

front cover



1 litre e



Runner is a MAC (Moulting Accelerating Compound) insecticide to control Tortrix, winter moth and codling moth larvae in apples and pears.

MAPP 12940

A suspension concentrate formulation containing 240 g/L methoxyfenozide.

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

For 24 hour emergency information contact Bayer CropScience Limited Telephone: 0800 220876

Approval holder: Dow AgroSciences Limited Latchmore Court, Brand Street, Hitchin, Hertfordshire SG5 1NH



Marketed by: Bayer CropScience Limited 230 Cambridge Science Park Milton Road, Cambridge CB4 0WB Telephone: 01223 226500



Bayer CropScience

SAFETY PRECAUTIONS

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.

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.

# DO NOT ALLOW DIRECT SPRAY from broadcast air-assisted sprayers to fall within 5 metres of the top of the bank of a static or flowing waterbody or within 5 metres of the top of a ditch which is dry at the time of application. Aim spray away from water.

# DO NOT ALLOW DIRECT SPRAY from hand-held sprayers to fall within 1 m of the top of the bank of a static or flowing waterbody. Aim spray away from water.

# This product qualifies for inclusion within the Local Environmental 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 PSD's published guidance or the statutory buffer zone must be maintained, The results of the LERAP must be recorded and kept available for three years.

RISK TO NON-TARGET INSECTS OR OTHER ARTHROPODS. See Directions for Use.

Storage and Disposal

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

EMPTY CONTAINER COMPLETELY and dispose of safely.



RUNNER

Contains 240 g/L methoxyfenozide

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 MARKED # IS A LEGAL REQUIREMENT

FOR USE ONLY AS A HORTICULTURAL INSECTICIDE

Crops/Situation: Outdoor apple and pear
Maximum individual dose: 0.6 litres of product per hectare
Maximum number of treatments: Three per year
Latest time of application: 14 days before harvest

READ ALL OTHER SAFETY PRECAUTIONS AND DIRECTIONS FOR USE BEFORE USE

PROTECT FROM FROST



The Voluntary Initiative

This label is compliant with the CPA Voluntary initiative Guidance

GB05717514c rA4

TEAR HERE FOR INSTRUCTION LEAFLET

INSTRUCTIONS FOR USE ARE CONTAINED INSIDE THIS LABEL

## ***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.

### ***GENERAL***

RUNNER™ is a benzoylhydrazine MAC (Moulting Accelerating Compound) insecticide for the control of tortrix (*Adoxophyes orana*), winter moth (*Operophtera brumata*) and codling moth (*Cydia pomonella*) larvae in apples and pears.

Methoxyfenozide mimics the natural moulting hormone 20-hydroxyecdysone, causing complete cessation of feeding and premature moulting within hours of the moth pest larvae ingesting treated plant tissue. The larvae subsequently die within a few days as a result of dehydration and starvation.

### ***WARNINGS***

Because Runner is harmful to caterpillars of pest species, it is likely that it will also be harmful to caterpillars of some non-target butterfly and moth species. To minimise the risk posed by Runner to these non-target species, users should minimise off-target drift into natural habitats (e.g. hedgerows and meadows) using the best available application techniques.

### ***PESTICIDE RESISTANCE MANAGEMENT STRATEGY***

Alternating insecticides with different modes of action is a recognised anti resistance strategy. Methoxyfenozide, a member of the MAC (Moulting Accelerating Compound) class of compounds which have a different mode of action from other top fruit insecticides (including chitin biosynthesis inhibitors and juvenile hormones), is ideally suited for this practice.

To further minimise the likelihood of less susceptible pest strains arising, RUNNER should always be applied at the full recommended rate of use and in sufficient water volume to achieve the required spray penetration into the crop and uniform coverage necessary for optimal pest control.

### ***RATE OF USE***

Apply RUNNER at 0.6 litre per hectare where trees are large (3 metre or greater foliar canopy height). The rate of RUNNER should be reduced in proportion to foliar canopy height to a minimum of 0.4 litre per hectare where trees are small (up to 2 metre foliar canopy height).

This is equivalent to 0.04% spray (40 millilitres in 100 litres of water) using a water volume of 1500 litres per hectare for large trees or a water volume of 1000 litres per hectare for small trees.

### ***APPLICATION***

#### ***WATER VOLUME:***

Apply RUNNER in 150 to 1,500 litres of water per hectare (with air assistance). It is important, particularly when spraying post-blossom, to achieve full penetration of the leaf canopy and uniform coverage of the foliage and blossoms or fruitlets.

### ***TIMING***

RUNNER must be applied early, when the Lepidopterous larvae are small, for maximum effectiveness according to the life cycles of the individual pests species. The latest timing of application for RUNNER is 14 days before harvest.

### ***WINTER MOTH AND TORTRIX***

A spray should be applied pre-blossom from early green cluster or during blossom when the first signs of active larvae, which spin themselves into the young leaves and blossom after overwintering, are seen. In the summer (about June), another treatment can be carried out if there are larvae of the summer generation present (Tortrix only).

