NISSORUN® SC

MAPP 19263

A suspension concentrate containing 250 g/L hexythiazox for use as an acaricide for control of two-spotted spider mite *(Tetranychus urticae)* in hops, pome fruit, cucumber, courgette, summer squash, marrow, gherkin, melon, pumpkin, winter squash, watermelon, pepper, aubergine and tomato.

Batch no:

Pack size: 250ml, 500ml or 1 litre

THE (COSHH) CONTROL OF SUBSTANCES HAZARDOUS TO HEALTH REGULATIONS MAY APPLY TO THE USE OF THIS PRODUCT AT WORK.

IMPORTANT INFORMATION

FOR USE ONLY AS A PROFESSIONAL ACARICIDE

Crops/ situations:	**Maximum individual dose: (litres product / ha)**	**Maximum number of treatments: (per 12 months)**	**Latest time of application:**	**Aquatic buffer zone (metres):**
Hops	0.6 L/ha	1	28 days before harvest	30 m
Apple and Pear	0.39 L/ha	1	28 days before harvest	30 m (BBCH ≤70) 15 m (BBCH >70)
Cucumber, courgette, summer squash, marrow, gherkin, melon, pumpkin, winter squash, watermelon (Permanent protection)	0.32 L/ha	1	3 days before harvest	0
Pepper (Permanent protection)	0.32 L/ha	1	3 days before harvest	0

Aubergine, Tomato (Permanent protection)	0.32 L/ha	1	3 days before harvest	0

Other specific restrictions:

- Reduction of the dose is permitted, but the maximum number of applications and other application conditions must be strictly observed. Efficacy has been established for the stated dose per application and not for reduced doses.
- Do not apply by hand held equipment to hops or pome fruit crops.
- When manually cutting or handling tall hop bines workers must wear suitable protective gloves (see worker protection phrase). Gloves are not required when harvesting low bines where the hop cone is mechanically removed from the live bine in-situ.
- Managers must carry out a thermal comfort checklist for protected environments (see http://www.hse.gov.uk/temperature/assets/docs/thermal-comfort-checklist.pdf) prior to worker re-entry tasks. If needed, an additional heat stress check list and associated risk assessment must be undertaken (see-http://www.hse.gov.uk/temperature/assets/docs/heat-stress-checklist.pdf) and the records retained. Temperature and humidity inside glass houses should be monitored during re-entry tasks. If conditions become such that there is a risk of heat related illness, or workers complain of ill effects, then work must cease until the risk is reduced. It is not acceptable for workers to remove clothing and continue working.

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

Engineering control of operator exposure must be used where reasonably practicable in addition to the following personal protective equipment:
Vehicle mounted spray equipment must only be used where the operator's normal working position is within a closed cab with a suitable in-cab filtration system* or alternatively suit-able respiratory protective equipment** must be worn during vehicle mounted application in protected situations.
*Closed cabin meeting European standard EN 15695 category 3 which includes a positive pressure system to at least 20 Pa; dust and aerosol and filtration [filter to at least EN143 P3 standard or equivalent]; prevention of unfiltered air flow into the cabin and minimum filtered air intake flow of 30 m3/hour.
**Disposable filtering facepiece respirator to at least EN149 FFP3 or equivalent.
WEAR SUITABLE PROTECTIVE GLOVES AND FACE PROTECTION (FACESHIELD) when handling the concentrate.

WEAR SUITABLE PROTECTIVE GLOVES when handling contaminated surfaces or applying by hand held equipment.
WEAR SUITABLE PROTECTIVE CLOTHING (COVERALLS) AND SUITABLE PROTECTIVE GLOVES when applying by vehicle mounted equipment in protection situations.
WASH CONCENTRATE from skin or eyes immediately
WASH HANDS AND EXPOSED SKIN before meals and after work
WHEN USING, DO NOT EAT DRINK OR SMOKE
IF YOU FEEL UNWELL, seek medical advice immediately (show the label where possible)
Workers must wear suitable protective gloves* when handling treated hops (see Other Specific Restrictions). *Meeting at least glove safety standard EN374-2:2014, Level 2. Such gloves can be identified by a CE Mark with four digits below, and the EN374 pictogram for micro-biological hazards.
Workers must wear suitable protective gloves* when handling treated pome fruit crops within 3 weeks after treatment. *Meeting at least glove safety standard EN374-2:2014, Level 2. Such gloves can be identified by a CE Mark with four digits below, and the EN374 pictogram for micro-biological hazards.
Workers must wear suitable protective clothing in which arms, body and legs are fully covered when re-entering treated areas or handling treated protected fruiting vegetable crops or contaminated surfaces within 5 weeks of treatment. (See Other Specific Restrictions).

However, other engineering controls in addition to those specified above may replace personal protective equipment if a COSHH assessment shows they provide an equal or higher standard of protection.

Environmental protection
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.

