

# Karathane\*

# Liquid

Product Registration Number: MAFF 12576

An emulsifiable concentrate containing 350 g/litre (33.2% w/w) dinocap.

A protectant fungicide for the control of POWDERY MILDEW in APPLES, STRAWBERRIES, ROSES and CHRYSANTHEMUMS, and the reduction of RED SPIDER MITE and APPLE RUST MITE populations

Pack size: 5 Litre

READ DIRECTIONS FOR USE ON ATTACHED LEAFLET.

**COMPLIANCE WITH THE FOLLOWING CONDITIONS OF USE AND ALL SAFETY PRECAUTIONS MARKED # IS A LEGAL REQUIREMENT**

**FOR USE ONLY AS A HORTICULTURAL FUNGICIDE/ACARICIDE**

Crops	Maximum Individual Dose (litres product per hectare)	Maximum Number of Treatments	Latest Time of Application
Strawberry	Low volume – 1.1 High volume– see “Other Specific Restrictions”	5 per annum -	7 days before harvest -
Protected and outdoor ornamental plant production	See “Other Specific Restrictions”	-	-
Apple	Low volume – 1.4 High volume - see “Other Specific Restrictions”	10 per crop	14 days before harvest

**Other Specific Restrictions:**

For high volume applications the following maximum concentration must not be exceeded:

Strawberry: 0.5 litres product/1000 litres water.

Outdoor roses: 0.25 litres product/1000 litres water.

Apple: 0.7 litres product/1000 litres water.

Protected roses and protected and outdoor chrysanthemum: 0.125 litres product/1000 litres water.

DO NOT APPLY by hand-held equipment.

**READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS FOR USE BEFORE USE.**

PROTECT FROM FROST.

The (COSHH) Control of Substances Hazardous to Health Regulations may apply to the use of this product at work.



**TOXIC**

**HARMFUL BY INHALATION.  
HARMFUL: MAY CAUSE LUNG DAMAGE IF SWALLOWED.  
HARMFUL: DANGER OF SERIOUS DAMAGE TO HEALTH BY  
PROLONGED EXPOSURE IF SWALLOWED.  
IRRITATING TO EYES AND SKIN.  
MAY CAUSE SENSITISATION BY SKIN CONTACT.  
MAY CAUSE HARM TO THE UNBORN CHILD.  
VAPOURS MAY CAUSE DROWSINESS OR DIZZINESS.  
VERY TOXIC TO AQUATIC ORGANISMS, MAY CAUSE LONG-  
TERM ADVERSE EFFECTS IN THE AQUATIC ENVIRONMENT.**



**DANGEROUS FOR  
THE  
ENVIRONMENT**

WEAR SUITABLE PROTECTIVE CLOTHING AND GLOVES.  
AVOID EXPOSURE – obtain special instruction before use.  
AFTER CONTACT WITH SKIN, WASH IMMEDIATELY with plenty  
of water.  
IN CASE OF CONTACT WITH EYES, RINSE IMMEDIATELY with  
plenty of water and seek medical advice.  
IN CASE OF ACCIDENT OR IF YOU FEEL UNWELL, seek medical  
advice (show the label where possible).  
THIS MATERIAL AND ITS CONTAINER MUST BE DISPOSED OF  
IN A SAFE WAY.  
USE APPROPRIATE CONTAINMENT TO AVOID  
ENVIRONMENTAL CONTAMINATION.  
To avoid risks to man and the environment, comply with the instructions  
for use.

Manufactured and registered by:



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Tel: 01245 357109 Fax: 01245 494165**

This label is compliant with the CPA Voluntary  
Initiative Guidance



## SAFETY PRECAUTIONS

### Operator protection:

#Spray equipment must only be used where the operator's normal working position is within a closed cab on a tractor or self-propelled sprayer when making air-assisted applications to orchards.  
#Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:  
#WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.  
#WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS WITH HOOD), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when applying by air assisted machinery.  
#WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES AND RUBBER BOOTS when applying by hydraulic machinery.  
#However, engineering controls may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.  
TAKE OFF immediately all contaminated clothing..  
WHEN USING, DO NOT EAT, DRINK OR SMOKE.  
DO NOT BREATHE SPRAY.  
WASH HANDS AND EXPOSED SKIN before eating, drinking or smoking, and after work.

