



## COLIN CAMPBELL (CHEMICALS) PTY. LTD.

### SAFETY DATA SHEET

Date of Issue: 1 December 2016

#### 1) IDENTIFICATION OF THE MATERIAL AND SUPPLIER

**Product Name:** CAMPBELL LIQUID DEK FUNGICIDE  
**Other Names:** Mancozeb  
**Chemical Group:** Dithiocarbamate  
**CAS No.:**  
**Recommended Use:** Fungicide for use on recreational turf.  
**Supplier Details:** Colin Campbell (Chemicals) Pty Ltd ABN 29 000 045 590  
5 Blackfriar Place  
Wetherill Park NSW 2164  
**Telephone:** (02) 9725 2544  
**Fax:** (02) 9604 7768  
**Email:** [ccsyd@campbellchemicals.com.au](mailto:ccsyd@campbellchemicals.com.au)  
**Website:** [www.campbellchemicals.com.au](http://www.campbellchemicals.com.au)  
**Contact:** Product Development Manager – (02) 9725 2544  
**Emergency Telephone Number:** 13 11 26 (Poisons Information Centre)

#### 2) HAZARDS IDENTIFICATION

**GHS classification:** Acute toxicity oral : Category 4  
Skin corrosion / irritation : Category 2  
Skin sensitisation : Category 1  
Serious eye damage / eye irritation : Category 2B  
Acute toxicity inhalation : Category 4  
Hazardous to aquatic environment – short term/acute : Category 1  
Specific target organ toxicity – single exposure : Category 3  
Specific target organ toxicity : Category 3

**GHS Signal Words:** WARNING

**Hazard Statements :** H302 Harmful if swallowed  
H315 Causes skin irritation  
H317 May cause an allergic skin reaction  
H320 Causes eye irritation  
H332 Harmful if inhaled  
H335 May cause respiratory irritation  
H361 Suspected of damaging fertility or the unborn child.  
H400 Very toxic to aquatic life.

**General Precautionary Statements :** P101 If medical advice is needed, have product container or label at hand.  
P102 Keep out of reach of children  
P103 Read label before use.



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### SAFETY DATA SHEET

Date of Issue: 1 December 2016

#### Pictograms :



#### Precautionary statements Prevention:

P201 : Obtain special instructions before use.  
P202 : Do not handle until all safety precautions have been read and understood.  
P261 : Avoid breathing fumes, mists, vapours or sprays.  
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.  
P271 : Use only outdoors or in well ventilated areas.  
P272 : Contaminated work clothing should not be allowed out of the workplace.  
P273 : Avoid release to the environment.  
P280 : Wear protective gloves/eye protection/face protection.

#### Precautionary statements Response:

P362 Take off contaminated clothing and wash before reuse.  
P301+P312 IF SWALLOWED: Call a POISONS CENTRE or doctor if you feel unwell  
P301+P330+P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.  
P302+P352: IF ON SKIN: Wash with plenty of soap and water.  
P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P308+P313 : If exposed or concerned: Get medical advice.  
P333+P313 If skin irritation or rash occurs : Get medical advice.  
P337+P313 If eye irritation persists: Get medical attention.  
P370 + P378 : Not combustible. Use extinguishing media suited to burning materials. Alcohol-resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.

#### Storage :

P405 : Store locked up.  
P410 : Protect from sunlight.  
P402 + P404 : Store in a dry place. Store in a closed container.  
P403+P235 : Store in a well-ventilated place. Keep cool.

#### Disposal:

P501 Dispose of contents/container to an approved waste disposal plant.

#### Other information :

No other information.  
Hazardous substance according to SWA criteria.



