



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

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

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1. Product identifier

Product name : MANCUR®

Synonyms : B11518294

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

Use of the Substance/Mixture : Fungicide

#### 1.3. Details of the supplier of the safety data sheet

Company : DuPont International Operations S.a.r.l.  
2, chemin du Pavillon  
CH-1218 Le Grand-Saconnex / GE  
Switzerland

Telephone : +41 (0) 22 717 51 11

Telefax : +41 (0) 22 717 51 09

E-mail address : sds-support@che.dupont.com

#### 1.4. Emergency telephone number

Emergency telephone number : +44 (0) 8456 006 640

Supplier : Du Pont de Nemours (France) S.A.S.  
82, rue de Wittelsheim  
F-68701 Cernay Cedex

Telephone : +33 (0) 3 89 38 38 38

### SECTION 2: Hazards identification

#### 2.1. Classification of the substance or mixture

##### Classification according to EU Directives 67/548/EEC or 1999/45/EC

Irritant	R36/37: Irritating to eyes and respiratory system.
Sensitising	R43: May cause sensitisation by skin contact.
Dangerous for the environment	R50/53: Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

##### Labelling according to EU Directives 67/548/EEC or 1999/45/EC

**MANCUR®**

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383



Harmful



Dangerous for  
the environment

R36/37  
R43  
R50/53

Irritating to eyes and respiratory system.  
May cause sensitisation by skin contact.  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Special labelling of certain substances and mixtures

To avoid risks to man and the environment, comply with the instructions for use.

S 2

Keep out of the reach of children.

S22

Do not breathe dust.

S24

Avoid contact with skin.

S25

Avoid contact with eyes.

S26

In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S35

This material and its container must be disposed of in a safe way.

S36/37/39

Wear suitable protective clothing, gloves and eye/face protection.

S46

If swallowed, seek medical advice immediately and show this container or label.

S56

Dispose of this material and its container to hazardous or special waste collection point.

**2.3. Other hazards**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).  
This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**SECTION 3: Composition/information on ingredients**

**3.1. Substances**

not applicable

**3.2. Mixtures**

Classification according to Directive 67/548/EEC	Classification according to Regulation (EU) 1272/2008 (CLP)	Concentration
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**Mancozeb (CAS-No.8018-01-7)**

Repr.Cat.3;R63 R43 N;R50	Repr. 2; H361 Skin Sens. 1; H317 Aquatic Acute 1; H400	57,2 %
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**Cymoxanil (CAS-No.57966-95-7) (EC-No.261-043-0)**

Xn;R22 R43 N;R50/53	Acute Tox. 4; H302 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410	14,2 %
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**MANCUR®**

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

**Citric acid (CAS-No.77-92-9) (EC-No.201-069-1)**

Xi;R36/38	Skin Irrit. 2; H315 Eye Irrit. 2; H319	>= 1 - < 5 %
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**Sodium diisopropylnaphthalenesulphonate (CAS-No.1322-93-6) (EC-No.215-343-3)**

Xn;R22 Xi;R36/37/38 Xn;R20	Acute Tox. 4; H302 Acute Tox. 4; H332 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335	>= 1 - < 5 %
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For the full text of the R-phrases mentioned in this Section, see Section 16.  
For the full text of the H-Statements mentioned in this Section, see Section 16.

**SECTION 4: First aid measures**

**4.1. Description of first aid measures**

- General advice : Never give anything by mouth to an unconscious person.
- || Inhalation : Move to fresh air. Consult a physician after significant exposure. Artificial respiration and/or oxygen may be necessary.
- Skin contact : Take off contaminated clothing and shoes immediately. Wash off immediately with soap and plenty of water. In the case of skin irritation or allergic reactions see a physician. Wash contaminated clothing before re-use.
- || Eye contact : If easy to do, remove contact lens, if worn. Hold eye open and rinse slowly and gently with water for 15-20 minutes. If eye irritation persists, consult a specialist.
- || Ingestion : Obtain medical attention. DO NOT induce vomiting unless directed to do so by a physician or poison control center. If victim is conscious: Rinse mouth with water.

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

- || Symptoms : Skin contact may provoke the following symptoms:, Erythema, Dermatitis, Sensitisation, Irritation
- || : Eye contact may provoke the following symptoms:, Conjunctivitis.
- || : Ingestion may provoke the following symptoms:, Nausea, Vomiting, Diarrhoea, Gastrointestinal discomfort
- || : Inhalation may provoke the following symptoms:, Asthmatic appearance, Irritation, sensitising effects
- || : Central nervous system depression, Headache, Lack of coordination, Disorientation, More severe effects if alcohol is consumed.

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



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

|| Treatment : Treat symptomatically.