### Environmental protection:

DO NOT CONTAMINATE SURFACE WATERS OR DITCHES with chemical or used containers.  
#DO NOT ALLOW DIRECT SPRAY from broadcast air-assisted sprayers to fall within 18 metres of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 5 metres of the top of a ditch which is dry at the time of application.  
Aim spray away from water.



#DO NOT ALLOW DIRECT SPRAY from horizontal boom sprayers to fall within 5 metres of the top of the bank of a static or flowing waterbody, unless a Local Environmental Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 1 metre of the top of a ditch which is dry at the time of application.  
Aim spray away from water.

#This product qualifies for inclusion within the Local Environmental Risk Assessment for Pesticides (LERAP) scheme. Before each spraying operation from a horizontal boom sprayer or broadcast air-assisted sprayer, either a LERAP must be carried out in accordance with PSD's published guidance or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for inspection for three years

### Storage and disposal:

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.  
KEEP OUT OF REACH OF CHILDREN.  
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.  
WASH OUT CONTAINER THOROUGHLY and dispose of safely.  
DO NOT RE-USE CONTAINER for any purpose.

Landseer Ltd or Dow AgroSciences will be under no liability for any loss or damage resulting from the use or manner of application of the product other than in accordance with the label recommendations which may not be varied, amended or added to except in writing by Landseer Ltd or Dow AgroSciences.

This label was printed in 2006. Should the product be purchased for use in subsequent years, please check with your supplier that no changes have been made in the recommendations since the leaflet was printed.

## DIRECTIONS FOR USE

IMPORTANT: This information is approved as part of the Product Label. All instructions within this section must be read carefully in order to obtain safe and successful use of this product.

### GENERAL INFORMATION

KARATHANE\* LIQUID is a protectant fungicide for the control of a wide range of powdery mildews. A protective film should be maintained on the leaf at all times.

KARATHANE LIQUID must be applied before powdery mildew becomes established otherwise the disease may not be controlled. When the leaf is growing rapidly a 7 day spray interval may be more appropriate.

Regular use of KARATHANE LIQUID will suppress populations of fruit tree red spider mite and apple rust mite.

### PROHIBITIONS

#### Apples

Do not apply to Golden Delicious during blossom time.

Some petal spotting may occur in other varieties at blossom time but there will be no adverse effect on yield.

Do not apply when the temperature is above 24°C (75°F) or with white oils.

#### Chrysanthemums (protected and outdoor)

Apply KARATHANE LIQUID on a small number of plants before usage on entire crop. Some chrysanthemum varieties may be susceptible under certain conditions.

### RESISTANCE

Certain weeds, insects or fungi may develop resistance to Landseer Ltd/Dow AgroSciences products. Since such circumstances are beyond our control, Landseer Ltd/Dow AgroSciences can accept no responsibility for any loss or damage whatsoever as a result.

### USE

#### Low Volume Recommendations

Apply in a minimum of 200 litres/hectare. Where necessary, use higher water volumes to achieve good coverage.

#### High Volume Recommendations

Spray to "run-off" Apply to a maximum of 2000 litres/hectare.

### MIXING

Pour required amount of KARATHANE LIQUID into a partially filled spray tank and top up with the spray machine agitation working. Maintain agitation during crop spraying and stoppages

## APPLES

In any one season the total amount of product applied should not exceed 14 litres/hectare, which is equivalent to 10 sprays at the highest rate of 1.4 litres/hectare. The maximum number of applications is 10 per crop.

