



FUNGICIDE

MAPP 16989

A water dispersible granule containing 80% w/w sulphur for use against Powdery Mildew on sugar beet, hops, apples, vines, strawberries, swedes, turnips, winter and spring cereals, and for control of Gall Mite ("Big Bud") in blackcurrants, and for control of American Gooseberry Mildew in Gooseberries. Microthiol Special can also be used as a foliar feed on oilseed rape, grassland, potatoes, vegetable brassicas, vegetables, turf, top fruit and soft fruit.

Keep out of reach of children.
Do not eat, drink or smoke when using this product.
Keep only in original container.
Avoid release to the environment.

To avoid risks to human health and the environment, comply with the instructions for use.

**Do not contaminate water with the product or its container.
Do not clean application equipment near surface water.
Avoid contamination via drains from farmyards and roads.**

MICROTHIOL SPECIAL

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Microthiol Special can also be used as a foliar feed on oilseed rape, grassland, potatoes, vegetable brassicas, vegetables, turf, top fruit and soft fruit.

IMPORTANT INFORMATION

FOR USE ONLY AS AN AGRICULTURAL AND HORTICULTURAL FUNGICIDE AND AS A HORTICULTURAL ACARICIDE.

For use on: sugar beet, hops, apples, vines, blackcurrants, gooseberries, strawberries, swedes, turnips, winter and spring cereals (wheat, barley and oats).

Crops/situations:	Maximum individual dose: (kg product / ha)	Maximum total dose:	Maximum number of treatments:	Latest time of application:
Sugar beet	10	-	2 per crop	-
Barley (spring), barley (winter), oats (spring), oats (winter), wheat (spring), wheat (winter)	10	-	-	-
Hops (low volume)	11	-	-	before development of cones
Hops (high volume)	See 'Other Specific Restrictions'	-	-	before development of cones
Apple (low volume)	11	-	-	-
Apple (high volume)	See 'Other Specific Restrictions'	-	-	-
Grapevine				
Strawberry				
Blackcurrant and redcurrant	See 'Other Specific Restrictions'		3 per year	
Gooseberry	See 'Other Specific Restrictions'		3 per year	Up to and including fruit swell
Swede, turnip	10		2 per crop	Before end of September

Other specific restrictions

1. For hops, apple, grapevine and strawberry a minimum interval of 10 days must be observed between applications.
2. For blackcurrant and redcurrant, swede and turnip a minimum interval of 14 days must be observed between applications.
3. The maximum concentration for apple must not exceed 600g product in 100 litres of water.
4. The maximum concentration for hops must not exceed 500g product in 100 litres of water.
5. The maximum concentration for grapevine and gooseberry must not exceed 250g product in 100 litres of water.
6. The maximum concentration for blackcurrant and redcurrant and strawberry must not exceed 200g product in 100 litres of water.

READ THE LABEL BEFORE USE. USING THIS PRODUCT IN A MANNER THAT IS INCONSISTENT WITH THE LABEL MAY BE AN OFFENCE. FOLLOW THE CODE OF PRACTICE FOR USING PLANT PROTECTION PRODUCTS.

SAFETY PRECAUTIONS

Operator Protection

DO NOT BREATHE DUST.
WHEN USING, DO NOT EAT, DRINK OR SMOKE.
WASH HANDS before meals and after work.

Environmental Protection

DO NOT EMPTY INTO DRAINS; DISPOSE OF THIS MATERIAL AND ITS CONTAINER IN A SAFE WAY.

Storage And Disposal

KEEP OUT OF REACH OF CHILDREN.
KEEP AWAY FROM FOOD, DRINKS AND ANIMAL FEEDING STUFFS.
KEEP ONLY IN THE ORIGINAL CONTAINER, tightly closed in a safe place.
SULPHUR IS ATTRACTIVE TO LIVESTOCK AND MICROTHIOL SPECIAL MUST BE KEPT OUT OF THEIR REACH.

DIRECTIONS OF 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.
As Microthiol Special is a preventive fungicide, spraying should be carried out before the disease has become established in the crop. Certain varieties of fruit trees, bushes and vines may be damaged by sulphur sprays. The form of the spray, district, soil and weather conditions and type of stock all affect the degree of sulphur shyness. If in doubt, treat a small area with the product first.

CROP SPECIFIC INFORMATION FOR USE AS A FUNGICIDE.

SUGAR BEET

Powdery mildew appears in most seasons on sugar beet in the Eastern half of the country, south of the River Humber. Yields can be significantly affected due to a reduction in photosynthetic leaf area.
*Rate of application: Apply Microthiol Special at 10 kg per hectare in at least 400 litres of water.
+Timing: Apply Microthiol Special as soon as disease is seen in the crop (normally early August).
A second application may be necessary 2-3 weeks later.

HOPS

Powdery mildew appears from May onwards on the leaves and sometimes on the young shoots.
*Rate of application: Apply 5 kg per 1000 litres high volume or 11 kg per hectare low volume in 350-550 litres of water per hectare.
The maximum concentration must not exceed 500 g of product in 100 litres of water for the high volume application.
+Timing and minimum interval between application: Apply from May with a 10 day interval between treatments.
Latest time of application: Before development of cones.

APPLES

For control of Scab and Powdery Mildew.
*Rate of application:
A. Apply 6 kg per 1000 litres high volume or 11 kg per hectare in 550-750 litres of water low volume.
B. Apply 4 kg per 1000 litres high volume or 11 kg per hectare in 550-750 litres of water low volume.
The maximum concentration must not exceed 600 g of product in 100 litres of water for the high volume application.
+Timing and minimum interval between applications:
A. Apply from bud burst to green cluster at 10 day intervals for scab control.
B. Apply from post blossom at 10 day intervals for scab and mildew control.
NOTE: DO NOT use on the following sulphur sensitive varieties: Belle de Boskoop, Lord Derby, Newton Wonder (some districts), Stirling Castle, Lanes Prince Albert, Cox's Orange Pippin, Beauty of Bath, Rival.

