



SAFETY DATA SHEET

according to regulation (EC) no 1907/2006

Pentangle

Version 2 (UK)

Issue date 11/03/2009

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

Product information

Trade name : **Pentangle**

Usage : fungicide

Company : Nufarm UK Limited
Wyke Lane
Wyke
Bradford
West Yorkshire BD12 9EJ
United Kingdom

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2. HAZARDS IDENTIFICATION

Very toxic by inhalation.
Irritating to respiratory system.
Risk of serious damage to eyes.
May cause sensitization by skin contact.
Limited evidence of a carcinogenic effect.
Possible risk of harm to the unborn child.
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

3. COMPOSITION/INFORMATION ON INGREDIENTS

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

Components	CAS-No.	EINECS-No. ELINCS-No.	Symbol(s)	R-phrases(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		n.c.	1% - 5%

4. 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,



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- Inhalation : call a physician. Wash contaminated clothing before re-use.
: 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.

Notes to physician

- Treatment : Treat symptomatically.

5. FIRE-FIGHTING MEASURES

- Specific hazards during fire fighting : In the event of fire (NO_x,CO_x,HCl,Cl₂,HCN) may be formed.
- Special protective equipment for fire-fighters : Use personal protective equipment. Wear self contained breathing apparatus for fire fighting if necessary.
- Suitable extinguishing media : Water spray, Carbon dioxide (CO₂), Dry powder, Alcohol-resistant foam
- Extinguishing media which shall not be used for safety reasons : High volume water jet
- Further information : Standard procedure for chemical fires. Collect contaminated fire extinguishing water separately. This must not be discharged into drains.

6. ACCIDENTAL RELEASE MEASURES

- Personal precautions : Wear personal protective equipment. (see Chapter 8)
- Environmental precautions : Do not flush into surface water or sanitary sewer system.
- 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.

7. HANDLING AND STORAGE

Handling

- Safe handling advice : Wear personal protective equipment.

Storage



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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.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

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

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

Appearance

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

Other data

Flash point : > 65 °C

Density : ca.1.27 g/cm³



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Partition coefficient: n-octanol/water : log POW = 2.92
at 20 °C
(IChlorothalonil)

log POW = 3.7
at 20 °C

(Tebuconazole)

Surface tension : 33.4 mN/m
at 20 °C

10. STABILITY AND REACTIVITY

Thermal decomposition : No decomposition if stored and applied as directed.

Conditions to avoid : No dangerous reaction known under conditions of normal use.

Materials to avoid : Strong acids and strong bases

11. TOXICOLOGICAL INFORMATION

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

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
Exposure time: 4 h
Dose: 0.1 mg/l



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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

Ecotoxicity effects

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)

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)



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13. DISPOSAL CONSIDERATIONS

- 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
- According to European Directive 2000/532/EC as amended :
Waste Key Number : 02 01 08 (agrochemical waste containing dangerous substances)

14. TRANSPORT INFORMATION

- UN-Number : **3082**
- Description of the goods : UN3082 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.*(Chlorothalonil)
- ADR/RID**
- Class : 9
Packaging group : III
- IMDG**
- Class : 9
Packaging group : III
Marine pollutant : Y
- IATA-DGR**
- Class : 9
Packaging group : III



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15. REGULATORY INFORMATION

Symbol(s)	: T+ N	Very toxic Dangerous for the environment
R-phrase(s)	: R26 R37 R40 R41 R43 R50/53 R63	Very toxic by inhalation. Irritating to respiratory system. Limited evidence of a carcinogenic effect. Risk of serious damage to eyes. May cause sensitization by skin contact. Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child.
S-phrase(s)	: S23 S26 S28 S35 S36/37/39 S38 S45 S57	Do not breathe spray. In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. After contact with skin, wash immediately with plenty of .?. This material and its container must be disposed of in a safe way. Wear suitable protective clothing, gloves and eye/face protection. In case of insufficient ventilation, wear suitable respiratory equipment. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Use appropriate container to avoid environmental contamination.
Other regulations	: The product is classified and labelled in accordance with EC directives or respective national laws.	

16. OTHER INFORMATION

Print Date : 03/11/2009

(Alterations are indicated in the left hand margin by: ||)

Full text of any R phrases referred to under heading 3:

- R26 - Very toxic by inhalation.
- R37 - Irritating to respiratory system.



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- 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.

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.