

CORMORAN[®] 180 EC

Reg. no. L9480 Act/Wet no. 36 of/van 1947
N-AR 1501; W130926

READ THE LABEL BEFORE USE
KEEP OUT OF REACH OF CHILDREN AND ANIMALS

GROUP	4A & 15	INSECTICIDE
An emulsifiable concentrate insecticide with systemic, contact and stomach action as well as chitin inhibition for the control of pests as listed in apples and pears, cotton, potatoes (winter rainfall region), soy beans, stone fruit and tree nuts.		'n Emulgeerbare konsentraat insekdoder met sistemiese, kontak- en maagwerking asook chitieninhibisie vir die beheer van plae soos gelys in aartappels (winterreënvalgebied), appels en pere, boomneute, katoen, soja-bone, en steenvrugte.
 DANGER		Harmful if swallowed. May cause and allergic skin reaction. Causes serious eye damage. May cause respiratory irritation. May damage fertility or the unborn child. Very toxic to aquatic life with long lasting effects. Use only outdoors or in a well-ventilated area. If exposed or concerned get medical advice

ACTIVE INGREDIENTS/AKTIEWE BESTANDDELE

acetamiprid (neonicotinoids).....	80 g/L	asetamipried (neonikotiniëd)
novaluron (benzoylurea)	100 g/L	novaluron (bensoielureum)

NET VOLUME/NETTO VOLUME

..... L

REGISTRATION HOLDER/REGISTRASIEHOUER

ADAMA South Africa (Pty) Ltd; Reg. no. 1992/001741/07
Ground Floor, Simeka House
The Vineyard Office Estate, 99 Jip de Jager Drive
Belville, 7530
T: +27 21 982 1460, infocpt@adama.com

UN no: 3082

EMERGENCY NUMBERS:

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

Batch number

Date of manufacture

Expiry date

Lotnommer

Datum van vervaardiging

Vervaldatum

WARNINGS

- Harmful if swallowed.
- May cause and allergic skin reaction.
- Causes serious eye damage.
- May cause respiratory irritation.
- May damage fertility or the unborn child.
- Very toxic to aquatic life with long lasting effects.

Allow the following number of days between last application and harvest:

Apples, pears	28 days
Cotton	No feeding
Potatoes	36 days
Soy beans	70 days (no feeding)
Stone fruit	28 days
Tree nuts	84 days

(Almonds, cashews, chestnuts, hazelnuts, macadamia nuts, pecan nuts, pistachio nuts, walnuts, Brazil nuts)

- Handle with care.
- May cause sensitization by skin contact.
- Could be toxic to bees.
- Store in a cool, dry place away from food and feedstuffs.
- Do not graze treated crops.
- Do not apply by air.
- **Re-entry:** Do not enter treated area until spray deposit has dried unless wearing protective clothing.
- In case of poisoning call a physician and show this label to him/her.

Export crops: The local maximum residue levels (MRLs) will not be exceeded if **CORMORAN® 180 EC** is used according to the label instructions. However, ADAMA South Africa (Pty) Ltd cannot be held responsible if export MRLs 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.

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 humans or animals, 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.
 - Obtain, read and follow all safety instructions before use.
 - Wear protective gloves/protective clothing/eye protection and face protection.
 - Avoid breathing dust/fumes/gas/mist/vapors or spray.
 - Wash face, hands and any exposed skin thoroughly after handling. Do not touch eyes
 - Contaminated work clothing should not be allowed out of the workplace.
 - Take of contaminated clothing and wash before reuse.
 - Do not eat, drink or smoke when using this product.
 - Use only outdoors or in a well-ventilated area.
 - Avoid release to the environment.
 - If exposed or concerned get medical advice.
 - Get medical help if you feel unwell.
 - IF ON SKIN: Wash with plenty of soap and water.
 - If skin irritation or rash occurs, get medical help.
 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
 - IF IN EYES: Immediately rinse with water for several minutes. Remove contact lenses if present, and easy to do.
 - Rinse mouth.
 - Collect spillage.
 - Store locked up.
 - Store in a well-ventilated place. Keep container tightly closed.
 - Dispose of contents/container in accordance with national regulation.
- 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 or areas not treated.
- Invert the empty container over the spray tank and allow to drain for at least 30 seconds after the flow has slowed down to a drip. Thereafter rinse the container three times with a volume of water of at least 10 % to that of the container. Add the rinsings to the contents of the spray tank before destroying 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.
N-Methyl-2-pyrrolidone	30 – 60%	872-50-4
Poly(oxy-1,2-ethanediyl),.alpha.-(C10-4)alkyl-.omega.-hydroxy, phosphate	10 – 30%	68585-36-4
Novaluron	<10%	116714-46-6
Acetamiprid	<10%	135410-20-7
Triethanolamine	<10%	102-71-6

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: Get immediate medical advice/attention. 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. Do not rub affected area.

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 immediate medical attention.



Ingestion: Obtain immediate medical attention - 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. Do not induce vomiting. 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

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 resistance management **CORMORAN® 180 EC** is classified as a group code 4A and 15 insecticide. Any insect population may contain individuals naturally resistant to **CORMORAN® 180 EC** and other group code 4A and 15 insecticides. The resistant individuals can eventually dominate the insect population if these insecticides are used repeatedly. These resistant insects may not be controlled by **CORMORAN® 180 EC** or any other group code 4A and 15 insecticides.

To delay insecticide resistance:

- Avoid exclusive repeated use of insecticides from the same insecticide group code. 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.

15: Inhibitors of chitin biosynthesis affecting CHS1 – Inhibit the enzyme that catalyzes the polymerization of Chitin. Inhibition of chitin biosynthesis results in interference with the normal formation of the cuticle, which means normal growth and development of larvae cannot take place.

