

SAFETY DATA SHEET
DITHANE 945

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Issued: 27/09/2012
Revision Date: 06/05/2013
Ref: MCZ/02800/5
Safety Data Sheet according to
Regulation (EC) No. 1907/2006

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

- | | |
|--|--|
| 1.1. Product identifier | DITHANE 945 |
| 1.2. Relevant identified uses of the substance or mixture and uses advised against | Fungicide |
| 1.3. Details of the Marketing company in UK | Interfarm UK Ltd, 36 Newgate Street, Doddington, Cambs. www.interfarm.co.uk |
| 1.4. Emergency telephone number | +44(0) 01354 741414 |

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture:

Classification according to Directive 67/548/EEC [DSD]

- | | |
|--------------------------------|--|
| Indications of danger : | Repr. Cat. 3, Dangerous for the environment |
| R-phrases: | R63: Possible risk of harm to the unborn child R43: May cause sensitisation by skin contact R50: Very toxic to aquatic organisms |

Classification according to Regulation (EC) No 1272/2008[CLP/GHS]

Hazard categories:

- | | |
|------------------------------|--|
| Health hazards | Respiratory/skin sensitization: Skin Sens. 1 Reproductive toxicity: Repr. 2 |
| Environmental hazards | Hazardous to the aquatic environment: Aquatic Acute 1 |
| Hazard Statements: | H317: May cause an allergic skin reaction. H361d : Suspected of damaging the unborn child. H400: Very toxic to aquatic life. |

2.2 Label elements

Label elements according to Directive 67/548/EEC [DSD]

Classification: Harmful, Dangerous for the environment

Symbols:



Xn : Harmful
N : Dangerous for the environment

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Risk phrases:
 R63: Possible risk of harm to the unborn child
 R43: May cause sensitisation by skin contact
 R50: Very toxic to aquatic organisms

Safety phrases:
 S2: Keep out of the reach of children
 S35: This material and its container must be disposed of in a safe way.
 S36/37: Wear suitable protective clothing and gloves.
 S46: If swallowed, seek medical advice immediately and show this container or label.
 S57: Use appropriate containment to avoid environmental contamination.
 S61: Avoid release to the environment. Refer to special instructions/safety data sheet

Label elements according to Regulation (EC) No 1272/2008[CLP/GHS]

Signal word: Warning

Pictograms: GHS07-GHS08-GHS09



Hazard statements:
 H317: May cause an allergic skin reaction.
 H361d : Suspected of damaging the unborn child.
 H400: Very toxic to aquatic life.

Precautionary statements:
 P201: Obtain special instructions before use.
 P202: Do not handle until all safety precautions have been read and understood.
 P261: Avoid breathing dust.
 P273: Avoid release to the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection.
 P302+P352: IF ON SKIN: Wash with plenty of soap and water.
 P308+P313: IF exposed or concerned: Get medical advice/attention.
 P405: Store locked up
 P501: Dispose of contents/container to in accordance with local and national regulations

2.3 Other hazards: Risk of dust explosion

SECTION 3: Composition/information on ingredients

. Hazardous ingredients

| Chemical name | % | CAS | ELINECS | Index Nr. Regulation (EC) No1272/2008 Annex VI | Classification 67/548/EEC [DSD] | Classification Regulation (EC) No 1272/2008 [CLP] |
|-------------------|----|-----------|---------|---|---------------------------------------|--|
| Mancozeb | 80 | 8018-01-7 | -- | 006-076-00-1 | [Xn]: Repr. Cat.3 N: R63-43-50 | Repr. 2, Skin Sens. 1, Aquatic Acute 1; H361d - H317 -H400 |
| Inert ingredients | 20 | | -- | -- | -- | |

For the complete text of R phrases and H statements, please refer to section 16.

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SECTION 4: First aid measures

4.1. Description of first aid measures

| | |
|---------------------------|---|
| In general | Never give fluids or induce vomiting if patient is unconscious or is having convulsions. |
| After Ingestion | Do not induce vomiting. Provided the patient is conscious, wash mouth with water and give plenty of water to drink. Consult a physician. The decision of whether to induce vomiting or not should be made by a physician. |
| After eye contact | Flush eyes thoroughly with water for several minutes. Remove contact lenses after initial 1-2 minutes and continue flushing for several additional minutes. If effects occur, consult a physician, preferably an ophthalmologist. |
| After skin contact | Immediately wash skin with soap and plenty of water. Consult a physician if irritation develops. |
| After Inhalation | Remove to fresh air. Consult a physician if irritation develops |

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

| | |
|---------------------|--|
| Skin contact | There may be mild irritation at the site of contact |
| Eye contact | There may be irritation and redness. The vision may become blurred |
| Ingestion | There may be soreness and redness of the mouth and throat |

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

Supportive care. Treatment based on judgement of physician In response to symptoms of patient

Emergency Personnel Protection

If potential for exposure exists refer to Section 8 for specific personal protective equipment. First Aid responders should pay attention to self-protection and use the recommended protective clothing.

