information Centre: 13 1126 from anywhere in Australia

**(13 1126 from anywhere in Australia)**

**THIS SDS SUMMARISES OUR CURRENT AND BEST KNOWLEDGE OF THE HEALTH AND SAFETY HAZARD INFORMATION ABOUT THE PRODUCT DETAILED IN THIS SDS, AND HOW TO SAFELY HANDLE AND USE THE PRODUCT IN THE WORKPLACE FOR THE RECOMMENDED USE. EACH USER OF THE PRODUCT MUST REVIEW THIS SDS IN THE CONTEXT OF HOW THE PRODUCT WILL BE HANDLED AND USED IN THEIR OWN WORKPLACE. IF CLARIFICATION OR FURTHER INFORMATION IS NEEDED TO ENSURE THAT AN APPROPRIATE RISK ASSESSMENT CAN BE MADE, THE USER SHOULD CONTACT ZOETIS.**

Please read all labels carefully before using product.

This SDS is prepared in accord with the SWA document "Preparation of Safety Data Sheets for Hazardous Chemicals - Code of Practice" (December 2011)

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Prepared by Kilford & Kilford Pty Ltd

**End of Safety Data Sheet**

**SAFETY DATA SHEET**