### SECTION 5: Firefighting measures

#### 5.1. Extinguishing media

Suitable extinguishing media : Water spray, Dry chemical, Foam, Carbon dioxide (CO<sub>2</sub>)

Extinguishing media which shall not be used for safety reasons : High volume water jet, (contamination risk)

#### 5.2. Special hazards arising from the substance or mixture

Specific hazards during firefighting : Hazardous decomposition products formed under fire conditions. Carbon dioxide (CO<sub>2</sub>) nitrogen oxides (NO<sub>x</sub>)

#### 5.3. Advice for firefighters

|| Special protective equipment for firefighters : Wear full protective clothing and self-contained breathing apparatus.

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.

### SECTION 6: Accidental release measures

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

Personal precautions : Evacuate personnel to safe areas. Control access to area. Avoid dust formation. Avoid breathing dust. Avoid contact with the skin and the eyes. Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.

#### 6.2. Environmental precautions

Environmental precautions : Prevent further leakage or spillage if safe to do so. Use appropriate container to avoid environmental contamination. Do not flush into surface water or sanitary sewer system. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained. If the spill area is porous, the contaminated material must be collected for subsequent treatment or disposal. 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-up methods - small spillage Sweep up or vacuum up spillage and collect in suitable container for disposal.  
Clean-up methods - large spillage Prevent further leakage or spillage. Avoid dust formation. Contain spillage, pick up with an electrically protected vacuum



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

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

### 6.4. Reference to other sections

|| For personal protection see section 8. For disposal instructions see section 13.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Advice on safe handling : Use only according to our recommendations. Use only clean equipment. Avoid contact with skin, eyes and clothing. Do not breathe dust or spray mist. Wear personal protective equipment. For personal protection see section 8. Prepare the working solution as given on the label(s) and/or the user instructions. Use prepared working solution as soon as possible - Do not store. Provide appropriate exhaust ventilation at places where dust is formed. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Avoid exceeding of the given occupational exposure limits (see section 8).

Advice on protection against fire and explosion : Keep away from heat and sources of ignition. Avoid dust formation in confined areas. During processing, dust may form explosive mixture in air.

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

Requirements for storage areas and containers : Store in original container. Keep in properly labelled containers. Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Keep out of the reach of children. Keep away from food, drink and animal feedingstuffs.

|| Advice on common storage : No special restrictions on storage with other products. Do not store near acids.

Storage temperature : < 49 °C

Other data : Stable under recommended storage conditions.

### 7.3. Specific end use(s)

|| Plant protection products subject to Regulation (EC) No 1107/2009.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

If sub-section is empty then no values are applicable.

### 8.2. Exposure controls

Engineering measures : Ensure adequate ventilation, especially in confined areas. Provide for appropriate exhaust ventilation and dust collection at machinery. Contains no substances with occupational exposure limit values.



**MANCUR®**

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

- Eye protection : Safety glasses with side-shields conforming to EN166
- Hand protection : Material: Nitrile rubber  
Glove thickness: 0,4 - 0,7 mm  
Glove length: Gauntlets of 35 cm long or longer.  
Protection index: Class 6  
Wearing time: > 480 min  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it. 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. The suitability for a specific workplace should be discussed with the producers of the protective gloves. The break through time depends amongst other things on the material, the thickness and the type of glove and therefore has to be measured for each case. The exact break through time can be obtained from the protective glove producer and this has to be observed. Gloves must be inspected prior to use. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. Gauntlets of 35 cm long or longer shall be worn over the combination sleeve. Before removing gloves clean them with soap and water.
- Skin and body protection : Manufacturing and processing work: Full protective clothing Type 5 (EN 13982-2) Mixer and loaders must wear: Full protective clothing Type 5 + 6 (EN ISO 13982-2 / EN 13034) Rubber apron Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Spray application - outdoor: Tractor / sprayer with hood: No personal body protection normally required. Tractor / sprayer without hood: Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Low application (horticulture, field crops): Full protective clothing Type 6 (EN 13034) Middle-height application (vegetables, viticulture): Full protective clothing Type 4 (EN 14605) Backpack / knapsack sprayer: Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Low application (horticulture, field crops): Full protective clothing Type 6 (EN 13034) Middle-height application (vegetables, viticulture): Full protective clothing Type 4 (EN 14605) When exceptional circumstances require an access to the treated area before the end of re-entry periods, wear full protective clothing Type 6 (EN 13034), nitrile rubber gloves class 3 (EN 374) and nitrile rubber boots (EN 13832-3 / EN ISO 20345).
- To optimize the ergonomics it may be recommended to use cotton underwear when wearing some fabrics. Take advice from supplier.  
Garment materials that are resistant to both water vapour and air will maximise wearing comfort. Materials should be robust to maintain the integrity and barrier in use.  
The permeation resistance of the fabric must be verified independently of the « type » protection recommended, to ensure an appropriate performance level of the material adequate to the corresponding agent and type of exposure.
- Protective measures : The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace. All chemical protective clothing should be visually inspected prior to use. Clothing and gloves should be replaced in case of chemical or physical damage or if contaminated. Only protected handlers may be in the area during application.