SECTION 5: Fire-fighting measures

| | |
|---|---|
| 5.1. Extinguishing media | Water spray. Carbon dioxide. Dry chemical powder. Alcohol or polymer foam |
| Unsuitable extinguishing media: | None or Full water jet. |
| 5.2. Special hazards arising from the substance or mixture | During a fire, smoke may contain the original material in addition to combustion products of varying composition which may be toxic and/ or irritating. Combustion products include: Hydrogen sulphide. Carbon disulphide. Nitrogen oxides. Sulphur oxides. Carbon oxides |
| 5.3. Advice for fire-fighters | Wear protective clothing and self-contained breathing apparatus. Run-off from fire control may be a pollution hazard. If area is not too heavily exposed to fire, and if conditions permit, let fire burn itself out, since water may increase the contamination hazard. |
| Special Protective Equipment for Firefighters: | Wear positive-pressure self-contained breathing apparatus (SCBA) and protective fire fighting clothing (includes fire fighting helmet, coat, trousers, boots, and gloves). Avoid contact with this material during fire fighting operations. If contact is likely, change to full |

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chemical resistant fire fighting clothing with self-contained breathing apparatus. If this is not available, wear full chemical resistant clothing with self-contained breathing apparatus and fight fire from a remote location. For protective equipment in post-fire or non-fire clean-up situations, refer to the relevant sections.

Additional Information

Do not permit dust to accumulate. Dust layers can be ignited by spontaneous combustion or other ignition sources. When suspended in air dust can pose an explosion hazard. Keep containers cool by spraying with water. Contain runoff to prevent entry into water or drainage systems. Avoid breathing smoke. Work upwind of any spill.

SECTION 6: Accidental release measures

- | | |
|---|--|
| 6.1. Personal precautions, protective equipment and emergency procedures | Eliminate all sources of ignition. Do not create dust. Wear appropriate safety clothing and eye/face protection (see Section 8). Remove contaminated clothing immediately, wash skin area with soap and water, and launder clothing before reuse or dispose of properly. |
| 6.2. Environmental precautions | Do not discharge into drains or rivers. Contain the spillage using bunding. Advise water authority if spillage has entered water course or drainage system. |
| 6.3. Methods and material for containment and cleaning up | Spills should be cleaned up immediately using care to minimise generation of airborne dust. Do not use equipment in clean-up procedure which may produce sparks. Collect all waste material and place in closable marked containers. For large spills, barricade area and consult manufacturer. Transfer to a closable, labeled salvage container for disposal by an appropriate method. |
| 6.4. Reference to other sections | See Section 1 for emergency contact information See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information |

SECTION 7: Handling and storage

- | | |
|--|--|
| 7.1. Precautions for safe handling | Use good personal hygiene. Do not consume or store food in the work area. Proper ventilation is recommended to control dust formation. Transfer equipment should be grounded and bonded to avoid static charge and spark-proof equipment should be used. Wash hands and exposed skin before eating, drinking or smoking and after work. |
| 7.2. Conditions for safe storage, including any incompatibilities | Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. This product is combustible and should not be exposed to flames or other ignition sources. Do not allow material to become wet or overheated in storage; decomposition, impaired activity or fire may result. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilisers. Keep out of reach of children |
| 7.3. Specific end uses | Must only be kept in original packaging |

SECTION 8: Exposure controls/personal protection

- 8.1. Control parameters**
- 8.2. Exposure control**

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|---|--|
| Control of professional exposure | Provide appropriate exhaust ventilation at machinery and at places where dust can be generated |
|---|--|