Disease	Rate of Use	Timing
Apple powdery mildew	LOW VOLUME 1.1-1.4 litres/hectare	10-14 day intervals
	HIGH VOLUME 0.5-0.7 litres/1000 litres	10-14 day intervals

Commence spraying at pink bud and continue at 10-14 day intervals until extension growth ceases. If application is made at 7 days, rates may be halved

**Harvest Interval:** 14 days

## STRAWBERRIES

In any one season the total amount of product applied should not exceed 5.5 litres/hectare, which is equivalent to 5 sprays at the highest rate of 1.1 litres/hectare. The maximum number of treatments is 5 per annum.

Disease	Rate of Use	Timing
Strawberry mildew	LOW VOLUME 1.1 litres/hectare	Apply just before flowering and thereafter at 14 day intervals
	HIGH VOLUME 0.5 litres/1000 litres	

**Harvest Interval:** 7 days

## ROSES AND CHRYSANTHEMUMS (PROTECTED AND OUTDOOR)

Disease	Rate of use	Timing
Rose powdery mildew	HIGH VOLUME Protected: 0.125 litres/1000 litres Outdoor: 0.25 litres/1000 litres	Commence spraying at first sign of disease and repeat at 10 day intervals
Chrysanthemum powdery mildew	0.125 litres/1000 litres	

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## SAFETY DATA SHEET

This safety data sheet does not form part of the label approved under the Control of Pesticides Regulations 1986. Following the instructions on the pesticide label for the specified uses should ensure that the product is used safely and efficaciously for those uses.

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Product Name: **KARATHANE LIQUID FUNGICIDE**  
LV70: 104179                      Issue Date: Apr.05                      Ref: PS06  
Revised: New

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### 2. COMPOSITION/INFORMATION ON INGREDIENTS

**Dangerous components (see section 16 for complete R-phrases):**

			CAS	EC No
Dinocap	35-37 %	T,N; R20-22-38-43-48/22-50/53-61	39300-45-3	254-408-0
Aromatic hydrocarbon solvent	53-55 %	Xn; R65, N;R51-53, R66-67	064742-94-5	265-198-5
Surfactant	<10 %	Xi; R36/38-53		
Inert ingredients	Balance			
Composition Code	GF1344			

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### 3. HAZARDS IDENTIFICATION

Harmful by inhalation. Irritating to eyes and skin. May cause sensitization by skin contact. Harmful: danger of serious damage to health by prolonged exposure if swallowed. Very toxic to aquatic organisms, may cause long-term effects in the aquatic environment. May cause harm to the unborn child. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness.

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### 4. FIRST-AID MEASURES

Never give fluids or induce vomiting if patient is unconscious or is having convulsions.

**Ingestion**

Do not induce vomiting. Drink large amounts of water and call a physician. The decision of whether to induce vomiting or not should be made by a physician.

**Eye Contact**

Immediately flush eyes with water; remove contact lenses, if present, after the first 5 minutes, then continue flushing eyes for at least 15 minutes. Obtain medical attention without delay, preferably from an ophthalmologist.

**Skin Contact**

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing. Seek medical attention if symptoms occur or irritation persists. Wash clothing before re-use.

**Inhalation**

Remove to fresh air. Consult a physician.

**Note to Physician**

Supportive care. Treatment based on judgement of physician in response to symptoms of patient. If lavage is performed, suggest endotracheal and/or oesophageal control. Danger from lung aspiration must be weighed against toxicity when considering emptying the stomach.

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## 5. FIRE-FIGHTING MEASURES

### Extinguishing Media

Water fog or fine spray. Carbon dioxide. Dry chemical powder. Foam.

### Hazardous Combustion Products

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: Nitrogen oxides.

### Protection of Firefighters

Wear protective clothing and use self-contained breathing apparatus.

### Additional Information

Cool containers exposed to fire or heat with water spray. Contain runoff to prevent entry into water or drainage systems. Avoid breathing smoke. Work upwind of any spill.