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

- Hygiene measures : Handle in accordance with good industrial hygiene and safety practice. Regular cleaning of equipment, work area and clothing. Keep working clothes separately. Contaminated work clothing should not be allowed out of the workplace. Wash hands and face before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink and animal feedingstuffs. For environmental protection remove and wash all contaminated protective equipment before re-use. Remove clothing/PPE immediately if material gets inside. Wash thoroughly and put on clean clothing. Dispose of rinse water in accordance with local and national regulations.
- Respiratory protection : Manufacturing and processing work: Half mask with a particle filter FFP1 (EN149) Mixer and loaders must wear: Half mask with a particle filter FFP1 (EN149) Spray application - outdoor: Tractor / sprayer with hood: No personal respiratory protective equipment normally required. Tractor / sprayer without hood: Low application (horticulture, field crops): Half mask with a particle filter FFP1 (EN149) Middle-height application (vegetables, viticulture): Half mask with a particle filter P2 (EN 143). Backpack / knapsack sprayer: Low application (horticulture, field crops): Half mask with a particle filter FFP1 (EN149) Middle-height application (vegetables, viticulture): Half mask with a particle filter P2 (EN 143). Mechanical automatized spray application in closed tunnel: No personal respiratory protective equipment normally required.

### SECTION 9: Physical and chemical properties

#### 9.1. Information on basic physical and chemical properties

Form : solid, wettable powder

Colour : yellow

Odour : none

Odour Threshold : not determined

pH : 3,5 - 5,5 at 10 g/l ( 25 °C)

Melting point : no data available

Flash point : not applicable

Thermal decomposition : Decomposes before melting.

Auto-ignition temperature : no data available

Explosive properties : Not explosive

Lower explosion limit/ lower flammability limit : no data available

Upper explosion limit/ upper flammability limit : no data available

Bulk density : 250 - 450 kg/m<sup>3</sup>

Water solubility : dispersible



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

### 9.2. Other information

|| Phys.-chem./other information : No other data to be specially mentioned.

## SECTION 10: Stability and reactivity

|| 10.1. Reactivity : No hazards to be specially mentioned.

|| 10.2. Chemical stability : The product is chemically stable under recommended conditions of storage, use and temperature.

10.3. Possibility of hazardous reactions : Decomposes slowly on exposure to water. Polymerization will not occur. No decomposition if stored and applied as directed.

10.4. Conditions to avoid : Temperature : > 49 °C Heating can release hazardous gases. To avoid thermal decomposition, do not overheat. Under severe dusting conditions, this material may form explosive mixtures in air.

10.5. Incompatible materials : Incompatible with acids.

10.6. Hazardous decomposition products : Sulphur compounds  
Hydrogen cyanide (hydrocyanic acid)

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

#### Acute oral toxicity

- Mancozeb  
LD50 / rat : > 5 000 mg/kg
- Cymoxanil  
LD50 / rat : 960 mg/kg

#### Acute inhalation toxicity

- Mancozeb  
LC50 / 4 h rat : > 5,14 mg/l
- Cymoxanil  
LC50 / 4 h rat : > 5,06 mg/l

#### Acute dermal toxicity

- Mancozeb  
LD50 / rabbit : > 5 000 mg/kg
- Cymoxanil  
LD50 / rabbit : > 2 000 mg/kg

#### Skin irritation

- Mancozeb





**MANCUR®**

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

rabbit

Result: No skin irritation

- Cymoxanil

rabbit

Result: No skin irritation

Eye irritation

- Mancozeb

rabbit

Result: No eye irritation

- Cymoxanil

rabbit

Result: No eye irritation

Sensitisation

- Mancozeb

guinea pig

Result: Causes sensitisation.

- Cymoxanil

guinea pig

Result: Causes sensitisation.

Repeated dose toxicity

- Mancozeb

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Inhalation rat

Thyroid effects

Oral - feed rat

Thyroid effects

Oral - feed dog

Thyroid effects

- Cymoxanil

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions.

Oral multiple species

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions., altered blood chemistry

Mutagenicity assessment

- Mancozeb



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

Animal testing did not show any mutagenic effects.

- Cymoxanil  
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

### Carcinogenicity assessment

- Mancozeb  
The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. An increased incidence of tumours was observed in laboratory animals.
- Cymoxanil  
Not classifiable as a human carcinogen.

### Toxicity to reproduction assessment

- Mancozeb  
Suspected human reproductive toxicant
- Cymoxanil  
No toxicity to reproduction

### Assessment teratogenicity

- Mancozeb  
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.
- Cymoxanil  
Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

### Further information

There is no data available for this product.

