


# MULAN<sup>®</sup> 20 SP

Reg. no. L9167 Act/Wet 36 of/van 1947  
N-AR 1393; W130813

GROUP	4A	INSECTICIDE
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A water soluble powder systemic, contact and stomach insecticide for the control of pests listed on canola, citrus, cotton, rooibos tea, table grapes, tomatoes, wheat, barley and oats.	'n Wateroplosbare poeier sistemiese, kontak- en maaginsekdoder vir die beheer van plaes soos gelys in kanola, katoen, koring, gars, hawer, rooibostee, sitrus, tafeldruiwe en tamaties.
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 <b>WARNING</b>	<b>Hazard statements</b> Harmful if swallowed.
	<b>Precautionary statements</b> Do not eat, drink or smoke when using this product. Wash face, hands and any exposed skin thoroughly after handling.

## ACTIVE INGREDIENT/AKTIEWE BESTANDDEEL

acetamiprid (neonicotinoid) ..... 200 g/kg ..... asetamipried (neonikotiniëd)

## NET MASS/NETTO MASSA

..... kg

### REGISTRATION HOLDER/REGISTRASIEHOUER

ADAMA South Africa (Pty) Ltd;  
Reg. no. 1992/001741/07  
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infocpt@adama.com

### IN CASE OF POISONING, CALL THE FOLLOWING NUMBERS:

Griffon Poison Information Centre:  
+27 82 446 8946 or  
Tygerberg Poison Information Centre:  
+27 861 555 777

### EMERGENCY NUMBER:

SPILL TECH: +27 86 100 6366 or +27 83 253 6618

UN no.: Not regulated

Batch number .....  
Date of manufacture .....  
Expiry date .....

Lotnommer .....  
Datum van vervaardiging .....  
Vervaldatum .....



GHS information

## WARNINGS

- Harmful if swallowed.

**Withholding periods** (minimum number of days between last application and harvest or feeding):

<b>Barley</b> .....	60 days
<b>Canola (no feeding)</b> .....	56 days
<b>Citrus</b> .....	150 days
<b>Cotton</b> .....	21 days
<b>Oats</b> .....	70 days
<b>Rooibos tea</b> .....	90 days
<b>Table grapes</b> .....	45 days
<b>Tomatoes</b> .....	3 days
<b>Wheat</b> .....	56 days

**Export crops:** The local maximum residue levels (MRLs) will not be exceeded if **MULAN® 20 SP** is used according to the label instructions. However, ADAMA South Africa (Pty.) Ltd. cannot be held responsible if MRLs of other countries are exceeded. The local export marketing bodies must be consulted regarding application timing, withholding periods and specific tolerances of countries where produce will be exported to.

- Handle with care.
- Toxic-to fish, bees and wildlife.
- Store in a cool, dry place away from food and feedstuffs.
- Do not graze treated crops.
- **Re-entry:** Do not enter treated area until spray deposit has dried unless wearing protective clothing.

**Although this remedy has been extensively tested under a large variety of conditions, the registration holder does not warrant that it will be efficacious under all conditions, because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, quality of dilution water, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest to the remedy concerned, as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal, or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions, or to the occurrence of conditions which could not have been foreseen in terms of the registration. Consult the supplier in the event of any uncertainty.**

## PRECAUTIONS

- Keep out of reach of children.
  - Wash face, hands and any exposed skin thoroughly after handling.
  - Do not eat, drink or smoke when using this product.
  - IF SWALLOWED: Get medical help.
  - Rinse mouth.
  - Dispose of contents/container in accordance with national regulation.
- Do not inhale fumes or spray mist.
  - Wear protective clothing, face shield and gloves when handling the concentrate.
  - Take off contaminated clothing. Wash working clothes daily.
  - Do not contaminate adjacent areas, grazing, rivers, dams or other water sources.
  - After use, clean applicator and throw away wash water where it will not contaminate, grazing, rivers, dams or crops.
  - Empty container completely by shaking thoroughly into the spray tank and then destroy the empty container.
  - Destroy the empty container by perforating and flattening it and never re-use for any other purpose.
  - Prevent contamination of food, feedstuffs, eating utensils and drinking water.

## RELEVANT SUBSTANCES

Chemical name	w/w %	CAS no.
Acetamiprid	10 – 30%	102-71-6
Alkyl naphthalenesulfonic acid, polymer with formaldehyde, sodium salt	<10%	68425-94-5
Reaction product of naphthalene, propan-2-ol, sulfonated and neutralized by caustic soda	<10%	939-368-0

## FIRST AID

In case of accident or unwellness, seek medical advice immediately. Provide this label and SDS to medical personnel for treatment. Emergency personnel should wear protective clothing appropriate to the type and degree of contamination.

Immediately remove contaminated clothing and remove the affected person from the contamination area. Keep the person warm, calm and covered up. First Aid personnel should pay attention to their own safety.



Take the container label or product name with you when seeking medical attention.