USE RESTRICTIONS

Avoid using **CORMORAN® 180 EC** 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 **CORMORAN® 180 EC** on plants covered with dust as dust interferes with the proper uptake of product and contact with the insect.

DIRECTIONS FOR USE

Use only as indicated.

Emergency registrations

Emergency registration has been granted for a number of crops, as indicated in the application rates table (below). Please note that when a product has been approved for the purpose of emergency registration, it is still under evaluation with regard to efficacy, selectivity and behaviour of residues in the particular crop. Environmental and human safety data have already been evaluated and approved at initial registration of the product.

Compatibility

It is advisable always to carry out a physical compatibility test prior to application when **CORMORAN® 180 EC** is tank mixed with other fungicides or insecticides.

Mixing instructions

Half fill the spray tank with clean water. Pre-mix the required quantity of **CORMORAN® 180 EC** in a small volume of water and add to the spray tank while agitating. Rinse the container and add rinsate to the spray tank. While agitating fill the spray tank with water to the required volume. Ensure constant effective agitation during mixing and application.

APPLICATION

CORMORAN® 180 EC 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. Apply in at least 300 L water per hectare.

CROP AND PEST	DOSAGE	REMARKS
Apples and pears Codling moth <i>(Cydia pomonella)</i> Mealy bug (various species)	35 ml/100 L water	Apply as a full cover spray not later than 75% petal drop. Follow up with two more applications at intervals of 14 days between applications. Do not apply more than 3 applications per season of products containing novaluron. Ensure thorough wetting of all plant parts. Calculate the spray volume to be applied per hectare according to the tree-row volume formula as described by Unrath. Do not apply less than 350 ml CORMORAN® 180 EC per hectare.

CROP AND PEST	DOSAGE	REMARKS
Cotton African bollworm (<i>Helicoverpa armigera</i>) Aphids (<i>Aphis gossypii</i>) Leafhopper (jassid) (<i>Jacobiella fascialis</i>)	700 ml/ha 700 ml/ha	Apply as soon as the first eggs are noticed, at the initiation of flowering. If larvae are already present at application, they should preferably be in the first instar stage and not beyond the second instar stage. Repeat application 10-14 days after the first application. A third application may be necessary 10-14 days after the second application. Sprays should be applied to actively growing plants for improved systemic activity. Ensure full coverage of entire plant. It is recommended that drop arms be used on cotton higher than 60 cm. Spiny bollworm and aphids, if present, will also be controlled. Commence application as soon as pests are noticed. Apply two sprays at 10- to 14-day intervals. Sprays should be applied to actively growing plants for improved systemic activity. African bollworm and spiny bollworm, if present, will also be controlled.
Potatoes Tuber moth larvae (<i>Phthorimaea operculella</i>)	350 ml/ha	Winter rainfall region only. Commence spraying as soon as the first signs of the pest are noticed or when an average of 20 moths per night or 130–140 moths per week are caught in a pheromone trap. The first application must always be followed by a second application, not later than 14 days after the first. If necessary, a third application can be done 14 days after the second application. Do not apply more than four applications per season on the same field. Use at least 500 L water per hectare. Alternate CORMORAN® 180 EC applications with AZINPHOS 200 SC at 1.25 L/ha. The application of CORMORAN® 180 EC should be ceased when the foliage of plants becomes chlorotic due to the plants nearing the end of their life cycle or when the tuber moth larvae start moving to the tubers or the moth starts laying her eggs on the ground. In this situation, AZINPHOS 200 SC should be applied by ground application and leached into the ground by a light irrigation ($\pm$ 6 mm water). CORMORAN® 180 EC will also control the potato aphid (<i>Macrosiphum euphorbiae</i>) and the green peach aphid (<i>Myzus persicae</i>) in this programme.

CROP AND PEST	DOSAGE	REMARKS
Soy beans African bollworm (<i>Helicoverpa armigera</i>) Semi-looper (<i>Chrysodeixis acuta</i>) Leaf eaters (<i>Spodoptera</i> spp.)	350–700 ml/ha	Use the higher rate for African bollworm control. Apply as a full cover spray at the start of flowering as soon as pests are noticed. A spray volume of at least 200 L/ha is recommended. Repeat the application after 14 days. A third application may be applied 14 days later if necessary.
Stone fruit False codling moth (<i>Thaumatotibia leucotreta</i>) (Emergency registration)	35 ml/100 L	Apply CORMORAN® 180 EC as a full cover spray, ensuring thorough coverage. Calculate the spray volume to be applied per hectare according to the tree-row-volume formula described by Unrath. Monitor for the pest. Do not apply later than 2 weeks after 90% petal fall. Apply in an integrated pest management programme, alternating with products with a different mode of action. Contact the ADAMA advisor regarding follow-up applications. Apply one application of CORMORAN® 180 EC per season. Emergency registration: Please refer to the comments under 'DIRECTIONS FOR USE'.
Tree nuts (Almonds, cashews, chestnuts, hazelnuts, macadamia nuts, pecan nuts, pistachio nuts, walnuts, Brazil nuts) False codling moth (<i>Thaumatotibia leucotreta</i>) (Emergency registration)	50–75 ml/100 L water	Apply CORMORAN® 180 EC as a high-volume spray to the point of run-off, ensuring thorough coverage. Monitor for the pest and start application when the first signs of pest presence are observed. The application rate depends on the level of infestation and size of the larvae at application. Apply in an integrated pest management programme, alternating with products with a different mode of action. Apply one application of CORMORAN® 180 EC per season. Emergency registration: Please refer to the comments under 'DIRECTIONS FOR USE'.