



## SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

**Pentangle**

Version 4 (UK)

Issuing date: 2012/04/17

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

#### 1.1. Product identifier

Trade name : **Pentangle**

#### 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

Nufarm UK Limited  
Wyke Lane  
Wyke  
Bradford  
West Yorkshire BD12 9EJ  
United Kingdom  
Telephone: +44 (0)1274 691234  
Telefax: +44 (0)1274 691176  
E-mail address: infouk@uk.nufarm.com

#### 1.4. Emergency telephone number

**+44 (0)1274 696603**

### 2. HAZARDS IDENTIFICATION

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

EEC/99/45 :	T+	R26 - Very toxic by inhalation.
	Xi	R37 - Irritating to respiratory system.
	Xn	R40 - Limited evidence of a carcinogenic effect.
	Xi	R41 - Risk of serious damage to eyes.
	Xi	R43 - May cause sensitization by skin contact.
	Xn	R63 - Possible risk of harm to the unborn child.
	N	R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

#### 2.2. Label elements

according directive 1999/45/EG

Pictogram:



T+



N

- R26 - Very toxic by inhalation.  
 R37 - Irritating to respiratory system.  
 R40 - Limited evidence of a carcinogenic effect.  
 R41 - Risk of serious damage to eyes.  
 R43 - May cause sensitization by skin contact.  
 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.
- S23 - Do not breathe spray.  
 S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
 S28 - After contact with skin, wash immediately with plenty of .?.  
 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.  
 S38 - In case of insufficient ventilation, wear suitable respiratory equipment.  
 S45 - In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
 S57 - Use appropriate container to avoid environmental contamination.

### 2.3. Other hazards

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

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Chemical nature** : suspension concentrate (SC)  
 Chlorothalonil 500g/L and Tebuconazole 180g/L

### 3.2. Mixtures

Components	CAS-No.	EINECS-No. ELINCS No.	REACH No.	Symbol(s) R-phrase(s)	Concentration (w/w)
Chlorothalonil	1897-45-6	217-588-1		T+, N R26, R37, R40, R41, R43, R50/53	39.4 %
Tebuconazole	107534-96-3	403-640-2		N, Xn R22, R51/53, R63	14.2 %
Propane-1,2-diol	57-55-6	200-338-0	01- 2119456809-23	n.c.	1% - 5%



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### 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

- Eye contact : Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Obtain medical attention.
- Skin contact : Take off all contaminated clothing immediately. Wash off immediately with soap and plenty of water. If symptoms persist, call a physician. Wash contaminated clothing before re-use.
- Inhalation : Move to fresh air. Keep at rest. Obtain medical attention.
- Ingestion : Do NOT induce vomiting. Rinse mouth. If conscious, drink plenty of water. If symptoms persist, call a physician.

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

- Symptoms : No information available.

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

- Treatment : Treat symptomatically.

### 5. FIRE-FIGHTING MEASURES

#### 5.1. Extinguishing media

- Suitable extinguishing media : Water spray, Carbon dioxide (CO<sub>2</sub>), Dry powder, Alcohol-resistant foam
- Extinguishing media which shall not be used for safety reasons : High volume water jet

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

- Specific hazards during fire fighting : In the event of fire (NO<sub>x</sub>, CO<sub>x</sub>, HCl, Cl<sub>2</sub>, HCN) may be formed.

#### 5.3. Advice for firefighters

- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
- Further Information : Standard procedure for chemical fires. Collect contaminated



fire extinguishing water separately. This must not be discharged into drains.

## 6. ACCIDENTAL RELEASE MEASURES

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

Wear personal protective equipment. (see Chapter 8)

### 6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

### 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). Sweep up and shovel into suitable containers for disposal.

Additional advice : Never return spills in original containers for re-use.

### 6.4. Reference to other sections

see Chapter 13

## 7. HANDLING AND STORAGE

### 7.1. Precautions for safe handling

Safe handling advice : Wear personal protective equipment.

### 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 cool, well-ventilated place.

Advice on common storage : Keep out of reach of children. Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end uses

none

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1. Control parameters



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Components with workplace control parameters  
(EH40/2005 Workplace exposure limits)

Components	CAS-No.	National occupational exposure limits	Note
Chlorothalonil	1897-45-6		no classification available
Tebuconazole	107534-96-3		no classification available
Propane-1,2-diol	57-55-6	474 mg/m <sup>3</sup>	Vapour and particulates

## 8.2. Exposure controls

### Personal protective equipment

- Respiratory protection : In case of insufficient ventilation wear suitable respiratory equipment.
- Hand protection : PVC or nitrile-rubber gloves
- Eye protection : Safety glasses, , or:, Goggles
- Skin and body protection : lightweight protective clothing
- Hygiene measures : Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and immediately after handling the product. When using, do not eat, drink or smoke.
- Protective measures : Avoid contact with skin, eyes and clothing. Keep working clothes separately.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

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

#### Appearance

- Physical state : liquid
- Form : suspension concentrate (SC)
- Colour : off-white
- Odour : sweet

Flash point : > 65 °C

Density : ca.1.27 g/cm<sup>3</sup>  
at 20 °C

Partition coefficient: n-  
octanol/water : log POW = 2.92  
(lChlorothalonil)



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log POW = 3.7  
at 20 °C

(Tebuconazole)

Surface tension : 33.4 mN/m  
at 20 °C

## 9.2. Other information

none

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

no data available

### 10.2. Chemical stability

No decomposition if stored and applied as directed.

