

Tairel

(MAFF 07767)

A systemic and
protectant fungicide
for the control of
Blight on potatoes



SIPCAM U.K.

Tairel

(MAFF 07767)

Contains 8% w/w benalaxyl and 65% w/w mancozeb as a wettable powder.

A systemic and protectant fungicide for the control of Blight on potatoes.

This leaflet is part of the approved product label.

	IRRITANT Irritating to eyes & respiratory system. May cause sensitisation by skin contact.		DANGEROUS FOR THE ENVIRONMENT Very Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.
Safety Data Sheet available for the professional user on request. To avoid risks to man and the environment, comply with the instructions for use.			

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

FOR USE ONLY AS AN AGRICULTURAL/HORTICULTURAL FUNGICIDE.

Crops	Maximum dose (kg product/hectare)	Maximum number of treatments	Latest time of application
Early, maincrop and seed potatoes	2.0	5 per crop	7 days before harvest

Engineering control of operator exposure must be used where reasonably practicable in addition to the following items of personal protective equipment.

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate.

However, engineering controls may replace personal protective equipment if a COSHH assessment shows that they provide an equal or higher standard of protection.

DANGEROUS TO FISH OR OTHER AQUATIC LIFE. Do not contaminate surface waters, or ditches with chemical or used container.

READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS FOR USE BEFORE USE

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

READ THE LABEL BEFORE YOU BUY – USE PESTICIDES SAFELY

SIPCAM UK CONDITIONS OF SUPPLY

All goods supplied by us are of high grade, but as we cannot exercise control over their mixing or use, all conditions and warranties, statutory or otherwise, as to the quality or fitness of our goods for any purpose, are excluded and no responsibility will be accepted by us for any damage or injury whatsoever arising from their storage, handling, application or use.

Tairel 05-1

Tairel is a product and registered trademark of Isagro Spa.

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Tel: 01763 212100. Fax: 01763 212101.



DIRECTIONS FOR USE - POTATOES

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.

Blight in potatoes (*Phytophthora infestans*) is a disease which is variable in its occurrence and severity. TAIREL allows the use of a flexible programme to retain continuous healthy foliage free from this disease.

The following TAIREL recommended programme will give effective control of both foliar and tuber blight.

To ensure effective control, application should always be made prior to the crop becoming infected.

To gain optimum benefit from the TAIREL programme, treatments should commence at the beginning of the spray season when haulm growth is most rapid.

RATES OF USE

All varieties of early, maincrop and seed potatoes may be treated with TAIREL.

TAIREL should be used at the rate of 2.0 kg/ha in a minimum of 220 litres water per hectare to ensure adequate cover of the foliage and stems and penetration of the crop canopy.

AERIAL APPLICATION

TAIREL may be applied from the air by suitable aerial spraying equipment in 20-65 litres of water per hectare to ensure adequate cover of the foliage and stems and penetration of the crop canopy.

COMPATIBILITY

TAIREL should not be applied from the air in tank mix with any other product other than those indicated in the "ALTERNATIVE SPRAY PROGRAMME" section which are approved for aerial application. TAIREL should be added to the tank prior to the addition of the mancozeb product.

ALTERNATIVE SPRAY PROGRAMME

Where local practice is to make more frequent applications, a tank mix of 1.5 kg/ha TAIREL plus 0.5 kg/ha of an approved 80% w/w mancozeb formulation (MAFF 01281, 04017, 05467, 06873) may be used. This mixture will give less reliable control of tuber blight.

SPRAY INTERVAL

The following spray intervals should be used as a basis for an efficient programme for protection against blight according to the risk of infection.

RATE	SPRAY INTERVAL IN DAYS	
	High risk	Medium / low risk
TAIREL 2.0 kg/ha	10	14
TAIREL 1.5 kg/ha plus 0.5 kg/ha approved 80% w/w mancozeb	NOT RECOMMENDED	14

Low risk conditions occur before blight risk occurs or after the spray programme has commenced, or when weather conditions become unfavourable for blight i.e. hot, dry weather

High risk conditions occur if weather is conducive to blight, the crop is irrigated, or grown under polythene tunnels, or if active blight is present on crops in the area or on dumps or volunteers. The risk is especially high when high risk conditions coincide with periods of unusually rapid growth.

Spraying should commence immediately the first blight infection period occurs e.g. as notified by MAFF, the Scottish Colleges of Agriculture, DANI.