## SECTION 12: Ecological information

### 12.1. Toxicity

#### Toxicity to fish

- Mancozeb  
LC50 / 96 h / *Lepomis macrochirus* (Bluegill sunfish): 1,63 mg/l
- Cymoxanil  
LC50 / 96 h / *Lepomis macrochirus* (Bluegill sunfish): 29 mg/l

#### Toxicity to aquatic plants

- Mancozeb  
ErC50 / 48 h / *Pseudokirchneriella subcapitata* (green algae): 0,43 mg/l
- Cymoxanil



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

ErC50 / 72 h / Pseudokirchneriella subcapitata (green algae): 2,39 mg/l

### Toxicity to aquatic invertebrates

- Mancozeb  
EC50 / 48 h / Daphnia magna (Water flea): 0,073 mg/l
- Cymoxanil  
EC50 / 48 h / Daphnia magna (Water flea): 27 mg/l

### Chronic toxicity to fish

- Mancozeb  
NOEC / 34 d / Cyprinodon sp. (minnow): 0,00219 mg/l
- Cymoxanil  
NOEC / 97 d / Oncorhynchus mykiss (rainbow trout): 0,00098 mg/l

### Chronic toxicity to aquatic Invertebrates

- Mancozeb  
NOEC / 21 d / Daphnia magna (Water flea): 0,0073 mg/l
- Cymoxanil  
EC50 / 21 d / Daphnia magna (Water flea): 0,73 mg/l  
NOEC / 21 d / Daphnia magna (Water flea): 0,067 mg/l

## 12.2. Persistence and degradability

### Biodegradability

- Mancozeb  
Not readily biodegradable.
- Cymoxanil  
According to the results of tests of biodegradability this product is not readily biodegradable.

## 12.3. Bioaccumulative potential

### Bioaccumulation

- Mancozeb  
Does not bioaccumulate.
- Cymoxanil  
Does not bioaccumulate.

## 12.4. Mobility in soil

no data available

## 12.5. Results of PBT and vPvB assessment



**MANCUR®**

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

**PBT and vPvB assessment**

This mixture contains no substance considered to be persistent, bioaccumulating nor toxic (PBT). / This mixture contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

**12.6. Other adverse effects**

**Additional ecological information**

No data is available on the product itself. Information given is based on data on the components and the ecotoxicology of similar products.

|| No other ecological effects to be specially mentioned See product label for additional application instructions relating to environmental precautions.

**SECTION 13: Disposal considerations**

**13.1. Waste treatment methods**

Product : In accordance with local and national regulations. Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities. Do not contaminate ponds, waterways or ditches with chemical or used container.

Contaminated packaging : Do not re-use empty containers.

**SECTION 14: Transport information**

**ADR**

14.1. UN number: 3077  
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cymoxanil, Mancozeb)  
14.3. Transport hazard class(es): 9  
14.4. Packing group: III  
14.5. Environmental hazards: Environmentally hazardous  
14.6. Special precautions for user:  
Tunnel restriction code: (E)

**IATA\_C**

14.1. UN number: 3077  
14.2. UN proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Cymoxanil, Mancozeb)  
14.3. Transport hazard class(es): 9  
14.4. Packing group: III  
14.5. Environmental hazards : Environmentally hazardous  
14.6. Special precautions for user:  
DuPont internal recommendations and transport guidance: ICAO / IATA cargo aircraft only

**IMDG**

14.1. UN number: 3077  
14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Cymoxanil, Mancozeb)  
14.3. Transport hazard class(es): 9  
14.4. Packing group: III  
14.5. Environmental hazards : Marine pollutant  
14.6. Special precautions for user:



## MANCUR®

Version 3.1

Revision Date 23.05.2013

Ref. 130000000383

no data available

**14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code**  
not applicable

### SECTION 15: Regulatory information

#### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Other regulations : The mixture is classified as dangerous in accordance with Directive 1999/45/EC.

### SECTION 16: Other information

#### Text of R-phrases mentioned in Section 3

R20	Harmful by inhalation.
R22	Harmful if swallowed.
R36/37/38	Irritating to eyes, respiratory system and skin.
R36/38	Irritating to eyes and skin.
R43	May cause sensitisation by skin contact.
R50	Very toxic to aquatic organisms.
R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
R63	Possible risk of harm to the unborn child.

#### Full text of H-Statements referred to under section 3.

H302	Harmful if swallowed.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious 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.
H410	Very toxic to aquatic life with long lasting effects.

Other information professional use

#### Further information

® DuPont's registered trademark, Take notice of the directions of use on the label.

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

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The above information relates only to the specific material(s) designated herein and may not be valid for such material(s) used in combination with any other materials or in any process or if the material is altered or processed, unless specified in the text.