To protect aquatic organisms respect an unsprayed buffer zone of 15-30 m to surface water bodies in line with LERAP requirements depending on crop and timing of application (see below table)':

Environmental protection:	Relevant for use on:
To protect aquatic organisms use unsprayed buffer zone of 30m	Hops
To protect aquatic organisms use unsprayed buffer zone of 30m for early application (BBCH ≤70)	Apple and Pear
To protect aquatic organisms use unsprayed buffer zone of 15m for late application (BBCH >70)	Apple and Pear

DO NOT ALLOW DIRECT SPRAY from broadcast air-assisted sprayers to fall within 30m when applying to hops and during early application to pome fruit (prior to and including BBCH 70), or 15m during late application to pome fruit (post BBCH 70), of the top of the bank of a static or flowing waterbody, unless a Local Environment Risk Assessment for Pesticides (LERAP) permits a narrower buffer zone, or within 5m of the top of a ditch which is dry at the time of application. Aim spray away from water.

The use of this product in recirculating water systems in a greenhouse may result in dilute pesticide waste that requires disposal. All dilute pesticide waste must be disposed of safely and legally to protect humans, wildlife and the environment, especially groundwater and surface

water. Pesticide disposal advice is detailed in the 'Code of Practice for Using Plant Protection Products (Section 5: Disposing of Pesticide Waste).

This product qualifies for inclusion within the Local Environment Risk Assessment for Pesticides (LERAP) scheme for broadcast air-assisted sprayers. Before each spraying operation from a broadcast air-assisted sprayer, either a LERAP must be carried out in accordance with the 'Local Environment Risk Assessment for Pesticides Broadcast Air-Assisted Sprayers' booklet available from the HSE Chemicals Regulation Division's website or the statutory buffer zone must be maintained. The results of the LERAP must be recorded and kept available for three years

Storage and disposal
KEEP IN ORIGINAL CONTAINER, tightly closed, in a safe place.
WASH OUT CONTAINER THOROUGHLY, empty washings into the spray tank and dispose of the container safety

Store product in a cool, dry place.
KEEP AWAY FROM FOOD, DRINK AND ANIMAL FEEDING STUFFS.

NISSORUN® SC

A suspension concentrate formulation containing 250 g/L hexythiazox.

WARNING
CAUSES SERIOUS EYE IRRITATION
TOXIC TO AQUATIC LIFE WITH LONG LASTING EFFECTS

Wear protective gloves/protective clothing/eye protection/face protection.
IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
If eye irritation persists: Get medical advice/attention.
Collect spillage.
Dispose of contents/container to a licensed hazardous-waste disposal contractor or collection site except for triple rinsed empty clean containers which can be disposed of as non-hazardous waste.

Contains 1,2-benzisothiazole-3(2H)-one. May produce an allergic reaction.

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

MAPP 19263

This label is compliant with the CPA Voluntary Initiative Guidance

DIRECTIONS FOR USE
See leaflet attached to bottle.

Marketed by:

Certis Europe B.V, Suite 5, 3 Riverside, Granta Park, Great Abington, Cambridgeshire, CB21 6AD

Tel: 0044 (0)845 373 0305
Fax: 0044 (0)1223 891210
E-mail: info@certiseurope.co.uk

For technical and non-emergency calls - phone 0044 (0)1223 894261
For advice on medical emergencies, fires, spillages or chemical hazards ONLY – phone 0870 190 6777

Authorisation Holder: Nisso Chemical Europe GmbH, c/o Suite 5, , 3 Riverside, , Granta Park, , Great Abington, Cambridge, CB21 6AD.

GENERAL INFORMATION
NISSORUN® is an acaricide for control of spider mite (Tetranychus sp.) in crops (moderate control in glasshouse crops). The active ingredient hexythiazox belongs to IRAC Group 10A and it is a mite growth inhibitor. NISSORUN is an ovicide and larvicide and as such it is effective against the eggs and the larval stages of the spider mites with limited effect on adults. Due to its mode of action the results from applications are slow to appear.

To avoid failure in product performance, it is important to pay close attention to the directions for use.

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.
Application is to be made at the first signs of attack.

CROP SPECIFIC RECOMMENDATIONS

Hops
Pests: Two-spotted spider mite (*Tetranychus urticae*)
Application Dose Rate: Application is to be made by broadcast air-assisted or low volume sprayer with maximum individual dose of 0.6 L/ha in 800 – 3,300L of water volume
Applications before growth stage BBCH 37 use 0.27 L/ha, for interval between growth stage BBCH 37 – 55 use 0.40 L/ha, and above growth stage BBCH 55 use 0.6 L/ha.
Maximum Concentration: 27ml per 100L water for growth stages >BBCH 37 and 33.75ml per 100L for growth stages <BBCH 37
No of Treatments: 1

Apple, Pear
Pests: Two-spotted spider mite (*Tetranychus urticae*)
Application Dose Rate: Application is to be made between growth stage BBCH 51 – 79 at the first signs of attack using broadcast air-assisted sprayers with maximum individual dose of 0.39 L/ha in 500 – 1,500 L of water volume.
Maximum Concentration: 26ml per 100L of water
No of Treatments: 1
Where tree height and/or canopy density is reduced, the dose (and water volume) should be adjusted in accordance with an appropriate dose adjustment scheme. Consult you specialist advisor for further information. Further information on the Pesticide Adjustment to the Crop Environment (PACE) scheme is available from Agriculture and Horticulture Development Board (AHDB) Apple Best Practice Guide, or PACE website.