In the absence of a blight infection period spraying should commence prior to the crop meeting along the row and repeat applications should be made according to the low risk recommendations i.e. at 14 day intervals for the 2.0 kg/ha rate or for the alternative spray programme (TAIREL 1.5 kg/ha + mancozeb).

However, when further blight infection periods occur and the crop is at high risk the 2.0 kg/ha rate only should be used and the interval between sprays reduced to 10 days.

There are certain areas e.g. South West and Western England, Wales and Northern Ireland which should generally be treated as being at high risk because of climatic conditions and cultural practices. In these areas the 2.0 kg/ha rates should be used at 10 day intervals.

BLIGHT INFECTION PERIOD

A Blight Infection Period (Smith Period) is defined as 2 consecutive days ending at 9.00 am when the temperature does not fall below 10°C and the Relative Humidity remains above 90% for at least 11 hours of each day.

However, warm humid conditions are generally conducive to the development of blight and, even in the presence or absence of official warnings, spray programmes should always be based on local weather conditions.

TAIREL should not be used as a curative treatment; therefore do not treat crops which are showing signs of active blight infection.

If blight is noted in the crop which has received a phenylamide based fungicide, change immediately to a fungicide of a different type (See under "Number of Sprays" for definition).

NUMBER OF SPRAYS

Apply a maximum of 5 applications of TAIREL to any single crop. TAIREL should not be applied where blight is already established in the crop i.e. do not use curatively.

The systemic component of TAIREL (benalaxyl) provides the maximum crop protection whilst haulm growth is active. When active growth ceases (normally mid to end of August) the spray programme should be changed and a protectant fungicide used until haulm destruction. The application of the protectant fungicide should commence no later than 10 days after the last application of TAIREL.

For maincrop potatoes a minimum of 2 protectant sprays should be made between the last application of TAIREL and haulm destruction or harvest (where green-top lifted).

Other phenylamide fungicides (Fubol 75WP, Patafol Plus, Recoil, and Ripost) should not be used following a TAIREL spray programme. No more than five phenylamide fungicide treatments should be applied to any one crop.

The final application of TAIREL should be before the end of active potato growth or before the end of August, whichever is earlier.

Where crops are harvested before natural haulm senescence, the final treatments in the programme should be made using a protectant fungicide.

IRRIGATED CROPS

Crops grown under irrigation should be regarded as at **high risk** at all times and treated with the 2.0 kg/ha rate at 10 day intervals. Treatment should be applied **after** irrigation.

EARLY VARIETIES

Up to 5 applications may be made to early varieties. Crops should not be harvested for at least 7 days after the last application.

Following the harvest of first earlies and second early crops any haulm that remains should be completely destroyed or removed immediately, as failure to do so will result in extreme blight pressure on neighbouring maincrop potatoes.

POLYTHENE TUNNELS

Crops grown under polythene tunnels should always be regarded as at **high risk** at all times and treated with the 2.0 kg/ha rate at 10 day intervals.

DISEASE RESISTANCE

Disease control may be reduced if strains of blight tolerant to phenylamides occur and use of TAIREL is not recommended in these situations.

Strains of potato blight fungus resistant to phenylamide fungicides (metalaxyl, oxadixyl and benalaxyl) occur. FRAC (Fungicide Resistance Action Committee) have defined guidelines for the effective management of blight with these fungicides, which are incorporated in the label.

MIXING INSTRUCTIONS

Mix the required amount of TAIREL in a small quantity of water to form an homogeneous cream. Then pour the cream into half the necessary quantity of water in the spray tank whilst agitating. Wash out mixing vessels and add washings to the spray tank. Continue agitation as the remaining

water is added to the spray tank to achieve the correct dilution. Ensure thorough agitation both before and during spraying.

Where TAIREL is to be applied in tank mix with another product, TAIREL should be added to the tank prior to the addition of another recommended tank mixture EXCEPT in the case of Manganese Sulphate, which should be mixed thoroughly into the solution prior to addition of TAIREL.

SPRAY QUALITY

Apply TAIREL as a MEDIUM spray as defined in the BCPC system.

COMPATIBILITY

TAIREL may be applied in tank mixture with a range of other products. Consult your distributor for details.

Please refer to Mixing Instructions.

In keeping with good spraying practice, tank mixtures should not be allowed to stand in the tank and agitation should be maintained at all times.

Tank-mixed applications must be made within the label instruction of both products.

