



VERTISAN®

Version 3.0

Revision Date 08.08.2013

Ref. 130000036424

This Safety Data Sheet adheres to the standards and regulatory requirements of Great Britain and may not meet the regulatory requirements in other countries.

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

1.1. Product identifier

Product name : VERTISAN®
Synonyms : B12894144
DPX-LEM17 200 g/L EC

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 : Du Pont (UK) Limited
Wedgwood Way
Stevenage, Herts. SG1 4QN
United Kingdom
Telephone : +44 (0) 1438 734 000
E-mail address : sds-support@che.dupont.com

1.4. Emergency telephone number

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

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Serious eye damage/eye irritation, Category 2	H319: Causes serious eye irritation.
Skin sensitisation, Category 1	H317: May cause an allergic skin reaction.
Acute aquatic toxicity, Category 1	H400: Very toxic to aquatic life.
Chronic aquatic toxicity, Category 2	H411: Toxic to aquatic life with long lasting effects.
Irritant	R36: Irritating to eyes.
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



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Exclamation mark



Environment

Warning

- H319 Causes serious eye irritation.
- H317 May cause an allergic skin reaction.
- H400 Very toxic to aquatic life.
- H411 Toxic to aquatic life with long lasting effects.

Special labelling of certain substances and mixtures EUH401: To avoid risks to human health and the environment, comply with the instructions for use.,

- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P302 + P352 IF ON SKIN: Wash with plenty of soap and water.
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- P337 + P313 If eye irritation persists: Get medical advice/ attention.
- P362 Take off contaminated clothing and wash before reuse.
- P391 Collect spillage.
- P501 Dispose of contents/ container to an approved waste disposal plant.

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

Registration number	Classification according to Directive 67/548/EEC	Classification according to Regulation (EU) 1272/2008 (CLP)	Concentration
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Penthiopyrad (CAS-No.183675-82-3)

	N;R50/53	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	20.6 %
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The above products are REACH compliant; Registration number(s) may not be provided because substance(s) are exempted, not yet registered under REACH or are registered under another regulatory process (biocide uses, plant protection products), etc.



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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. For specialist advice physicians should contact the National Poisons Information Service: Tel. 111 for England and Wales and Tel. 08454 24 24 24 for Scotland.
- Inhalation : Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician after significant exposure.
- Skin contact : Take off all contaminated clothing immediately. Wash off with soap and 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 : No cases of human intoxication are known and the symptoms of experimental intoxication are not known.

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

- Treatment : Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

- Suitable extinguishing media : Water spray, Dry chemical, Carbon dioxide (CO₂), Foam

- 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 (CO₂) nitrogen oxides

5.3. Advice for firefighters

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



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for firefighters

- 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
- : Control access to area. Keep people away from and upwind of spill/leak. Ventilate spill area. Take precautionary measures against static discharges. Avoid contact with skin, eyes and clothing. 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 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 Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.
 - : Clean-up methods - large spillage Prevent further leakage or spillage. Contain spillage, soak up with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and transfer to a container for disposal according to local / national regulations (see section 13). Large spills should be collected mechanically (remove by pumping) for disposal. Collect leaking liquid in sealable (metal/plastic) containers. Collect and contain contaminated absorbent and dike material for disposal.
- 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. Wear personal protective equipment. For personal protection see section 8. Use only clean equipment. Provide adequate ventilation. Do not breathe vapours or spray mist. When



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opening containers, avoid breathing vapours that may be emanating. 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. To avoid spills during handling keep bottle on a metal tray. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Never return unused material to storage receptacle. 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. Take measures to prevent the build up of electrostatic charge.

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. Keep away from: Oxidizing agents

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.

Components with workplace control parameters

Type Form of exposure	Control parameters	Update	Basis	Remarks
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Propane-1,2-diol (CAS-No. 57-55-6)

TWA Particulate.	10 mg/m3	2007	EH40 WEL	
TWA Total vapour and particulates.	474 mg/m3 150 ppm	2007	EH40 WEL	

8.2. Exposure controls

Engineering measures : Ensure adequate ventilation, especially in confined areas.

Eye protection : Safety glasses with side-shields conforming to EN166

Hand protection : Material: Nitrile rubber
Glove thickness: 0.4 - 0.7 mm



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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 6 (EN 13034) Mixer and loaders must wear: Full protective clothing Type 6 (EN 13034) Rubber apron Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Tractor / sprayer with hood: No personal body protection normally required. Tractor / sprayer without hood: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Backpack / knapsack sprayer: Full protective clothing Type 4 (EN 14605) Nitrile rubber boots (EN 13832-3 / EN ISO 20345). Mechanical automatized spray application in closed tunnel: No personal body protection normally required during the application. However, gloves and a long sleeved shirt shall be worn when handling the treated plants after the application. Wear shoes with conductive soles. 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 ergonomoy 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.

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 before breaks and immediately after handling the product. When using do not eat, drink or smoke. Keep away from food, drink



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and animal feedingstuffs. Remove clothing/PPE immediately if material gets inside. For environmental protection remove and wash all contaminated protective equipment before re-use. Dispose of rinse water in accordance with local and national regulations.