**Eye contact:** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Keep eye wide open while rinsing. If symptoms persist, call a physician.

**Skin contact:** Remove all contaminated clothing and shoes. Rinse the skin immediately with plenty of water for 15 to 20 minutes under the safety shower. Consult a physician if necessary.

**Inhalation:** Immediately remove the affected victim from exposure to an area with fresh air. If breathing is difficult have qualified personnel administer oxygen. If breathing has stopped, administer artificial respiration. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Obtain medical attention; contact a physician.

**Ingestion:** Obtain medical attention immediately- call a poison control center or medical practitioner immediately for treatment advice. If conscious, rinse mouth thoroughly with water. Drink plenty of water. Never give anything by mouth to an unconscious or convulsing person. If spontaneous vomiting occurs, have victim lean forward with head down to avoid breathing in of vomit, rinse mouth and administer more water.

## TOXICOLOGICAL INFORMATION

### Antidotes

None known. Treat symptomatically.

### Symptoms of human poisoning

None known.

**NOTICE TO THE USER:** This agricultural remedy is to be used only according to the directions of this label. It is an offense under the Act to use this product inconsistent with the directions on the label.

## RESISTANCE WARNING

For the purpose of resistance management **MULAN® 20 SP** is classified as a group code 4A insecticide. Any insect population may contain individuals naturally resistant to **MULAN® 20 SP** and other group code 4A insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **MULAN® 20 SP** or any other group code 4A insecticide.

To delay insecticide resistance:

- Exclusive repeated use of insecticides from the same insecticide group code.
- Avoid Alternate or tank-mix with products from different insecticide group codes.
- Integrate the control methods (chemical, cultural, biological) into insect control programmes.

For specific information on resistance management contact the registration holder of this product.

## MODE OF ACTION

4A: Nicotinic acetylcholine receptor (NACHR) competitive modulars – Bind to the acetylcholine site on nAChRs, causing a range of symptoms from hyper-excitation to lethargy and paralysis. Acetylcholine is the major excitatory neurotransmitter in the insect central nervous system.

## USE RESTRICTIONS

**Do not** apply more than two applications per growing season. Alternate with a registered product from a different chemical group.

Avoid using other group code 4A insecticides, such as KOHINOR® 350 SC or any other formulations of imidacloprid in a spray programme with **MULAN® 20 SP** to limit the development of resistance.

Avoid using **MULAN® 20 SP** on plants that are under stress conditions caused by drought, nematodes and water logging conditions etc. since this will affect the systemic uptake, translocation and chemical activity of the product. Avoid spraying **MULAN® 20 SP** on plants covered with dust as dust interferes with the proper uptake of product and contact with insect.

## DIRECTIONS FOR USE

**Use only as indicated.**

### Compatibility

**MULAN® 20 SP** is compatible with adjuvants such as MCW EOS oil. It is advisable to always carry out a physical compatibility test prior to application when **MULAN® 20 SP** is tank mixed with other fungicides or insecticides. **MULAN® 20 SP** should not be used with chemicals with an alkaline reaction or in water with high pH. It is recommended to use a suitable buffer to buffer the spray solution at pH 4.5–5.5.

### Mixing instructions

Half fill the spray tank with clean water. Pre-mix the required quantity of **MULAN® 20 SP** by dissolving the required amount of **MULAN® 20 SP** in a small volume of water and add to the spray tank while agitating. Rinse the container and add rinsate to the spray tank. Where MCW EOS oil is used as an adjuvant, first dissolve **MULAN® 20 SP** in the water before adding it. While agitating fill the spray tank with water to the required volume. Ensure constant effective agitation during mixing and application.

### Application

**MULAN® 20 SP** can be applied by any medium or high-volume applicator provided it is correctly calibrated, fitted with an efficient agitation mechanism, and is able to distribute the spray mixture evenly over the target area.

To improve the wetting and contact between the spray solution and waxy surfaces such as mealybugs and scale insects **MULAN® 20 SP** should be used with a suitable buffer and MCW EOS oil. This will also improve the absorption and movement of **MULAN® 20 SP** within the plant and also improve the wetting of young flush and fruit.