SIPCAM UK LTD ACCEPTANCE OF RESPONSIBILITY

We accept responsibility for this product meeting the declared specification and also for our written directions for use and warnings. Users however should be aware that no responsibility can be accepted for use which disregards our written instructions, including directions, warnings and precautions, nor for any advice given by any person whether verbal or written, about storage, mixing and application, or about any use which is not strictly in accordance with our written instructions.

TAIREL is a registered trade mark of Isagro.

PRECAUTIONS

Operator Protection

WEAR SUITABLE PROTECTIVE CLOTHING.

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate.

WASH CONCENTRATE from skin and eyes immediately.

WHEN USING DO NOT EAT, DRINK OR SMOKE.

WASH HANDS AND EXPOSED SKIN before meals and after work.

Avoid contact with skin and eyes.

Do not breathe dust.

In case of accident or if you feel unwell seek medical advice (show the label where possible).

Environmental Protection

DANGEROUS TO FISH OR OTHER AQUATIC LIFE. Do not contaminate surface waters, or ditches with chemical or used container.

Use appropriate containment to avoid environmental contamination.

Storage & 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.

KEEP CONTAINER DRY.

EMPTY CONTAINER COMPLETELY and dispose of safely.

This material and its container must be disposed of in a safe way.

MATERIAL SAFETY DATA SHEET

1. IDENTIFICATION OF SUBSTANCE, PREPARATION AND COMPANY

Product name – Tairal

MAPP – 07767

Use – Fungicide

Formulation type – Wettable powder

Supplier – Sipcam UK Limited, 3 The Barn, 27 Kneesworth Street, Royston, Herts SG8 5AB

Emergency phone no – Office 01763 212100

2. COMPOSITION/INFORMATION ON INGREDIENTS

Common name – Mancozeb **Common name** – Benalaxyl

CAS/EC no – 8018-01-7, 006-076-00-1 **CAS/EC no** – 71626-11-4

Hazard Symbol – Xi **Hazard Symbol** – N

R phrases – R37, R43 **R phrases** – R50/R53

Concⁿ – 68% **Concⁿ** – 8%

3. HAZARDS IDENTIFICATION

Critical Hazard to man – IRRITATING TO EYES & RESPIRATORY SYSTEM. MAY CAUSE SENSITISATION BY SKIN CONTACT.

Critical Hazard to environment – Very Toxic to aquatic organisms, may cause long term adverse effects in the aquatic environment.

4. FIRST AID MEASURES

General advice – Remove from source of exposure. Remove all contaminated clothing and wash affected area.

Inhalation – Remove the individual from exposure to this product and keep well ventilated with fresh air. Keep at rest. If necessary and if breathing stops, give artificial respiration. Seek medical attention.

Skin contact – Remove contaminated clothing immediately. Wash affected area thoroughly with soap and water. Rinse with more water. Seek medical attention.

Eye contact – Rinse immediately with plenty of water for at least 15 minutes and then seek medical attention.

Ingestion – If swallowed, seek medical attention immediately.

Poisoning symptoms – Symptoms may not be apparent immediately but may occur after a few hours, maintain under medical supervision for at least 48 hours.

Treatment – No Specific antidote. Treat Symptomatically and Supportive.

Consult a Poisons Centre such as;
0171 635 9191 (National Poisons Information Service - London)
(AUTHORISED MEDICAL PRACTITIONERS ONLY)

5. FIRE FIGHTING MEASURES

Suitable extinguishing media – Fight fire with CO₂, dry chemical powder, foam or water spray (in preference to water jet).

Specific hazards – Combustion may generate toxic fumes containing HCL, CO and NO₃. Under certain fire conditions traces of other toxic gases cannot be excluded.

Protective equipment – Wear self-contained breathing apparatus (SCBA).

Specific Methods – Cool containers with spray. Contain fire-fighting water, bunding if necessary with sand, earth, or other inert material.

6. ACCIDENTAL RELEASE MEASURES

Personal Protective Equipment – Wear protective coveralls, neoprene gloves, rubber boots and faceshield or goggles, covering as much of the body as possible (see section 8).

Environmental Protection – DANGEROUS TO FISH OR AQUATIC LIFE. Do not contaminate surface water or ditches with chemical or used container.

Inform local water plc immediately if spillage enters drains and the National Rivers Authority (England and Wales) or River Purification Boards (Scotland), if it enters surface or ground waters.

Clean up Methods – Contain or absorb spillage, sweep up carefully and shovel sweepings into marked bags or drums. Dispose of through a reputable local waste disposal contractor.