Respiratory protection : Manufacturing and processing work: Half mask with vapour filter A2 (EN 141) Mixer and loaders must wear: Half mask with vapour filter A2 (EN 141) Spray application - outdoor: Tractor / sprayer with hood: No personal respiratory protective equipment normally required. Tractor / sprayer without hood: Half mask with a particle filter P1 (EN 143). Backpack / knapsack sprayer: Half mask with a particle filter P1 (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 : liquid

Colour : light yellow

Odour : like fruit

Odour Threshold : not determined

pH : 5.8 at 10 g/l

Boiling point/boiling range : Not available for this mixture.

Flash point : 88 °C , Method: Pensky-Martens closed cup - PMCC

Thermal decomposition : Not available for this mixture.

Auto-ignition temperature : 250 °C

Oxidizing properties : The product is not oxidizing.

Explosive properties : Not explosive

Lower explosion limit/ lower flammability limit : Not available for this mixture.

Upper explosion limit/ upper flammability limit : Not available for this mixture.

Relative density : 0.9681

Water solubility : emulsifiable

Partition coefficient: n-octanol/water : not applicable

Relative vapour density : Not available for this mixture.



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Evaporation rate : Not available for this mixture.

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 : No dangerous reaction known under conditions of normal use. Polymerization will not occur. No decomposition if stored and applied as directed.

10.4. Conditions to avoid : Exposure to sunlight. Decomposes on heating. Protect from frost.

10.5. Incompatible materials : Strong oxidizing agents

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute oral toxicity

LD50 / rat : > 5,000 mg/kg
Method: OECD Test Guideline 425
(Data on the product itself) Information source: Internal study report

Acute inhalation toxicity

LC50 / 4 h rat : > 4.89 mg/l
Method: OECD Test Guideline 403
(Data on the product itself) Information source: Internal study report

Acute dermal toxicity

LD50 / rat : > 5,000 mg/kg
Method: OECD Test Guideline 402
(Data on the product itself) Information source: Internal study report

Skin irritation

rabbit
Result: No skin irritation
Method: OECD Test Guideline 404
(Data on the product itself) Information source: Internal study report



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Eye irritation

rabbit

Result: Irritating to eyes.

Method: OECD Test Guideline 405

(Data on the product itself) Information source: Internal study report

Sensitisation

mouse Local lymph node test

Result: Causes sensitisation.

Method: OECD Test Guideline 429

(Data on the product itself) Information source: Internal study report

Repeated dose toxicity

- Penthiopyrad

Oral multiple species

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions., Reduced body weight gain, Liver effects, Thyroid effects, Spleen effects, Gallbladder effects, Liver enlargement, Immune system effects, altered blood chemistry, Organ weight changes, Increased liver weight

Mutagenicity assessment

- Penthiopyrad

Did not cause genetic damage in animals. Did not cause genetic damage in cultured bacterial cells. Genetic damage in cultured bacterial cells was observed in some laboratory tests but not in others.

Carcinogenicity assessment

- Penthiopyrad

Not classifiable as a human carcinogen.

Toxicity to reproduction assessment

- Penthiopyrad

Animal testing did not show any effects on fertility.

Assessment teratogenicity

- Penthiopyrad

The following effects occurred at levels of exposure that significantly exceed those expected under labeled usage conditions. Animal testing showed effects on embryo-fetal development at levels equal to or above those causing maternal toxicity.

STOT - single exposure-

|| The substance or mixture is not classified as specific target organ toxicant, single exposure.

STOT - repeated exposure

|| The substance or mixture is not classified as specific target organ toxicant, repeated exposure.



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Aspiration hazard

II The mixture does not have properties associated with aspiration hazard potential.

SECTION 12: Ecological information

12.1. Toxicity

Toxicity to fish

static test / LC50 / 96 h / Pimephales promelas (fathead minnow): 0.32 mg/l
Method: OECD Test Guideline 203
(Data on the product itself) Information source: Internal study report

Toxicity to aquatic invertebrates

static test / EC50 / 48 h / Daphnia magna (Water flea): 1.2 mg/l
Method: OECD Test Guideline 202
(Data on the product itself) Information source: Internal study report

12.2. Persistence and degradability

Biodegradability

Not readily biodegradable. Estimation based on data obtained on active ingredient.

12.3. Bioaccumulative potential

Bioaccumulation

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).

12.4. Mobility in soil

Mobility in soil

Slightly mobile in soils

12.5. Results of PBT and vPvB assessment

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 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



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- 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: 3082
- 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Penthiopyrad)
- 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: 3082
- 14.2. UN proper shipping name: Environmentally hazardous substance, liquid, n.o.s. (Penthiopyrad)
- 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: 3082
- 14.2. UN proper shipping name: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Penthiopyrad)
- 14.3. Transport hazard class(es): 9
- 14.4. Packing group: III
- 14.5. Environmental hazards : Marine pollutant
- 14.6. Special precautions for user: 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 product is classified as dangerous in accordance with Regulation (EC) No. 1272/2008. Take note of Dir 94/33/EC on the protection of young people at work. Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. Take note of Dir 92/85/EEC on the safety and health at work of pregnant workers. Take note of Directive 96/82/EC on the control of major-accident hazards involving dangerous substances. Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values.