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### SAFETY DATA SHEET

Date of Issue: 1 December 2016

#### 3) COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients	CAS Number	Concentration
Mancozeb	8018-01-7	420g/L
Other non-hazardous ingredients	secret	To 100%

#### 4) FIRST AID MEASURES

**If poisoning occurs, move out of dangerous area immediately contact a doctor or Poison Information Centre (Ph: 13 11 26) and follow the advice given.**

**Show this Safety Data Sheet to the doctor.**

- If inhaled:** If symptoms of poisoning become evident, contact a Poisons Information Centre, or call a doctor at once. Remove sources of contamination or move victim to fresh air and keep at rest. If breathing is difficult, oxygen may assist if administered by trained personnel, preferably on doctor's advice.. **DO NOT** allow victim to move about unnecessarily. Symptoms of pulmonary oedema can be delayed up to 48 hours after exposure.
- In case of skin contact:** Wash gently and thoroughly with warm water (use non-abrasive soap if necessary) for 10-20 minutes or until product is removed. Under running water, remove contaminated clothing, shoes and leather goods (e.g. watch bands and belts) and completely decontaminate them before reuse or discard. If irritation persists, repeat flushing and seek medical attention.
- In case of eye contact:** Check and carefully remove any contact lenses if easy to do so, if easy to do so. Protect unharmed eye. Rinse eyes immediately with clean water for at least 15 minutes and seek medical aid immediately. Keep eye wide open while rinsing.
- If swallowed:** **DO NOT** induce vomiting. Clean mouth with water. Obtain medical attention.
- First Aid facilities** Ensure eye wash and safety shower are available.
- Medical Attention:** Symptoms may be delayed. The first aid procedure should be established in consultation with a doctor responsible for industrial medicine.

#### 5) FIRE FIGHTING MEASURES

- Extinguishing media** Not combustible. Use extinguishing media suited to burning materials. Alcohol resistant foam is the preferred firefighting medium but, if it is not available, normal foam can be used.
- Hazard from combustion products** 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.
- Precautions for fighting fires** Fire fighters should wear full protective gear, including self-contained breathing apparatus (AS/NZS 1715/1716). Keep unnecessary people away. If



SAFETY DATA SHEET

Date of Issue: 1 December 2016

it can be done safely remove intact containers from the fire. Bund area with sand or earth to prevent contamination of drains or waterways. Dispose of fire residues and contaminated fire extinguishing water in accordance with local regulations. Do not release contaminated water into the environment.

Hazchem Code

3Z

6) ACCIDENTAL RELEASE MEASURES

Avoid contact with spilled material or contaminated surfaces. Do not smoke, eat or drink during the clean up process. Wear personal protective clothing and equipment as detailed in Section 8 PERSONAL PROTECTION. Keep people and animals away. Ensure adequate ventilation. Contain spill and absorb with earth, sand, clay or other absorbent material. Prevent spilled material from entering drains or watercourses. Collect and store in properly labelled drums for safe disposal. Clean floor with a damp cloth and place it in the drum. Seal drums and label ready for safe disposal. Deal with all spillages immediately. If contamination of drains, streams, watercourses etc is unavoidable warn the local water authority.

7) HANDLING AND STORAGE

**Handling** Keep out of reach of children. Will irritate eyes and skin. Avoid contact with eyes and skin. Do not inhale spray mist. After use and before eating, drinking or smoking wash hands, arms and face thoroughly with soap and water. After each day's use wash gloves and contaminated clothing.

**Storage** Store in the closed original container in a cool well ventilated area. Do not store for prolonged periods in direct sunlight. Store in a locked room away from children, animals, food, animal feed, seed and fertilisers. Protect from frost.

8) EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Standards

TWA (mg/m <sup>3</sup> )	STEL (mg/m <sup>3</sup> )
Not set	Not set

Exposure limits have not been established by SWA for any of the significant ingredients in this product.

Exposure standard – **Time Weighted Average (TWA)** means the average airborne concentration of a particular substance when calculated over a normal eight hour working day, for a five-day working week.

**Short Term Exposure Limit (STEL)** means the exposure level 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

Biological Limit Values

None allocated

Engineering Controls

Control process conditions to avoid contact. Use in a well ventilated area only. If natural ventilation is inadequate, use of a fan is recommended.



## COLIN CAMPBELL (CHEMICALS) PTY. LTD.

### SAFETY DATA SHEET

Date of Issue: 1 December 2016

<b>Personal Protective Equipment</b>	Eyes:	Safety goggles. Eye wash bottle with pure water.
	Clothing:	Impervious overalls buttoned to the neck and wrists and a washable hat.
	Gloves:	Polyvinyl alcohol or nitrile-butyl-rubber gloves. Before removing gloves clean them with soap and water.
	Respiratory:	If inhalation is likely an AS/NZS 1715/1716 approved respirator should be worn.

