

SAFETY DATA SHEET

29/6/07

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

Dow AgroSciences Limited

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Product Name: **KARATHANE LIQUID FUNGICIDE : MAPP 12576**

LV70: 104179

Issue Date: Apr. 05

Ref: PS06

Revised: June 07 (Section (s) 14, 15)

For question about this SDS, contact: SDSQuestion@dow.com

2. 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.

3. 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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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.

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.

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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 run-off to prevent entry into water or drainage systems. Avoid breathing smoke. Work upwind of any spill.

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.

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/m³.

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 ³ (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 ² /s (40 deg.C)
Percent volatiles	: 55-56 %
Surface tension	: 29.6 mN/m (40 deg.C)
Explosive properties	: not explosive

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.

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.

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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.

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 a similar 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 >2000mg/kg). Dietary LC₅₀ for mallard duck is 880 mg/kg of diet. Dietary LC₅₀ for bobwhite (*Colinus virginianus*) is 2500 mg/kg diet.

Additional Information

Non-toxic to bees.

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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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).

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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).

Refer to the Product Label for full local Regulatory Authority label precautions.

16. OTHER INFORMATION

Risk-phrases in Section 3

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.

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