7. HANDLING AND STORAGE

Handling

Use Personal Protective Clothing as specified in Section 8.

Avoid fumes – work in a well ventilated area.

Storage

KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.

KEEP CONTAINER DRY.

KEEP AWAY FROM FOOD DRINK AND ANIMAL FEEDING STUFFS.

KEEP OUT OF REACH OF CHILDREN.

Other

WHEN USING, DO NOT EAT, DRINK OR SMOKE.

WASH SPLASHES from skin or eyes immediately.

AVOID ALL CONTACT BY MOUTH, WITH SKIN AND EYES.

DO NOT BREATHE DUST.

WASH HANDS AND EXPOSED SKIN before eating, drinking or smoking and after work.

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

8. EXPOSURE CONTROL/PERSONAL PROTECTION

Exposure Limits – Mancozeb 70-80% TWA 5 mg/m³.

Engineering measures – Use a cab fitted with a forced air filtration unit with a pesticide filter if possible when spraying.

Personal Protective Equipment

WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS), SUITABLE PROTECTIVE GLOVES* AND FACE PROTECTION (FACESHIELD) when handling the concentrate. (*neoprene or nitrile at least 0.6mm thick).

WASH ALL PROTECTIVE CLOTHING thoroughly after use, especially the insides of gloves.

Where PPE cannot be cleaned, dispose of as contaminated waste.

9. PHYSICAL AND CHEMICAL PROPERTIES

State – Powder

Density – 400 g/l approx

Colour – Yellowish

Odour – Light, characteristic

pH (5% in water) – 7

Explosive properties – Not explosive

Flammability – Not highly Flammable

Vapour pressure (ai) – benalaxyl 0.67 Pa 20°C
– mancozeb - negligible

Melting point (ai) – benalaxyl 88 - 80°C
– mancozeb decomposes at 194-204°C

Solubility in water (ai) – benalaxyl 37 mg/l
– mancozeb insoluble

10. REACTIVITY AND STABILITY

Stability – Stable under normal ambient conditions. Non-flammable and non-corrosive.

11. TOXICOLOGICAL INFORMATION

Acute oral LD₅₀ (rat) – >4,700 mg/kg

Acute dermal LD₅₀ (rat) – >4,000 mg/kg

Acute inhalation LC₅₀ (4h, rat) – >5.14 mg/l/4h

Irritation to Skin – Irritant

Irritation to eye – Irritant

Sensitisation – May cause sensitisation by skin contact

12. ECOLOGICAL INFORMATION

Mobility

Koc benalaxyl 2278-7173 mancozeb >2000 (virtually immobile)

Ecotoxicity (ai)

Rainbow Trout LC₅₀ benalaxyl 3.75 mg/l (96hr)
LC₅₀ mancozeb 2.2 mg/l (96hr)

Bees contact LD₅₀ benalaxyl >100 ug/bee
LD₅₀ mancozeb 0.913 mg/bee

13. DISPOSAL

Contact Local Authority (Environmental Health Department) or a reputable waste disposal company for collection and disposal of unwanted product or containers.

For further guidance on the disposal of containers, surplus spray solution, tank washings and concentrate, refer to Part 5 (Disposal of Pesticide Waste) of the MAFF/HSE booklet "Pesticides: Code of Practice for the Safe Use of Pesticides on Farms and Holdings".

14. TRANSPORT

UN Number – 3077

Packaging Group – III

Marine Pollutant – A12 "P"

ADR/RID Classification – 9, III

IMDG/IMO Classification – 9, F-A, S-F, 9 + Marine Pollutant

Proper shipping name – ENVIRONMENTALLY HAZARDOUS SUBSTANCE. SOLID N.O.S (contains benalaxyl 8%, mancozeb 65%).

15. REGULATORY INFORMATION

Hazard Symbol – Xi Irritant.
– N, Dangerous for the environment.

Risk Phrases (R) – R36/37 Irritating to eyes and respiratory system.

R43 May cause sensitisation by skin contact.

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

Safety Phrases (S) – S2 Keep out of the reach of children.

S8 Keep container dry.

S24/S25 Avoid contact with skin and eyes.

S35 This material and its container should 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.

16. OTHER INFORMATION

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

Packaging – 1 kg water soluble pack, 5 kgs bag, 10 kgs bag.

Container – Outer - 10x1 kg.

Approval number – MAFF 07767