

SAFETY DATA SHEET



DuPont™ ManKocide® DF® fungicide

Version 2.1

Revision Date 18.02.2015

Document no. 130000030100

This SDS adheres to the standards and regulatory requirements of Australia and may not meet the regulatory requirements in other countries.

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product name : DuPont™ ManKocide® DF® fungicide

Other names : Mankocide DF
B12262770
Copper Hydroxide: Metallic Copper Equivalent - 30%

Recommended use of the chemical and restriction on use

No information available.

Manufacturer, importer, supplier

Company : Du Pont (Australia) Pty Ltd
Street address : 7 Eden Park Drive
Macquarie Park NSW 2113
Australia
Telephone : (02) 9923 6111
Telefax : (02) 9923 6011

Emergency telephone number : (02) 9923 6275 (Transport Emergency)
(24 hr Emergency Medical Information: 1800 674 415)

2. HAZARDS IDENTIFICATION

Product hazard classification

Acute toxicity (Inhalation) : Category 4
Serious eye damage/eye irritation : Category 1
Skin sensitisation : Category 1
Carcinogenicity : Category 1B
Specific target organ toxicity - repeated exposure : Category 2 (Thyroid)
Acute aquatic toxicity : Category 1
Chronic aquatic toxicity : Category 1

Endpoints which are not classified, cannot be classified or are not applicable are not shown.

Label content

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Pictogram

:



Signal word

: Danger

Hazardous warnings

: May cause an allergic skin reaction.
 Causes serious eye damage.
 Harmful if inhaled.
 May cause cancer.
 May cause damage to organs through prolonged or repeated exposure. (Thyroid)
 Very toxic to aquatic life with long lasting effects.

Precautionary statements

: Obtain special instructions before use.
 Do not handle until all safety precautions have been read and understood.
 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
 Use only outdoors or in a well-ventilated area.
 Contaminated work clothing should not be allowed out of the workplace.
 Wear eye protection/ face protection.
 Wear protective gloves.
 Use personal protective equipment as required.
 IF ON SKIN: Wash with plenty of soap and water.
 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor/ physician.
 IF exposed or concerned: Get medical advice/ attention.
 If skin irritation or rash occurs: Get medical advice/ attention.
 Wash contaminated clothing before reuse.
 Collect spillage.
 Store locked up.
 Dispose of contents/ container to an approved waste disposal plant.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature

: Mixture

Components

Chemical Name

CAS-No.

Concentration

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Copper Hydroxide	20427-59-2	46.1 %
Mancozeb	8018-01-7	15 %
Other Ingredients		<=38.9%

4. FIRST AID MEASURES

If poisoning occurs, contact a doctor or Poisons Information Centre. In Australia 13 11 26.
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

- Inhalation** : Remove person to fresh air. If signs/symptoms continue, get medical attention. Artificial respiration and/or oxygen may be necessary.
- Skin contact** : Take off all contaminated clothing immediately. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
- 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 poison control center or doctor for treatment advice.
- Ingestion** : Call a poison control center or doctor for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless directed to do so by a physician or poison control center. Do not give anything by mouth to an unconscious person.
- Most important symptoms/effects, acute and delayed** : No information available.
- Protection of first-aiders** : No information available.
- Notes to physician** : Treat symptomatically.
Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIREFIGHTING MEASURES

- Suitable extinguishing media** : Water spray, Foam, Dry chemical, Carbon dioxide (CO2)
- Unsuitable extinguishing media** : High volume water jet, (contamination risk)
- Specific hazards** : No information available.
- Special protective equipment for firefighters** : Wear full protective clothing and self-contained breathing apparatus.
- Specific extinguishing methods** : No information available.

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Further information : Prevent fire extinguishing water from contaminating surface water or the ground water system. Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
(on small fires) If area is heavily exposed to fire and if conditions permit, let fire burn itself out since water may increase the area contaminated. Cool containers/tanks with water spray.

Hazchem Code : 2Z

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Control access to area. Keep people away from and upwind of spill/leak. Avoid dust formation. Avoid breathing dust. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

Environmental precautions : Prevent material from entering sewers, waterways, or low areas.

Methods and materials for containment and cleaning up : Clean-up methods - large spillage Avoid dust formation. Knock down dust with water spray jet. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).
If spill area is on ground near valuable plants or trees, remove 5 cm of top soil after initial clean-up.

Additional advice : Never return spills in original containers for re-use. Dispose of in accordance with local regulations.

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions : Avoid contact with skin, eyes and clothing. Do not breathe dust.

Precautions for safe handling : No information available.

Storage

Suitable storage conditions : Never allow product to become wet during storage. This may lead to chemical changes which will reduce the effectiveness of the product and create vapors which may be flammable. Store product in original container only, away from other pesticides, fertilizer, food or feed. Store in a well-ventilated area away from heat and sunlight. Keep locked up. Keep out of the reach of children.

Storage period: Storage temperature: < 30 °C

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

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Chemical Name	Occupational Exposure Limits	Regulation
Mancozeb		
TWA (as Mn)	1 mg/m ³ (Dust.)	AU NOEL (12 2011)

Engineering measures : Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery. Use sufficient ventilation to keep employee exposure below recommended limits.

Biological occupational exposure limits : No information available.

Personal protective equipment

Respiratory protection : Where there is potential for airborne exposures in excess of applicable limits, wear approved respiratory protection with dust/mist cartridge.

Hand protection : Material: Chemical-resistant gloves
Glove length: elbow length

Eye protection : Goggles, face shield, or safety glasses.

Skin protection : Wear cotton overalls buttoned to the neck and wrist (or equivalent clothing).