### ***CODLING MOTH***

A post-blossom spray should be applied on the basis of pest monitoring. The optimal application timing is from early to peak egg deposition. Codling Moth will usually require a series of follow-up treatments and RUNNER may be used for up to two of these, - see 'Number of Sprays' section.

### ***NUMBER OF SPRAYS***

Effective larva control in top fruit usually requires several sprays of insecticide per year and RUNNER may be used for up to a maximum of three of these sprays. No more than two sprays of RUNNER should be applied consecutively (see 'Pesticide Resistance Management Strategy').

### ***MAXIMUM RESIDUE LEVEL***

The maximum residue level for methoxyfenozide in apple and pear of 0.5 mg/kg must not be exceeded.

### ***MIXING***

Thoroughly shake the pack before use.

Add the required quantity of RUNNER to the half-filled spray tank with the agitation system in operation, and fill to the required level. Continue agitation at all times during spraying and stoppages until the tank is completely empty. Spray immediately after mixing.

© Runner is a Registered Trademark of Dow AgroSciences LLC.  
© Dow AgroSciences LLC 2007

**Section 6 of the Health and Safety at Work Act**

Additional Product Safety Information (This section does not form part of the approved product label).  
The product label provides information on a specific pesticidal use of the product; do not use otherwise, unless you have assessed any potential hazard involved, the safety measures required and that the particular use has "off-label" approval or is otherwise permitted.

The information on this label is based on the best available information including data from test results.

**SAFETY DATA SHEET** according to EC Directive 2001/58/EC

**RUNNER** Version 1 / GB Revision Date: 28.06.2004 10200007677

**1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND THE COMPANY/UNDERTAKING****Product information**

Trade name	RUNNER
Product code (UVP)	05302609, 05439345, 05389178, 05563275
Usage	insecticide
Company	Bayer CropScience Limited, 230 Cambridge Science Park Milton Road, Cambridge CB4 0WB
Telephone	+44(0)1223 226500
Telefax	+44(0)1223 426240
Emergency telephone number	0800-220876 (UK 24 hr) +44(0)1603-242424 (Overseas 24 hr)

**2. COMPOSITION/INFORMATION ON INGREDIENTS****Chemical nature**

Suspension concentrate (=flowable concentrate)(SC)

Methoxyfenozide 240 g/l

**Hazardous components**

Chemical Name	CAS-No. / EINECS-No.	Symbol(s)	R-phrased(s)	Concentration [%]
methoxyfenozide	161050-58-4	N	R51/53	22.70
1,2 Propanediol	57-55-6 200-338-0			> 5.00 - < 25.00

**3. HAZARDS IDENTIFICATION****Risk advice to man and the environment**

No particular hazards known.

**4. FIRST AID MEASURES****General advice**

Move out of dangerous area. If the patient is likely to become unconscious, place and transport in stable sideways position. Remove soiled or soaked clothing immediately.

**Inhalation**

Move the patient to fresh air and keep at rest. If symptoms persist, call a physician.

**Skin contact**

Wash off immediately with soap and plenty of water.

**Eye contact**

In case of contact with eyes rinse thoroughly with water. Call a physician immediately.

**Ingestion**

Do not induce vomiting. Wash out mouth with water. Call a physician immediately.

**Notes to physician****Treatment**

Elementary aid, decontamination and symptomatic treatment.

**5. FIRE-FIGHTING MEASURES****Suitable extinguishing media**

water spray, carbon dioxide (CO<sub>2</sub>), foam, sand

**Specific hazards during fire fighting**

In the event of fire the following can be released:  
hydrogen cyanide (hydrocyanic acid), carbon monoxide (CO), nitrous gases (NO<sub>x</sub>)

**Special protective equipment for fire-fighters**

In the event of fire and/or explosion do not breathe fumes. Use breathing apparatus.

**Further information**

Contain the spread of the fire-fighting media. Do not allow run-off from fire fighting to enter drains or watercourses.

**6. ACCIDENTAL RELEASE MEASURES****Personal precautions**

Avoid contact with spilled product or contaminated surfaces.

Wear personal protective equipment. Unprotected persons must be kept away.

**Environmental precautions**

Keep people and animals away.

Do not discharge into the drains/surface water/groundwater.

If spillage enters drains leading to sewage works inform local water company immediately.

If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

**Methods for cleaning up**

Take up with absorbent material (e.g. sand, earth or a proprietary absorbent material).

Clean contaminated floors and objects thoroughly, observing environmental regulations

Pack spilled material in suitable containers for recovery or disposal.

**Additional advice**

Information regarding personal protective equipment, see section 8.

Information regarding waste disposal, see section 13.

**7. HANDLING AND STORAGE****Handling**

Advice on safe handling

Use only in area provided with appropriate exhaust ventilation.

**Storage**

Requirements for storage areas and containers

Keep containers tightly closed in a dry, cool and well-ventilated place.

Advice on common storage

Keep away from food, drink and animal feedingstuffs.

Suitable materials

Only use containers that are approved specifically for the substance/ product.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION**

Refer to COSH assessment (Control of substances Hazardous to Health Regulations 1999 as amended).