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## 6. ACCIDENTAL RELEASE MEASURES

### Personal Precautions

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.

### Environmental Precautions

Do not wash into sewers or into any body of water. Advise water authority if spillage has entered water course or drainage system.

### Methods of Cleaning Up

Soak up with sand or other non-combustible absorbent material and place into containers for disposal. For large spills, barricade area and consult manufacturer. If further assistance is required, telephone the emergency contact number.

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## 7. HANDLING AND STORAGE

### Handling

Containers should be grounded before product is transferred to reduce risk of spark by static electricity. Use good personal hygiene. Do not consume or store food in the work area. Wash hands and exposed skin before eating, drinking or smoking and after work.

### Storage

Product should be stored in compliance with local regulations. Store in a cool, dry, well-ventilated place in the original container. Store at below 32 deg.C. Do not store near food, drink, animal feeding stuffs, pharmaceuticals, cosmetics or fertilisers. Keep out of reach of children.

### Additional Information

Containers, even those that have been emptied, can contain vapours. Do not cut, drill, grind, weld or perform similar operations on or near empty containers

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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Exposure Guidelines

Dinocap: Dow AgroSciences recommendation is 0.2 mg/m<sup>3</sup>.

### Engineering Controls

Provide general and/or local exhaust ventilation to control airborne levels below the exposure guidelines.

### Respiratory Protection

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

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. Examples of acceptable glove barrier materials include: Neoprene. Polyvinyl chloride ("PVC" or "vinyl"). Avoid gloves made of: Natural rubber (latex.). When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher is recommended. When only brief contact is expected, a glove with a protection class of 3 or higher is recommended. 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. 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.

### Eye/Face Protection

Use safety glasses. Where contact with the liquid is likely, chemical goggles are recommended.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	: liquid
Colour	: brown
Odour	: aromatic
Rel. density (water=1)	: 0.97-1.01 g/cm <sup>3</sup> (20 deg.C)
Rel. vapour density (air=1)	: 4.6 (solvent)
Melting point/range	: -15 deg.C (solvent)
Boiling point/range	: 184-205 deg.C (solvent)
Flash point	: 61 deg.C
Autoignition temperature	: 443 deg.C (solvent)
Water solubility	: emulsifiable
Vapour pressure	: 400 Pa (25 deg.C)
Viscosity	: 3.53 mm <sup>2</sup> /s (40 deg.C)
Percent volatiles	: 55-56 %
Surface tension	: 29.6 mN/m (40 deg.C)
Explosive properties	: not explosive

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## 10. STABILITY AND REACTIVITY

### Chemical Stability

Is stable under normal storage conditions.

### Conditions to Avoid

Avoid prolonged heating above 32 deg.C.

### Materials to Avoid

Avoid contact with: Acids. Bases. Amines. Iron. Halogens.

### Hazardous Decomposition Products

None under normal conditions of storage and use.

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## 11. TOXICOLOGICAL INFORMATION

Based on data for a similar formulation

### Ingestion

Low toxicity if swallowed. The oral LD50 for rats is >2000 mg/kg.

### Skin Contact

The dermal LD50 for rats is >2000 mg/kg. Prolonged skin contact is unlikely to result in absorption of harmful amounts. Brief contact may cause severe skin irritation with pain and local redness.

### Sensitisation

Skin contact may cause an allergic skin reaction.

### Eye Contact

May cause moderate eye irritation.

### Inhalation

Harmful by inhalation. No adverse effects anticipated by this route of exposure incidental to proper handling.

### Additional Information

Not carcinogenic. Not mutagenic.

Dinocap: This substance is classified as toxic for reproduction category 2 in the EC.

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## 12. ECOLOGICAL INFORMATION

### Persistence and Degradability

Assessment largely or completely based on data for active ingredient. Undergoes microbial degradation in the soil. Half-life in soils is dependent on soil type and conditions and is approximately 4-6 days.

