

HEADLAND COPPER

An inorganic micronutrient and fungicide

Contains 435 g/l of copper oxychloride (equivalent to 256 g/l copper)

Uses: To correct copper deficiency in a wide range of agricultural and horticultural crops, and as a fungicide in potatoes, hops, vines, tomatoes, celery, blackcurrants, blackberries, apples, pears and cherries.

Rates: 0.25 – 0.5 l/ha in at least 200 litres of water for correction of copper deficiency. For use as a fungicide, refer to 'Rates of Use – Fungicide Application' below.

Packs per Pallet: 51 x 2 x 5 litres

Introduction: Copper is essential to crops for stimulation of enzyme systems in association with other elements, and is particularly active in many of the metabolic pathways within the cell. All crops can be affected by copper deficiency including cereals, vegetables, fruit, brassicas, root crops, horticultural crops and grassland.

Crops grown on peaty soils, shallow organic chalks, heathland and heavily leached soils are most likely to exhibit copper deficiency.

Formulation: Headland Copper is a suspension concentrate formulation containing 435 g/l copper oxychloride (equivalent to 256 g/l elemental copper). It contains an advanced wetter/surfactant system for optimum leaf coverage and absorption. Headland Copper is also approved for use as a fungicide in certain crops – see below.

Rates of Use:
Copper deficiency Marginal deficiency: 0.25 l/ha in at least 200 l/ha water
Moderate deficiency: 0.5 l/ha in at least 200 l/ha water
Severe deficiency: 0.5 l/ha in at least 200 l/ha water. Repeat after 3 - 4 weeks and again if symptoms return.

Applications should be made during periods of active growth when there is enough foliage present to absorb the spray. Do not apply before the 3-leaf stage. Do not apply when the crop is under stress due to drought or extremes of temperature.

Note: a crop's nutrient status can only be determined accurately by tissue analysis. Headland recommends that tissue analysis

results are used whenever possible to optimise micronutrient applications.

Mixing:

Shake the container thoroughly before opening and use.

Add to the required quantity of water in the spray tank with agitation. Do not allow the mixture to stand in the tank without agitation.

**Rates of Use:
Fungicide
Application**

These recommendations form part of the product label approved under the Control of Pesticides Regulations 1986 (MAPP No. 13009). Do not exceed the maximum stated application rates.

Headland Copper may be used as a fungicide in organic potato crops if there is a need recognised by the inspection body or inspecting authority. No more than 6 kg of copper /ha/year may be applied to organic potatoes. This use is expected to continue to be permitted under organic standards until alternative control measures are developed.

Apples and Pears – Canker

Use 10 litres/ha in 1000 litres of water. Apply immediately prior to leaf fall. Repeat at 50% leaf fall and again at bud break if necessary. Do not apply more than 3 sprays per crop.

Blackberries – Purple Blotch Disease

Use 0.5 – 1.0 litres/ha in 1000 litres of water depending on disease severity. Apply during mid-May and repeat twice at 10-day intervals. Do not apply more than 3 sprays per crop.

Blackcurrants – Rust

Use 6 - 10 litres/ha in 1000 litres of water depending on the severity of the disease. Apply to affected bushes after harvest.

Celery – Celery Leaf Spot

Use 7 - 10 litres/ha in 700-1000 litres of water. Spray at the seedling stage and when planting out. Repeat at 10 - 14 day intervals as required.

Cherry – Bacterial Canker

Use 6 litres/ha in 1000 litres of water. Apply 3 sprays at 3 week intervals, beginning in mid-August. Some varieties may show symptoms of phytotoxicity.

Hops – Downy Mildew

Use 4 litres per 1000 litres of water as a high volume spray. Spray at 10 - 14 day intervals from mid-June until 7 days before harvest. Remove all infected terminal, lateral and basal

spikes. This treatment will also reduce the development of powdery mildew.

Potato – Potato Blight

Use 10 litres/ha in 1000 litres of water. Increase the water volume to 1300 litres during July and August. Apply immediately after a blight warning before onset of disease, followed by further sprays from mid-June to mid-August at 10 - 14 day intervals.

Tomato – Blight and Buckeye Rot

Use 6 litres/ha in 1000 litres of water. Apply before onset of the disease and repeat at 10 - 14 day intervals throughout the season. For control of Buckeye rot, also spray the lower parts of the plant and the soil.

Vines – Downy Mildew

Use 10 litres/ha in 1000 litres of water. Apply at bud burst and repeat at 10 - 14 day intervals as necessary.

Compatibility:

Headland Copper is physically compatible with many spray-applied agricultural chemicals. Consult your supplier for the latest information. Up-to-date compatibility information is also available at www.headland-ag.co.uk. Read the label of the partner product carefully before mixing with Headland Copper.

Storage:

Protect from frost. Store above 5°C. Do not store in direct sunlight.

Safety

Precautions:

a. Operator Protection

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

WEAR SUITABLE PROTECTIVE GLOVES when handling the concentrate.

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

WASH HANDS AND EXPOSED SKIN before meals and after work.

WHEN USING DO NOT EAT, DRINK OR SMOKE

b. Environmental Protection

Do not contaminate surface waters or ditches with chemical or used container.

c. Storage and Disposal

KEEP OUT OF REACH OF CHILDREN

KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDINGSTUFFS.

WASH OUT CONTAINER THOROUGHLY, empty washings into spray tank and dispose of safely.

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

d. Other Specific Restrictions

A minimum interval of 10 days must be observed between applications.

HARMFUL TO LIVESTOCK. Keep livestock out of treated areas for at least 3 weeks

DO NOT RE-USE CONTAINER for any purpose.

Important Information:

FOR USE ONLY AS AN AGRICULTURAL / HORTICULTURAL FUNGICIDE

Apple, pear

Maximum individual dose: 10.0 litres/ha

Maximum number of applications: 3 per crop

Blackcurrant, Vines, Celery, Potato

Maximum individual dose: 10.0 litres/ha

Tomato

Maximum individual dose: 6.0 litres/ha

Cherry

Maximum individual dose: 6.0 litres/ha

Maximum number of applications: 3 per crop

Blackberry

Maximum individual dose: 1.0 litre/ha

Maximum number of applications: 3 per crop

Hops

Maximum individual dose: 4.0 litres/ha

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.

Regulatory Information:

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002 (CHIP3) apply to this product.

Hazard Symbol: Harmful Xn
Dangerous for the Environment N

Risk Phrases: R22 Harmful if swallowed
R50 Very toxic to aquatic organisms
R53 May cause long-term adverse effects in the aquatic environment

Safety Phrases: S2 Keep out of reach of children
S23 Do not breathe spray
S35 This material and its container must be disposed of in a safe way.
S46 If swallowed, seek medical advice immediately and show the container label.
S57 Use appropriate containment to avoid environmental contamination

Product registration number MAPP 13009.

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

Transport:

This product is classified as hazardous for transport.
Road transport: Environmentally hazardous liquid
UN Number: 3082
Proper Shipping Name: Environmentally hazardous substance, liquid, NOS (contains copper oxychloride 32.2% w/w)
UN Class: 9
Packing Group: III
ADR/RID Description: Marine pollutant
IMDG Class: Marine pollutant 9

Other

Registrations:

Headland Copper is also registered for use as a fungicide in Australia and New Zealand. Contact Headland Agrochemicals for further details.

Date of latest revision: September 2007
Significant changes since last issue: Updated advice on use of copper for blight control in potatoes grown in organic regimes.
Re-formatted Safety Precautions and Important Information.