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, or using the toilet. Remove and wash contaminated clothing and gloves, including the inside, before re-use.

9. PHYSICAL AND CHEMICAL PROPERTIES
Appearance (Physical state, form, colour, etc.)

Physical state : solid
Form : granules
Colour : dark green

Odour : No information available.

Odour Threshold : No information available.

pH : 9.6

Melting point/freezing point

No information available.

Initial boiling point and boiling range

No information available.

Flash point : No information available.

Evaporation rate : No information available.

Flammability (solid, gas) : No information available.

Upper/lower flammability or explosive limits

Upper explosion limit : No information available.

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Lower explosion limit	:	No information available.
Vapour pressure	:	No information available.
Vapour density	:	No information available.
Density	:	
Density	:	0.5485 g/cm ³
Solubility(ies)	:	
Water solubility	:	No information available.
Partition coefficient: n-octanol/water	:	No information available.
Auto-ignition temperature	:	
No information available.		
Decomposition temperature	:	No information available.
Viscosity	:	
Viscosity, kinematic	:	No information available.
Molecular weight	:	No information available.

10. STABILITY AND REACTIVITY

Reactivity	:	No information available.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No dangerous reaction known under conditions of normal use. Polymerization will not occur.
Conditions to avoid	:	None reasonably foreseeable.
Materials to avoid	:	No information available.
Hazardous decomposition products	:	No information available.

11. TOXICOLOGICAL INFORMATION

Acute toxicity

Oral

DuPont™ ManKocide® DF® fungicide : LD50/Rat: 2,535 mg/kg

Inhalation

DuPont™ ManKocide® DF® fungicide : LC50/4 h/Rat(dust/mist): > 1.266 mg/l

Dermal

DuPont™ ManKocide® DF® fungicide : LD50/Rabbit: > 5,000 mg/kg

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Skin corrosion/irritation

DuPont™ ManKocide® DF® fungicide : Species: Rabbit
Result: No skin irritation

Serious eye damage/eye irritation

DuPont™ ManKocide® DF® fungicide : Species: Rabbit
Result: Severe eye irritation
Corrosive

Respiratory or skin sensitisation

DuPont™ ManKocide® DF® fungicide : Species: Guinea pig
Result: Animal test did not cause sensitization by skin contact.
Classification: Did not cause sensitisation on laboratory animals.

Germ cell mutagenicity

DuPont™ ManKocide® DF® fungicide : Did not cause genetic damage in cultured bacterial cells. Evidence suggests this substance does not cause genetic damage in cultured mammalian cells. Evidence suggests this substance does not cause genetic damage in animals. Active ingredient

Carcinogenicity

DuPont™ ManKocide® DF® fungicide : The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
Active ingredient
An increased incidence of tumours was observed in laboratory animals.

Reproductive toxicity

DuPont™ ManKocide® DF® fungicide : Reproductive toxicity: Animal testing showed no reproductive toxicity.
Active ingredient
Teratogenicity: The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.
Active ingredient
Teratogenicity: Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

Specific Target Organ Toxicity

No information available.

Aspiration hazard

No information available.

Other

DuPont™ ManKocide® DF® fungicide : Repeated dose toxicity:
The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions., Active ingredient
Inhalation/Rat
Thyroid effects
Oral - feed/Rat
Thyroid effects
Oral - feed/Dog
Thyroid effects

12. ECOLOGICAL INFORMATION

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Ecotoxicity effects

Acute and prolonged toxicity to fish

DuPont™ ManKocide® DF® fungicide : LC50/96 h/Oncorhynchus mykiss (rainbow trout): 0.073 mg/l
Active ingredient

Toxicity to aquatic plants

Copper Hydroxide : ErC50/72 h/Pseudokirchneriella subcapitata (green algae): 0.00939 mg/l
Mancozeb : ErC50/48 h/Pseudokirchneriella subcapitata (green algae): 0.43 mg/l

Acute toxicity to aquatic invertebrates

Mancozeb : EC50/48 h/Daphnia magna (Water flea): 0.073 mg/l

Chronic toxicity to fish

Copper Hydroxide : NOEC/90 d: 0.0017 mg/l

Chronic toxicity to aquatic Invertebrates

Copper Hydroxide : NOEC/21 d: 0.03 mg/l
Mancozeb : NOEC/21 d/Daphnia magna (Water flea): 0.0073 mg/l

Persistence and degradability

No information available.

Bioaccumulation

No information available.

Mobility in soil

No information available.

Other adverse effects

No information available.

13. DISPOSAL CONSIDERATIONS

Waste disposal methods : Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : DO NOT dispose of undiluted chemicals on-site. 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.

14. TRANSPORT INFORMATION

ADG

UN number : 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Mancozeb, Copper hydroxide)
Class : 9
Packing group : III
Hazchem Code : 2Z

IMDG

UN number : 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Mancozeb, Copper hydroxide)

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Class : 9
Packing group : III
Marine pollutant : yes (Mancozeb, Copper hydroxide)

IATA

UN number : 3077
Proper shipping name : ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S.
(Mancozeb, Copper hydroxide)
Class : 9
Packing group : III

Matters needing attention for transportation : Not dangerous goods under ADG code when being transported in IBCs or other receptacles < 500 kg (Special Provision AU01).
Marine Pollutants in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code and IATA special provision A197.

15. REGULATORY INFORMATION

SUSMP: Schedule 6
APVMA Number: 60482

16. OTHER INFORMATION

References

SDS Number: 130000030100

Revision Date/Version

Date of first preparation : 15.02.2010
Revision Date : 19.02.2015
Version : 2.1

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Significant change from previous version is denoted with a double bar.

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