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Personal Protection:

| | |
|-------------------------------|---|
| Respiratory protection | Wear dual cartridge respirator for dusts and mists. For most conditions, no respiratory protection should be needed. However, when airborne exposure guidelines and/or comfort levels may be exceeded use an approved air-purifying respirator. For emergency conditions, use an approved positive-pressure self-contained breathing apparatus. |
| Hand /Skin protection | <p>For brief contact, no precautions other than clean body-covering clothing and chemical resistant gloves should be needed. Use chemical resistant gloves classified under standard EN 374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Nitrile. Polyvinyl chloride ('PVC' or "vinyl"). Neoprene.</p> <p>When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374) is recommended.</p> <p>NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all requisite workplace factors such as, but not limited to: Other chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), as well as the instructions/specifications provided by the glove supplier.</p> <p>When prolonged or frequently repeated contact could occur, use protective clothing impervious to this material. For emergency conditions: Use protective clothing impervious to this material. Selection of specific items will depend on operation.</p> |
| Eyes/Face protection | Safety glasses should be sufficient for most operations; however, for dusty operations wear chemical goggles |
| Engineering Controls | Ventilation: Use engineering controls to maintain airborne level below exposure limit requirements or guidelines. If there is no applicable exposure limit requirements or guidelines, use only with adequate ventilation. Local exhaust ventilation may be necessary for some operations |

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|---|
| Appearance: | Powder |
| Colour | Yellow to Greyish Yellow |
| Odour | Sulphurous |
| Odour threshold | no data available |
| pH-value | no data available |
| Melting/Decomposition temp | Not applicable/decomposes 192-204 deg.C |
| Boiling point | no data available |
| Flash Point | no data available |
| Evaporation rate | no data available |
| Flammability | not applicable |
| Upper/lower flammability or explosive limits | no data available |
| Vapour pressure | Negligible |
| Relative density | no data available |
| Solubility in water | Dispersible |

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| | |
|---|-------------------|
| Partition coefficient: n-octanol/water | no data available |
| Auto-ignition temperature | no data available |
| Viscosity | no data available |
| Explosive properties | no data available |
| Oxidising properties | no data available |

| | |
|-------------------------------|------------------|
| 9.2. Other information | |
| Bulk density | 0.35 to 0.5 kg/L |

SECTION 10: Stability and reactivity

| | |
|---|---|
| 10.1. Reactivity | No dangerous reactions known under conditions of normal use |
| 10.2. Chemical stability | Stable under normal conditions |
| 10.3. Possibility of hazardous reactions | Acids and moisture (in storage). Excessive heat. Open flames |
| 10.4. Conditions to avoid | Acids and moisture (in storage). Excessive heat. Open flames |
| 10.5. Incompatible materials | Acids |
| 10.6. Hazardous decomposition products | None under normal conditions of storage and use. Thermal decomposition products include Hydrogen sulphide. Carbon di Sulphide |

SECTION 11: Toxicological information

| | |
|--|--|
| Hazard classes¹ | |
| Hazardous ingredients | Assessment largely or completely based on data for active substance. |
| Acute toxicity | |
| by ingestion (rat) | Low toxicity if swallowed. The oral LD50 for rats is >5000 mg/kg |
| by skin contact (rat) | The dermal LD50 for rats is >5000 mg/kg. Prolonged skin contact is unlikely to result in absorption of harmful amounts |
| by inhalation (rat) | No adverse <i>effects</i> anticipated by this route of exposure incidental to proper handling. The LC50, 4 h for inhalation in rats is >5.14 mg/L. |
| Skin irritation (rabbit) | Essentially non-irritating to the skin. |
| Eye irritation (rabbit) | May cause eye irritation |
| Skin sensitization (guinea-pig) | Sensitising to guinea pig skin. |
| Subchronic toxicity | No data available |
| Chronic toxicity | |
| Carcinogenicity | Not classified as: Carcinogenic. |
| Teratology | Not classified as: Teratogenic. |
| Toxicity to reproduction | No data available |
| Mutagenicity effects | Not classified as: Mutagenic. |

Other

¹ As defined in Regulation (EC) 1272/2008

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SECTION 12: Ecological information

12.1. Toxicity:

Assessment largely or completely based on data for active ingredient

| | | | |
|-----------------------|---------------|-------------|--|
| Aquatic organisms | Fishes | Acute (96h) | Material is very toxic to fish (LC ₅₀ <1.0 mg/L). |
| | Rainbow trout | | |
| | Daphnia magna | Acute (48h) | Material is very toxic to aquatic invertebrates (EC ₅₀ <1.0 mg/L). |
| | Algae | Acute (72h) | Material is very toxic to algae (EC ₅₀ <1.0 mg/L). |
| Terrestrial organisms | Birds | Acute | Material is practically non-toxic to birds (LD50 > 2000 mg/kg) |
| | Honeybees | Acute | Material is non-toxic to bees oral LD50 > 100 µg/bee contact LD50 > 100 µg/bee |