Cucumber, courgette, summer squash, marrow, gherkin, melon, pumpkin, winter squash, watermelon (Permanent protection with full enclosure)
Pests: Two-spotted spider mite (*Tetranychus urticae*)
Application: Application is to be made no later than growth stage BBCH 89 at the first signs of attack by broadcast air-assisted, hydraulic boom sprayers or handheld knapsack sprayers with maximum individual dose of 0.32 L/ha in 600 – 1,200 L of water volume.

Crop height (cm)	Rate (L/ha)	Water volume (L/ha)
<50cm	0.16	600
50-125	024	900
>125	0.32	1200

Maximum Concentration: 27 ml per 100 L of water
No of Treatments: 1

Pepper (Permanent protection with full enclosure)
Pests: Two-spotted spider mite (*Tetranychus urticae*)
Application: Application is to be made no later than growth stage BBCH 89 at the first signs of attack by broadcast air-assisted, hydraulic boom sprayers or handheld knapsack sprayers with maximum individual dose of 0.32 L/ha in 600 – 1,200 L of water volume.
Maximum Concentration: 27 ml per 100 L of water
No of Treatments: 1

Aubergine, Tomato, (Permanent protection with full enclosure)
Pests: Two-spotted spider mite (*Tetranychus urticae*)
Application: Application is to be made no later than growth stage BBCH 89 at the first signs of attack by broadcast air-assisted, hydraulic boom sprayers or handheld knapsack sprayers with maximum individual dose of 0.32 L/ha in 600 – 1,200 L of water volume.
Maximum Concentration: 27 ml per 100 L of water
No of Treatments: 1

Since not all local conditions can be considered with regards to phytotoxicity of crops, we recommend trialling the product on a small scale first prior to large scale applications.

Mixing
Shake the product container well before use. Fill the tank 2/3 with water, switch on the agitator, measure and add NISSORUN. Thoroughly rinse empty product containers with water and add rinsed water to the spray mixture. Then fill up to the required amount of water. Apply spray mixture immediately after mixing.

Technology
NISSORUN is an acaricide with contact and stomach action. Good translaminar activity. Has ovicidal, larvicidal and nymphicidal activity. Not active against adults, but eggs laid by treated females are non-viable. The amount of water and spray quality or spraying equipment should allow a thorough wetting of all plant parts to achieve maximum coverage including on the underside of the leaves. It is easily achieved with the broadcast air assisted equipment with correct nozzle choice depending on crop.

Cleaning
Thoroughly clean sprayer and lines with water after use. To do this, fill up approx. 10% of the tank contents with water while spraying the inner surfaces of the tank with the water jet. Switch on agitator for approximately 2 minutes. Then spray cleaning liquid through the nozzles on the previously treated surface while the agitator is running. The regular cleaning of the crop protection equipment from the outside, in particular the pump unit and linkage, should be part of the normal operational sequence and take place as directly as possible on the field. For this purpose, the equipment manufacturers offer suitable retrofit kits with water storage tanks and cleaning brushes.

Compatibility

NISSORUN is generally well tolerated in crops. Since different tolerances can occur in individual varieties of crops, it is recommended, in case of doubt before the spraying of the entire crop to test the sensitivity of individual plants. Allow for an observation period of 5-8 days.
Crop safety on “Cox”/ “Bramley”/ “Conference” has not been established, adverse effects on russeting cannot be excluded.

Effects on beneficial insects
NISSORUN can be used in Integrated Pest Management strategies. However, it may be harmful to some biological control agents, including the predatory mite *Typhlodromus pyri*. Consult with your supplier of natural enemies, the manufacturer of this product, your advisor, about the use of this product in combination with the use of natural enemies.

Resistance management
Pesticides of different chemical types or alternative control measures should be included in the planned programme (i.e. alternating with other actives that are not in Group 10A). Alternating pesticides with different modes of action is a recognised anti-resistance strategy.

Restrictions and Warnings
The effects on fermentation processes in hops and cider/perry production have not been fully tested.

Company Advisory Information
Nissorun applications should be made at first sign of spider mite attack. Where high infestation of spider mites occur alternating with active ingredients controlling the adult stages of spider mites should be considered. As there is limited effect on adults the product will not control adults which are in diapause stage.

Hexythiazox is a very stable active ingredient in aqueous solution and it is not influenced by pH (stable at pH 5 to pH 9) or light degradation and the SC formulation is suitable for tank mixing with other products. Please contact the manufacturer for specific tank mixing data and always tests on small scale first before application on large scale.