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-- SAFETY DATA SHEET --

REF. 00000067/N/GB

PAGE 1 of 5

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AGRICULTURAL PRODUCTS DEPARTMENT

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

Product code: B10029897

Product name:

BENLATE*

MAFF 00229

Supplier:

Du Pont (U.K.) Limited
Wedgwood Way
Stevenage, Herts. SG1 4QN / Great Britain
Tel: 01438 734000

Emergency telephone number:

(02871) 861.313

2. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical nature of the preparation: benzimidazole based fungicide

Synonyms: Benlate 50 WP, Benlate W.P., Du Pont Benomyl

Hazardous components	Weight %	CAS-No	EC-No.	Index-No
Benomyl (active ingredient)	50	17804-35-2	2417757	613-049-00-3

Classification

Benomyl; Xn; R40

Chemical name of the substance: Methyl 1-(butylcarbamoyl)benzimidazol-2-ylcarbamate

3. HAZARDS IDENTIFICATION

Most important hazards: No hazards deemed to be of major importance.

Specific hazards:

4. FIRST AID MEASURES

Inhalation: Move to fresh air. Oxygen or artificial respiration if needed. Consult a physician after significant exposure.

Skin contact: Wash off immediately with soap and plenty of water.

Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.. If eye irritation persists, consult a specialist.

Ingestion: Induce vomiting, but only if victim is fully conscious. Never give anything by mouth to an unconscious person. In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Notes to physician: For specialist advice physicians should contact the National Poisons Information Service, (24-hr), London, Tel: 020-7635-9191 or Birmingham, Tel: 0121-507-5588.

* DuPont's registered trademark

AGRICULTURAL PRODUCTS DEPARTMENT

Product name: BENLATE*

MAFF 00229

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media: water spray, foam, dry chemical

Extinguishing media which must not be used for safety reasons: high volume water jet (contamination risk).

Special protective equipment for firefighters: In the event of fire, wear self-contained breathing apparatus.

Specific methods: (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 spray water.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Use personal protective equipment.

Environmental precautions: Do not flush into surface water or sanitary sewer system.

Methods for cleaning up: Remove all sources of ignition.. Clean up promptly by scoop or vacuum. Use approved industrial vacuum cleaner for removal. Shovel into suitable container for disposal.

7. HANDLING AND STORAGE

Handling

Technical measures/Precautions: Provide appropriate exhaust ventilation at places where dust is formed.
Safe handling advice: Use personal protective equipment. Keep away from heat and sources of ignition. Avoid dust formation in confined areas.

Storage

Technical measures/Storage conditions: Keep containers tightly closed in a dry, cool and well-ventilated place. Store in a place accessible by authorized persons only. Never allow benlate to become damp during storage.
Incompatible products: No materials to be specially mentioned.
Packaging material: No materials to be specially mentioned.

Further information: Keep out of reach of children.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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

Control parameters:

Benomyl; OES(8h-TWA) = 10 mg/m³; OES(15min-STEL) = 15 mg/m³; (EH40/99)
n-Butyl isocyanate; MEL; Isocyanates, as NCO; (8h-TWA) = 0.02 mg/m³; (15m-STEL) = 0.07 mg/m³; Sen; (EH40/99)

Personal protective equipment

Respiratory protection: effective dust mask or respirator with combination filter for vapour/particulate..

Eye protection: tightly fitting safety goggles

Hand protection: protective gloves.

Skin and body protection: protective suit.

Hygiene measures: Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Do not breathe dust or spray mist. When using, do not eat, drink or smoke.

Product name: BENLATE*

MAFF 00229

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance

Form: solid (wettable powder)
Colour: off-white to white
Odour: sweet

pH: (20 °C) (at 10 g/l H ₂ O)	6,2
Melting point/range:	Decomposes without melting.
Flash point:	Not applicable
Flammability (solid, gas):	highly flammable
Autoignition temperature:	220 °C (benomyl)
Explosive properties:	no data available
Bulk density:	385 kg/m ³ (loose)
Solubility	
Water solubility:	dispersible
Partition coefficient (n-octanol/water):	23 (benomyl)
Explosion limits: - lower	0,08 vol. %

10. STABILITY AND REACTIVITY

Stability: No decomposition if stored and applied as directed.
Conditions to avoid: Decomposition under influence of moisture is highly accelerated by heating.
Hazardous decomposition products: n-Butyl isocyanate, a strong lachrymator
Further information: During processing, dust may form explosive mixture in air.

11. TOXICOLOGICAL INFORMATION

Acute toxicity
LD₅₀/oral/rat = > 12000 mg/kg
LD₅₀/dermal/rabbit = >10000 mg/kg
LC₅₀/inhalation/4h/rat = > 4,01 mg/l (benomyl)
Local effects: Not restricted.

Product name: BENLATE* MAFF 00229

12. ECOLOGICAL INFORMATION

Ecotoxicity effects:

Formulated product

Toxicity to fish:

LC50/96h/rainbow trout = 0,17 mg/l
LC50/96h/bluegill sunfish = 2,6 mg/l
EC50/48h/daphnia = 0,55 mg/l

Toxicity to algae:

EC50/72h/algae = 24 mg/l

Benomyl

Toxicity to birds:

LC50/8 days/mallard duck = > 10000 mg/kg
LC50/8 days/bobwhite quail = > 10000 mg/kg

Bioaccumulation:

log POW = 1,37

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products: As in Code of Practice under FEPA 1985. Do not allow material to contaminate ground water system. Do not contaminate surface water.

Contaminated packaging: Do not re-use empty containers If recycling is not practicable, dispose of in compliance with the Environmental Protection (Duty of Care) Regulations 1991. Do not contaminate ponds, waterways or ditches with chemical or used container.

14. TRANSPORT INFORMATION

UN-No: 1325

ADR/RID

Class: 4.1 Item: 6(c) TREM-CARD: 41G10-A
Packaging group: III HI-No: 40 SI-No: 1325
ADR/RID-Labels: 4.1
Proper shipping name: 1325 flammable solid, organic, n.o.s.
(contains benomyl), 4.1, 6(c), ADR

IMO

Class: 4.1 UN-No: 1325 Packaging group: III
IMDG Page: 4146 MFAG: Subs 4.2 EmS: 4.1-05
IMO-Labels: 4.1, MARINE POLLUTANT mark
Proper shipping name: Flammable solid, organic, n.o.s (benomyl 50%) Class 4.1, UN 1325, PG III

ICAO

Class: 4.1 UN/ID No.: 1325 Packaging group: III
ICAO-Labels: 4.1
Packing instruction (passenger aircraft): 419 / 25 kg
Packing instruction (cargo aircraft): 420 / 100 kg
Proper shipping name: Flammable solid, organic, n.o.s (contains benomyl) Class 4.1, UN 1325, PG III

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15. REGULATORY INFORMATION

According to Part III of the Food and Environment Protection Act 1985 and the Control of Pesticides Regulations 1986, the product is not classified as dangerous.

16. OTHER INFORMATION

Recommended use: fungicide

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.