DO NOT use on fruit to be used for processing.

GRAPEVINES

For control of Powdery Mildew.
*Rate of application: Apply at a maximum concentration of 2.5 kg of product per 1000 litres of water high volume per hectare.
The maximum concentration must not exceed 250 g product in 100 litres of water.
+Timing and minimum interval between applications: Apply on appearance of the disease and at 10 day intervals thereafter.
NOTE: DO NOT apply Microthiol Special near to harvest on grapes intended for wine.

BLACKCURRANTS

For control of Blackcurrants Gall Mite ("Big Bud").
*Rate of application: Apply at a maximum concentration of 2 kg per 1000 litres water high volume in at least 2250 litres per hectare. The maximum concentration must not exceed 200 g product in 100 litres of water.
+Timing and minimum interval between applications: Apply three times from first open blossom with a 14 day interval. An authorised non-ionic wetter should be added to the sprayer tank.
NOTE: DO NOT use on fruit to be used for processing.

GOOSEBERRIES

For control of American Gooseberry Mildew.
*Rate of application: Apply at a maximum concentration of 2.5 kg per 1000 litres of water high volume in at least 1125 litres per hectare. The maximum concentration must not exceed 250 g product in 100 litres of water.
+Timing: Apply at early flower and repeat at young fruit and fruit swelling. Good coverage is necessary.
Latest timing of application: Up to and including fruit swell.
NOTE: DO NOT use on the following "sulphur-shy" varieties: Golden Drop, Leveller, Lord Derby, Careless, Early Sulphur, Roaring Lion, Yellow Rough.
DO NOT use on fruit to be used for processing.

STRAWBERRIES

For control of Powdery Mildew.
*Rate of application: Apply at a maximum concentration of 2 kg per 1000 litres of water high volume in at least 1125 litres per hectare. The maximum concentration must not exceed 250 g product in 100 litres of water.
+Timing and minimum interval between applications: apply as soon as disease appears and repeat at 10 day intervals as necessary.
NOTE: DO NOT use on fruit to be used for processing.

SWEDES AND TURNIPS

For moderate control of Powdery Mildew. Powdery mildew is a leaf disease of swedes and turnips which can seriously depress yields.
*Rate of application: Apply 10 kg per hectare in 400 litres water.
+Timing and minimum interval between applications: Apply as soon as disease appears in the crop, when the crop meets across the rows (mid-July-August). Repeat 2-3 weeks later if weather conditions remain suitable for disease spread. A minimum interval of 14 days must be observed between applications.
Latest timing of application: Before end of September. Microthiol Special should only be applied if further growth is needed.

WINTER AND SPRING CEREALS (Wheat, barley and oats)

Powdery Mildew shows as white pustules, growing on the surface of leaves and leaf sheaths.
Treatment can give partial control of mildew on winter and spring cereals. However, results may be variable and systemic fungicides can be more reliable, especially in showery weather. Active established mildew may not be adequately controlled by Microthiol Special.

*Rate of application: Apply Microthiol Special at 10 kg per hectare in 200-450 litres of water.
+Timing: Apply Microthiol Special from late tillering to stem extension (Zadoks 25-30), 10-14 day intervals, according to disease prevalence.

MIXING

Add the product to the required volume of water in the spray tank. Leave to disperse and then agitate well. Continue effective agitation until spraying is complete.

CROP SPECIFIC INFORMATION FOR USE AS A FOLIAR FEED

OILSEED RAPE

An early spring spray gives useful growth promotion which often leads to an increase in the longevity of green leaf area and consequently increased yield.
Rate of application: Apply Microthiol Special at 10 kg per hectare in 200-450 litres of water.
Timing: Apply Microthiol Special during March at beginning of spring growth.

GRASSLAND

Yield promotion.
Rate of application: Apply Microthiol Special at 10 kg per hectare in 200-450 litres of water.
Timing: Hay or Silage: Apply Microthiol Special after the first or second cut ensuring there are at least two weeks between spraying and cutting.
Grazing: Apply Microthiol Special from mid-June to mid-July. Allow at least 3 weeks after re-introducing stock.

OTHER CROPS

Potatoes, vegetable brassicas, swedes, turnips, vegetables, vines, hops, turf, top fruit and soft fruit.
Rate of application: Apply Microthiol Special at 10 kg per hectare in 200-450 litres of water.
Timing: Apply Microthiol Special when the crop is actively growing and there is sufficient leaf area to absorb the spray. Spraying should be carried out on a calm day, but not during strong sunshine.
Do not spray if rain is imminent.
When sulphur deficiency is very severe, a repeat application should be made after 10-14 days.

DO NOT APPLY TO SULPHUR SHY VARIETIES OF CROPS

CONDITIONS OF SUPPLY

All goods supplied by us are of high grade and we believe them to be suitable but, as we cannot exercise control over their storage, handling, mixing or use, or the weather conditions before, during and after application which may affect the performance of the goods, all conditions and warranties, statutory or otherwise, as to the quality or fitness for any purpose of our goods are excluded, and no responsibility will be accepted by us or re-sellers for any failure in performance, damage or injury whatsoever arising from their storage, handling, application or use. Our staff or agents cannot vary these conditions whether or not they supervise or assist in the use of such goods. Microthiol Special is a registered trademark of United Phosphorus Limited. Other brand names used in this guide are trademarks of other manufacturers for which propriety rights may exist.