### 10.3. Possibility of hazardous reactions

No dangerous reaction known under conditions of normal use.

### 10.4. Conditions to avoid

No dangerous reaction known under conditions of normal use.

### 10.5. Incompatible materials to avoid

Strong acids and strong bases

### 10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

## 11. TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

Acute oral toxicity : LD50 rat  
Dose: > 5,000 mg/kg  
Test substance: (Chlorothalonil)



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LD50 rat  
Dose: 3,776 mg/kg  
Test substance: (Tebuconazole)

Acute dermal toxicity : LD50 rat  
Dose: > 5,000 mg/kg  
Test substance: (Chlorothalonil)

LD50 rat  
Dose: > 2,000 mg/kg  
Test substance: (Tebuconazole)

Acute inhalation toxicity : **LC50 rat**  
Dose: **0.1 mg/l**  
Test substance: (**Chlorothalonil**)

LC50  
Exposure time: 4 h  
Dose: > 10.04 mg/l  
Test substance: (Tebuconazole)

Skin irritation : Classification: No skin irritation

Eye irritation : Classification: Risk of serious damage to eyes.

Sensitisation : Classification: May cause sensitization by skin contact.

## 12. ECOLOGICAL INFORMATION

### 12.1. Toxicity

Toxicity to fish : LC50  
Dose: 0.047 mg/l  
Testing period: 96 h  
Test substance: (Chlorothalonil)

LC50  
Dose: 4.4 mg/l  
Testing period: 96 h  
Test substance: (Tebuconazole)



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Toxicity to daphnia : EC50  
Dose: 0.07 mg/l  
Test substance: (Chlorothalonil)

EC50  
Dose: 4.2 mg/l  
Testing period: 48 h  
Test substance: (Tebuconazole)

Toxicity to algae : EC50  
Dose: 0.13 mg/l  
Test substance: (Chlorothalonil)

EC50  
Dose: 3.8 mg/l  
Exposure time: 72 h  
Test substance: (Tebuconazole)

### 12.2. Persistence and degradability

Biodegradability : Not readily biodegradable.  
Test substance: (Tebuconazole)

Not readily biodegradable.  
Test substance: (Chlorothalonil)

### 12.3. Potential bioaccumulation

Bioaccumulation : Does not bioaccumulate.

### 12.4. Mobility in soil

K<sub>foc</sub> = 769 ml/g, 1/n=0.84 (Tebuconazol, arithmetic mean from 9 data sets)  
K<sub>oc</sub> = 300 - 7000 l/kg (Chlorothalonil)

### 12.5. Results of PBT and vPvB assessment

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

### 12.6. Other adverse effects

none



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### 13. DISPOSAL CONSIDERATIONS

According to European Directive 2000/532/EC as amended :

Waste Code : 02 01 08 (agrochemical waste containing dangerous substances)

#### 13.1. Waste treatment methods

Product : Dispose of product and packaging in accordance with The Green Code. (The Code of Practice for the safe use of Pesticides on Farms and Holdings.) A MAFF Publication.

Contaminated packaging : Do not dispose with household waste. Do not re-use empty containers. Dispose at licensed waste disposal site capable of accepting pesticides in compliance with applicable regulations. according to EC directive 94/62/EC

### 14. TRANSPORT INFORMATION

#### 14.1. UN number

UN2902

#### 14.2. Proper shipping name

UN2902 PESTICIDE, LIQUID, TOXIC, N.O.S.\*(Chlorothalonil)

#### 14.3. Transport hazard class(es)

ADR/RID :  
Class : 6.1

IMDG :  
Class : 6.1

IATA-DGR :  
Class : 6.1

#### 14.4. Packaging group

ADR/RID : II

IMDG : II



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IATA-DGR : II

### 14.5. Environmental hazards

**IMDG**  
Marine pollutant : Y

### 14.6. Special precautions for user

none

## 15. REGULATORY INFORMATION

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

Other regulations : The product is classified and labelled in accordance with EC directives or respective national laws.

### 15.2. Chemical Safety Assessment

none

## 16. OTHER INFORMATION

Print Date : 2012/04/17

The date format YYYY/MM/DD is used according to ISO 8601.  
(Alterations are indicated in the left hand margin by: || )

Full text of R-phrases referred to under sections 2 and 3

- R26 - Very toxic by inhalation.
- R37 - Irritating to respiratory system.
- R40 - Limited evidence of a carcinogenic effect.
- R41 - Risk of serious damage to eyes.
- R43 - May cause sensitization by skin contact.
- R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R22 - Harmful if swallowed.
- R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R63 - Possible risk of harm to the unborn child.
- n.c. - This chemical substance is not classified in the Annex VI of Regulation (EC) No 1272/2008.



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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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

The information contained herein is based on the present state of our knowledge and does therefore not guarantee certain properties.