#### 9) PHYSICAL AND CHEMICALS PROPERTIES

<b>Appearance, Odour and Colour:</b>	White liquid, no data re odour.
<b>Specific Gravity:</b>	5.5 – 7.5 (as supplied)
<b>Melting Point:</b>	Not applicable
<b>Solubility (water):</b>	Suspension
<b>Flash Point:</b>	No data
<b>Boiling Point:</b>	Approximately 100°C at 100kPa
<b>Vapour Pressure:</b>	2.37 kPa at 20°C (water vapour pressure)
<b>Vapour Density:</b>	No data
<b>Percent Volatiles:</b>	No data
<b>Flammability Limits:</b>	<b>UFL:</b> Not determined <b>LFL:</b> Not determined
<b>Autoignition Temperature:</b>	Not applicable – does not burn.
<b>Partition co-efficient, n-octanol/water</b>	No data

#### 10) STABILITY AND REACTIVITY

<b>Chemical stability:</b>	Stable under normal conditions of use and storage.
<b>Conditions to avoid:</b>	Protect this product from sunlight. Store in the original container in a dry, cool, well-ventilated area out of direct sunlight.
<b>Incompatible materials :</b>	Strong acids, strong bases, strong oxidising agents.
<b>Hazardous decomposition products:</b>	This product is unlikely to decompose only after heating to dryness, followed by further strong heating. Combustion forms carbon monoxide, carbon dioxide, and possibly smoke. Water is also formed. May form nitrogen and its compounds, and under some circumstances, oxides of nitrogen. Occasionally hydrogen cyanide gas in reducing atmospheres. May form oxides of sulphur (sulphur dioxide is a respiratory hazard) and other sulphur compounds. Most will have a foul odour. Zinc and manganese compounds. Carbon monoxide poisoning produced headache, weakness, nausea, dizziness, confusion, dimness of vision, disturbance of judgement, and unconsciousness followed by coma and death.
<b>Hazardous reactions:</b>	Stable under recommended storage conditions. No decomposition or hazardous polymerisation reactions if used as directed.



## COLIN CAMPBELL (CHEMICALS) PTY. LTD.

### SAFETY DATA SHEET

Date of Issue: 1 December 2016

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#### 10) TOXICOLOGICAL INFORMATION

<b>Inhalation :</b>	Available data show that this product is harmful. Symptoms may include headache, irritation of nose and throat and increased secretion of mucous in the nose and throat. Other symptoms may also become apparent, but they should disappear after exposure has ceased..
<b>Skin contact:</b>	Classified as a potential sensitiser by skin contact. Exposure to a skin sensitiser, once sensitisation has occurred, may manifest itself as skin rash or inflammation, and in some individuals this reaction can be severe. In addition product is a skin irritant. Symptoms may include itchiness and reddening of contacted skin. Other symptoms may also become evident, but should all disappear once exposure has ceased.
<b>Eye contact:</b>	Mancozeb is an eye irritant. Symptoms may include stinging and reddening of the eyes and watering which may become copious. Other symptoms may also become evident, but if exposure is brief should all disappear once exposure has ceased. However, lengthy exposure or delayed treatment may cause permanent damage.
<b>Ingestion:</b>	Significant oral exposure is considered to be unlikely. Available data show that this product is harmful, but symptoms are not available. However, this product is an oral irritant. Symptoms may include burning sensation and reddening of skin in mouth and throat. Other symptoms may also become evident, but should all disappear once exposure has ceased.
<b><u>Chronic toxicity:</u></b>	
<b>Mutagenicity:</b>	Evidence of mutagenicity is not conclusive.
<b>Teratogenicity:</b>	High doses are required to cause teratogenicity.
<b>Reproductive effects:</b>	Reproductive effects have been identified in test animals but at doses higher than humans would be expected to be exposed to.
<b>Carcinogenicity:</b>	No studies available for mancozeb. However, ETU (a mancozeb metabolite) has caused cancer in experimental animals at high doses. No significant ingredient is classified as carcinogenic by SWA, NTP or IARC
<b>Organ toxicity:</b>	The main target organ of mancozeb is the thyroid gland; the effects may be due to the metabolite ETU.
<b><u>Acute toxicity:</u></b>	Mancozeb is practically non-toxic orally and dermally. It is a mild skin irritant and sensitiser, and a mild to moderate eye irritant in rabbit. Workers with occupational exposure to mancozeb have developed sensitisation rashes. Mancozeb is rapidly absorbed into the body from the gastrointestinal tract, distributed to various target organs, and almost completely excreted in 96 hours. ETU is the major mancozeb metabolite of toxicological significance, with carbon disulphide as a minor metabolite.
<b>Oral toxicity (product):</b>	LD <sub>50</sub> rat >5000 to >11200 mg/kg