12.2. Persistence and degradability Half-life in soils is dependent on soil type and conditions and is approximately 6-15 days

12.3. Bio-accumulation potential Bio-concentration potential is low.
Partition coefficient, n-octanol/water (log Pow): 1.38

12.4. Mobility in soil Potential for mobility in soil is low.
Partition coefficient, soil organic carbon/water (Koc): 1000 Estimated

12.5. Results of PBT and vPvB assessment According to Directive 1907/2006/EC (REACH) none of the substances, contained in this product is considered to be persistent, bioaccumulating and toxic (PBT).

According to Directive 1907/2006/EC (REACH) none of the substances, contained in this product is considered to be very persistent and very bioaccumulating (vPvB).

12.6. Other adverse effects Very toxic to aquatic organisms.
Hazardous water pollutant

SECTION 13: Disposal considerations

13.1. Waste treatment methods Very toxic to aquatic organisms. Do not contaminate water, food or feed by disposal. Wastes resulting from the use of this product may be disposed of at an approved waste disposal facility
The user's attention is drawn to the possible existence of regional or national regulations regarding disposal


Product/packaging Dispose of in a regulated landfill site or other method for hazardous or toxic wastes

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SECTION 14: Transport information

Land transport (ADR/RID):

14.1. UN number 3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. Mancozeb (ISO)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5 Environmental hazards: Environmentally hazardous
Hazard label: 9



14.6 Special precautions for user
Classification code: M7
Limited quantity: 5 kg
Transport category: 3
Hazard No: 90
Tunnel restriction code: E

Inland waterways transport:

14.1. UN number 3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. Mancozeb (ISO)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5 Environmental hazards: Marine pollutant
Hazard label: 9


14.6 Special precautions for user
Classification code: M7
Limited quantity: LQ27

Marine transport (IMDG):

14.1. UN number 3077
14.2. UN proper shipping name Environmentally hazardous substance, solid, n.o.s. Mancozeb (ISO)
14.3. Transport hazard class(es): 9
14.4. Packing group: III
14.5 Environmental hazards: Marine pollutant
Hazard label: 9


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14.6 Special precautions for user

| | |
|----------------------|--------------|
| Classification code: | M7 |
| Limited quantity: | 5 kg / 30 kg |
| EmS: | F-A, S-F |

Air transport (ICAO)

| | |
|--|---|
| 14.1. UN number | 3077 |
| 14.2. UN proper shipping name | Environmentally hazardous substance, solid, n.o.s. Mancozeb (ISO) |
| 14.3. Transport hazard class(es): | 9 |
| 14.4. Packing group: | III |
| 14.5 Environmental hazards: | Environmentally hazardous |
| Hazard label: | 9 |



14.6 Special precautions for user

| | |
|-----------------------------|-------------------|
| Limited quantity Passenger: | Y956 / 30 kg G |
| IATA-packing instructions | Passenger: 956 |
| IATA-max. quantity | Passenger: 400 kg |
| IATA-packing instructions | Cargo: 956 |
| IATA-max. quantity | Cargo: 400 kg |

SECTION 15: Regulatory information

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

| | |
|---|---|
| 1999/13/EC (VOC): | 0% |
| European Inventory of Existing Commercial Chemical Substances (EINECS) | The components of this product are on the EINECS inventory or are exempt from inventory requirements |
| Employment restrictions: | Observe employment restrictions for young people. Observe employment restrictions for child bearing mothers and nursing |
| Water: contaminating class (D): | 2, water contaminating |

15.2 Chemical Safety Assessment To avoid risks to man and the environment, comply with the instructions for use. For proper and safe use of this product, please refer to the approval conditions laid down on the product label.

SECTION 16: Other information

Risk phrases used in s.2: R43: May cause sensitisation by skin contact
R63: Possible risk of harm to the unborn child
R50: Very toxic to aquatic organisms

H-Statements :

| | |
|-------|---|
| H317 | May cause an allergic skin reaction. |
| H361d | Suspected of damaging the unborn child. |
| H400 | Very toxic to aquatic life |

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Legal disclaimer:

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The company, Indofil Industries Limited shall not be held liable for any damage resulting from handling or from contact with the above product.

**Details of the
Manufacturer**

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