### Aquatic Toxicity

Based on data for the formulation. Material is very toxic to fish on an acute basis (LC50<1 mg/L). Material is very toxic to aquatic invertebrates on an acute basis (EC50<1 mg/L). Material is toxic to algae (1 mg/l< IC50 <10 mg/l).

### Avian Toxicity

Assessment largely or completely based on data for active ingredient. Material is practically non-toxic to birds on an acute basis (LD50>2000 mg/kg). Dietary LC50 for mallard duck is 880mg/kg of diet. Dietary LC50 for bobwhite (Colinus virginianus) is 2500 mg/kg diet.

### Additional Information

Non-toxic to bees.

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### 13. DISPOSAL CONSIDERATIONS

Very toxic to aquatic organisms. Do not contaminate ponds, waterways or ditches with chemical or used container. The preferred options are to send to licensed reclaimer or to permitted incinerators. Any disposal practice must be in compliance with all local and national laws and regulations.

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### 14. TRANSPORT INFORMATION

#### Road & Rail

Proper shipping name : FLAMMABLE LIQUID,N.O.S. (aromatic hydrocarbon)  
Truck/Rail ADR/RID : 3 Label : 3  
Classification Code : F1  
Packing Group : III  
Kemler Code : 30 UN Number : 1993  
Tremcard Nr. CEFIC :  
30GF1-  
III

#### Sea

Proper shipping name : FLAMMABLE LIQUID,N.O.S. (aromatic hydrocarbon)  
Sea - IMO/IMDG Class : 3 UN Nr : 1993 Label : 3  
Packing Group : III EMS : F-E, S-E  
Marine Pollutant : Y  
(Y/N)

#### Air

Proper shipping name : FLAMMABLE LIQUID,N.O.S. (aromatic hydrocarbon)  
Air-ICAO/IATA Class : 3 UN Nr : 1993 Label : 3  
Sub Class :  
Packing Group : III Pack Instr. Passenger : 309  
Pack Instr. Cargo : 310  
**Remarks** Sample shipment not allowed by mail.

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### 15. REGULATORY INFORMATION

**Hazard Symbol :** T - Toxic  
N - Dangerous for the Environment  
**Risk Phrases :** Harmful by inhalation (R20).  
Irritating to eyes and skin (R36/38).  
May cause sensitisation by skin contact (R43).  
Harmful danger of serious damage to health by prolonged exposure if swallowed (R48/22).  
Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment (R50/53).  
May cause harm to the unborn child (R61).  
Harmful: may cause lung damage if swallowed (R65).  
**Safety Phrases :** In case of contact with eyes, rinse immediately with plenty of water and seek medical advice (S26).  
After contact with skin, wash immediately with plenty of water (S28).  
This material and its container must be disposed of in a safe way (S35).  
Wear suitable protective clothing and gloves (S36/37).  
In case of accident or if you feel unwell, seek medical advice immediately (Show the label where possible) (S45).  
Avoid exposure-obtain special instructions before use (S53).  
Use appropriate containment to avoid environmental contamination (S57).

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Refer to Product Label for full Local Regulatory Authority label precautions.

## 16. OTHER INFORMATION

### **Risk-phrases in Section 2**

R20 - Harmful by inhalation.

R22 - Harmful if swallowed.

R36/38 - Irritating to eyes and skin.

R38 - Irritating to skin.

R43 - May cause sensitisation by skin contact.

R48/22 - Harmful: danger of serious damage to health by prolonged exposure if swallowed.

R50/53 - Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R51/53 - Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

R53- May cause long-term adverse effects in the aquatic environment

R61 - May cause harm to the unborn child.

R65 - Harmful: may cause lung damage if swallowed.

R66 - Repeated exposure may cause skin dryness or cracking.

R67 - Vapours may cause drowsiness and dizziness.

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The information herein is given in good faith and to the best of our knowledge but no warranty, express or implied, is made.