## COLIN CAMPBELL (CHEMICALS) PTY. LTD.

### SAFETY DATA SHEET

Date of Issue: 1 December 2016

**Dermal toxicity (product):** LD<sub>50</sub> rat >1000mg/kg  
LD<sub>50</sub> rabbit >5000mg/kg

**Sensitisation:** Skin sensitizer.

#### 11) ECOLOGICAL INFORMATION

Very toxic to aquatic organisms.

DO NOT contaminate streams, rivers or waterway with this product or the used containers.

**Ecotoxicity:**

**Mancozeb:**

**Birds**

Practically nontoxic to birds.

Oral LC<sub>50</sub>(10 day feeding)(Japanese quail) 3200ppm

Oral LC<sub>50</sub>(10 day feeding)(mallard duck) 6400ppm

**Fish toxicity:** Moderately to highly toxic to fish.

**Daphnia :** Highly toxic to Daphnia and aquatic organisms.

**Environmental fate,  
persistence and  
degradability,  
mobility**

Mancozeb is of low soil persistence, with a reported half-life of 1 to 7 days. Mancozeb rapidly and spontaneously degrades to ETU in the presence of water and oxygen. ETU may persist for longer, in the order of 5 to 10 weeks. Because mancozeb is practically insoluble in water, it is unlikely to infiltrate groundwater. Mancozeb degrades in water with a half-life of 1 to 2 days in slightly acidic to slightly alkaline conditions.

**Identified harmful  
effects on  
environment:**

This product is a marine pollutant for sea transport. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

**Other precautions:**

Do not contaminate dams, waterways or sewers with this product.

#### 12) DISPOSAL CONSIDERATIONS

This product should not be allowed to enter drains, water courses or the soil. Do not contaminate ponds, waterways or ditches with chemical or used containers. Triple or preferable pressure rinse containers before disposal. Add rinsings to the mixing tank. Do not dispose of undiluted chemical 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 500mm 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.



## COLIN CAMPBELL (CHEMICALS) PTY. LTD.

### SAFETY DATA SHEET

Date of Issue: 1 December 2016

#### 13) TRANSPORT INFORMATION

Not subject to the ADG Code when transported by road or rail in Australi, in packages 500kg(L) or less; or IBCs, but classed as Dangerous by IATA and IMDG/IMSBC when carried by air or sea transport (see details below).

**UN Number :** 3082  
**Correct shipping name :** ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Mancozeb)  
**Hazchem Code :** 3Z  
**Special provisions:** 179, 274, 331, 335, AU01  
**Limited quantities :** ADG 7 specifies a Limited Quantity value of 5L for this class of product.  
**Dangerous Goods Class :** Class 9 : Miscellaneous Dangerous Goods  
**Packing Group :** III  
**Packing Method :** P001, IBC03, LP01

#### 14) REGULATORY INFORMATION

Registered under the Agricultural and Veterinary Chemicals Act 1988 (Commonwealth) Australian Pesticides and Veterinary Medicines Authority approval number: 51918

#### 15) OTHER INFORMATION

Date of revision : 1 December 2016  
Reason for revision : Upgrading to GHS format.

This MSDS 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 MSDS and consider the information in the context of the how the product will be handled and used in the workplace including in conjunction with other products.

**END OF SDS**