Engineering controls should be used in preference to personal protective equipment wherever practicable.

**Components with workplace control parameters**

Components	CAS-No.	Control parameters	Update	Basis
1,2 Propanediol (Particulate.)	57-55-6	10 mg/m <sup>3</sup> (TWA)	2001	EH40 OES
1,2 Propanediol (Vapor and particulates.)	57-55-6	474 mg/m <sup>3</sup> (TWA)	2001	EH40 OES

**Personal protective equipment**

Respiratory protection	No personal respiratory protective equipment normally required.
Hand protection	solvent-resistant gloves
Eye protection	Safety glasses with side-shields
Skin and body protection	Light protective clothing, PVC PVC boots

**Hygiene measures**

- Avoid contact with skin, eyes and clothing.
- Keep working clothes separately.
- Wash hands before breaks and at the end of workday.
- Remove soiled or soaked clothing immediately and clean thoroughly before using again.
- Garments that cannot be cleaned must be destroyed (burnt).

**9. PHYSICAL AND CHEMICAL PROPERTIES****Appearance**

Form	suspension
Colour	brownish
Odour	slight, original odour

**Safety data**

Flash point	> 100 °C
Density	ca. 1.06 g/cm <sup>3</sup> at 20 °C
Water solubility	miscible

**10. STABILITY AND REACTIVITY**

Conditions to avoid	Extremes of temperature and direct sunlight.
Materials to avoid	strong oxidizing agents
Hazardous reactions	No hazardous reactions when stored and handled according to prescribed instructions. Stable under recommended storage conditions.

**11. TOXICOLOGICAL INFORMATION**

Acute oral toxicity	LD50 (rat) > 5,000 mg/kg
Acute inhalation toxicity	LC50 (rat) > 0.9 mg/l Exposure time: 4 h (as aerosol) Highest attainable concentration.
Acute dermal toxicity	LD50 (rat) > 2,000 mg/kg
Skin irritation	non-irritant (rabbit)
Eye irritation	non-irritant (rabbit)
Sensitization	Non-sensitizing (guinea pig) OECD Test Guideline 406, Magnusson & Kligman test

**12. ECOLOGICAL INFORMATION****Ecotoxicity effects**

Toxicity to fish	LC50 (Rainbow trout ( <i>Oncorhynchus mykiss</i> )) > 130 mg/l Exposure time: 96 h
Toxicity to daphnia	EC50 (Water flea ( <i>Daphnia magna</i> )) > 420 mg/l Exposure time: 48 h
Toxicity to algae	IC50 ( <i>Pseudokirchneriella subcapitata</i> ) > 107 mg/l Growth rate Exposure time: 96 h
Toxicity to bacteria	EC50 (Activated sludge) > 10,000 mg/l The value mentioned relates to the active ingredient.

**13. DISPOSAL CONSIDERATIONS****Product**

In accordance with current regulations may be taken to waste disposal site or incineration plant, after consultation with site operator and/or with the responsible authority.

Can be landfilled or incinerated, when in compliance with local regulations.

Advice may be obtained from the local waste regulation authority (part of the Environment Agency in the UK).

**Contaminated packaging**

Packaging that cannot be cleaned should be disposed of as product waste.

Empty containers can be landfilled after cleaning, when in compliance with the Environmental Protection (Duty of Care) Regulations 1991.

**Waste key for the unused product**

020108 agrochemical waste containing dangerous substances

**14. TRANSPORT INFORMATION**

ADNR	Not dangerous goods
ADR	Not dangerous goods
GGVE	Not dangerous goods
GGVS	Not dangerous goods
IATA_C	Not dangerous goods
IATA_P	Not dangerous goods
IMDG	Not dangerous goods
RID	Not dangerous goods
UK 'Carriage' Regulations	Not dangerous goods

Classification according to 'The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2004' and any subsequent amendments.

**15. REGULATORY INFORMATION**

This product has been classified in accordance with The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002: CHIP 3.

**Classification:**

Does not require a hazard warning label, but the normal safety precautions for handling of chemicals must be observed.

Hazardous components which must be listed on the label:

- methoxyfenozide

**Exceptional labelling**

Restricted to professional users.

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

**Further information**

WHO-classification: II (Moderately hazardous)

**16. OTHER INFORMATION****Further information**

Text of R phrases mentioned in Section 2:

R51/53	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
--------	---

The above information is intended to give general health and safety guidance on the storage and transport of the product. It is not intended to apply to the use of the product for which purposes the product label and any appropriate technical usage literature available should be consulted and any relevant licenses, consents or approvals complied with. The requirements or recommendations of any relevant site or working procedure, system or policy in force or arising from any risk assessment involving the substance or product should take precedence over any of the guidance contained in this safety data sheet where there is a difference in the information given. The information provided in this safety data sheet is accurate at the date of publication and will be updated as and when appropriate. No liability will be accepted for any injury, loss or damage resulting from any failure to take account of information or advice contained in this safety data sheet. This version replaces all previous versions.