## APPLICATION RATES

CROP AND TARGET	DOSAGE	REMARKS
<b>Canola in winter rainfall area</b> Cabbage aphid ( <i>Brevicoryne brassicae</i> )	50 g/ha plus a suitable buffer (pH 4.5–5.5) plus MCW EOS oil at 0.5% where needed.	Apply at first signs of pest infestation. Repeat sprays when necessary. Avoid applications from the beginning of flowering onwards.
<b>Citrus</b>  Citrus thrips ( <i>Scirtothrips aurantii</i> )  a) Nurseries and non-bearing transplanted trees  b) Bearing trees (excluding lemons)	    40 g/100 L water   40 g/100 L water	Do not spray under dry or hot weather conditions. Apply sprays to the point of run-off. Improved uptake of <b>MULAN® 20 SP</b> and longer residual control of pests can be achieved if trees remain wet for a long time. Scout regularly and decide according to this when applications should be made.  Apply first spray as an outside cover spray. Apply a follow-on spray should infestation increase again.  A preventative outside cover spray should be applied at or just after 100% petal fall when 2% of the fruits are infested. A follow-up spray is necessary as soon as the pest threshold is reached. <b>Avoid applying follow on sprays later than 6 weeks after the first spray.</b>
Aphids ( <i>Aphis gossypii</i> , <i>Toxoptera citricida</i> )  Red scale ( <i>Aonidiella aurantii</i> )  a) Nurseries and non-bearing transplanted trees  b) Bearing trees (excluding lemons)	40 g/100 L water    50 g/100 L water  50 g/100 L water	<u>Nursery and non-bearing trees.</u> Apply first spray as an outside cover spray. Apply a follow-on spray should infestation increase to the threshold again.  Apply as a full cover spray at first signs of infestation. Repeat spray when infestation rises again.  Apply as a full cover spray directed to branches and foliage at first signs of infestation at 100% petal fall. Repeat spray when infestation rises again.

CROP AND TARGET	DOSAGE	REMARKS
<p>Mealybug species</p> <p>a) Nurseries and non-bearing transplanted trees</p> <p>b) Bearing trees (excluding lemons)</p> <p>Citrus leafminer (<i>Phyllocnistis citrella</i>)</p> <p>Psylla (<i>Trioza erytreae</i>)</p>	<p>40 g/100 L water</p> <p>50 g/100 L water</p> <p>40 g/100 L water</p> <p>40 g/100 L water</p>	<p><b>Avoid applying follow-on sprays later than 6 weeks after the first spray.</b></p> <p>Apply as a full cover spray when the infestation is noticed. Repeat application when infestation increases.</p> <p>Apply as a full cover spray at first signs of infestation at 100 % petal fall. Repeat spray when infestation rises again. <b>Avoid applying follow on sprays later than 6 weeks after the first spray.</b></p> <p><u>On bearing trees (lemons not included).</u> Apply outside cover spray when pest is present during the first 42 days after petal fall.</p> <p>Apply in areas where needed. Scout and apply repeat sprays based on scouting results. Observe the crop safety period.</p>
<p><b>Cotton</b></p> <p>Aphids (<i>Aphis gossypii</i>)</p> <p>Leafhopper (jassid) (<i>Jacobiella facialis</i>)</p>	<p>50–75 g/ha plus a suitable buffer (pH 4.5–5.5)</p>	<p>As soon as the pest count is above the economic threshold, apply two sprays at a 7-day interval. Apply in 200 L water. Sprays should be applied to actively growing plants for improved systemic activity.</p>
<p><b>Rooibos tea</b></p> <p>Rooibos leafhopper (<i>Molopopterus theae</i>)</p>	<p>50 g/ha plus a suitable buffer (pH 4.5–5.5)</p>	<p>Apply with a mist blower in 150 L water per hectare during autumn when pest is noticed. Repeat the application when leafhopper numbers start increasing again. This application will also suppress rooibos leaf bug (mirids).</p>
<p><b>Table grapes</b></p> <p>Mealybug (<i>Planococcus ficus</i>)</p>	<p>50 g/100 L water plus a suitable buffer (pH 4.5–5.5) plus MCW EOS oil at 0.5% where needed</p>	<p>Use mealybug pheromone traps to identify peak male flights. When reaching the threshold, monitor crawler movement and apply once when crawler movement starts, i.e., when crawlers are observed on the base of shoots or leaves. Continue monitoring and apply another suitable and registered product with a different mode of action if required.</p>

CROP AND TARGET	DOSAGE	REMARKS
		<p>Precede the use of <b>MULAN® 20 SP</b> in summer with a winter programme to control mealybug with a registered contact insecticide.</p> <p>Observe the preharvest intervals.</p> <p><b>MULAN® 20 SP</b> applied after harvest to the vines as part of a mealybug management strategy can also assist in the control of the pest.</p>
<b>Tomatoes</b> Whitefly ( <i>Bemisia tabaci</i> ) American leafminer ( <i>Liriomyza trifolii</i> )	50 g/100 L water plus suitable buffer (pH 4.5–5.5)	Apply at first signs of pest infestation. Ensure adequate spray coverage by applying sufficient spray solution. Repeat sprays after every 7 days where necessary while observing the pre-harvest intervals.
<b>Wheat, barley and oats in winter rainfall areas</b> Oat aphid ( <i>Rhopalosiphum padi</i> ) Brown ear aphid ( <i>Sitobion avenae</i> ) Common wheat aphid ( <i>Schizaphis graminum</i> )	50 g/ha plus suitable buffer (pH 4.5–5.5) plus <b>MCW EOS</b> oil at 0.5% where needed.	Apply at first signs of pest infestation. Repeat sprays when necessary. Avoid applications after ear emergence.

**MCW EOS** (L7954) is a trade mark of a company of the ADAMA GROUP.