

**PRODUCT INFO
& DATASHEET**

TECHNICAL INFORMATION GUIDE

EFFITICK 200 EC

(Amitraz 200 g/l EC)

INTRODUCTION

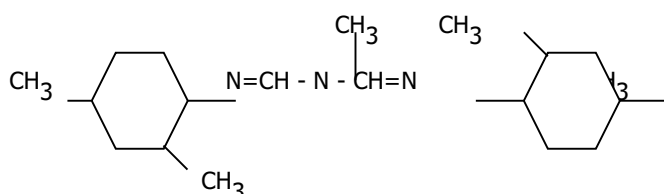
EFFITICK 200 EC is a non-systemic amidine insecticide and miticide product which affects target pests by both contact and respirato actions. It is effective against a wide range of phytophageous mites and insects pests. It is relatively non-toxic to predatory insects.

As acaricide, it is used against all development stages of Tetranychidae (red spider mites) and Eriophycidae on deciduous fruit crops, citrus, cotton and other crops. As insecticide, **EFFITICK 200 EC** is used to control pear psylla, whiteflies, mealybugs, scale insects, aphids, and eggs and first instar larvae of Lepidoptera on Citrus, pome and stone fruits, hops, cucurbits, tomatoes and ornamentals.

Main veterinary uses are against all stages of Arachnida, Demodecidid, Siphonoptera and Trichodectidae on cattle, dogs, goats, sheep and Varroa jacobsoni on honeybees. Effective against strains of ticks resistant to other chemical classes of ixodicide. The unique expellent action of Amitraze causes ticks to withdraw mouthparts rapidly and fall off the host animal.

PHYSICAL AND CHEMICAL PROPERTIES OF THE TECHNICAL GRADE

Chemical name:	N - methylbis (2,4 - xylyliminomethyl) amine (IUPAC) N' - 2,4 - dimethylphenyl) - N - [[(2,4-dimethylphenyl) imino] methyl] - N - methylmethaniminamide (CA)
Common name:	Amitraz (BSI, ISO-E, ANSI, BPC, JMAF, ESA). Amitraze (ISO-F)
CAS Registry Nr:	33089-61-1
Structural formula:	

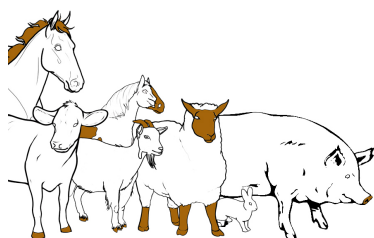


Empirical formula:	C ₁₉ H ₂₃ N ₃
Molecular weight:	293.4
Physical form:	Colourless monoclonic needles. Odourless.
Density:	1.128 g/cm ³ .
Melting point:	86-88°C.
Vapour pression:	0.051 mPa at 20°C, 0.34 mPa at 25°C.
Ko/w:	316 000 (25°C, pH 5.8). Basic, pK _a 4.2.
Stability:	Degraded by light on soil surfaces DT ₅₀ < 1 h; unstable at pH < 7 and a slow deterioration of the moist compound occurs on prolonged standing. Soil DT ₅₀ < 1 day. 20°C. Hydrolysis rate under stated relevant conditions: pH 7 at 20°C: medium life longer than 12 weeks; pH 2 at 20°C: very unstable (86 % decomposition in 1 day); pH 12 at 20°C: fairly stable (20 % decomposition in 12 weeks).
Solubility:	In water at 20°C, 1 mg/l. In acetone, 40 % w/v stable; in methanol, 2.5 % w/v unstable, in xylol, 30 % w/v stable.
Corrosiveness:	Non-corrosive.
Compatibility:	Compatible with many insecticides and fungicides, but incompatible with alkaline materials, parathion and others, and with acid substances and wet solutions.

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SAP INTERNATIONAL CORPORATION bvba Krekelenberg 69, B-2980 Zoersel, Belgium
Tel. +32-3-309.06.51 Fax. +32-3-309.19.31 Email : info@sico.be Website : www.sico.be

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FORMULATION CHARACTERISTICS

Formulation type	EC - Emulsifiable Concentrate	
Active ingredient content	Amitraz (pure)	200 g/l
Purity	Amitraz technical	min. 98 %
Composition	Amitraz (tech.)	204.1g/l
	Solvent/emulsifier/stabilizer	713.8 g/l
Appearance	Limpid yellowish liquid	
Specific gravity (20°C)	0.910 +/- 0.920	
Flash point	Approx. + 26°C	
Emulsion characteristics	Good - conform to CIPAC methods	
Stability	No significant modification of specifications after accelerated aging test	
	(14 days at 54°C).	
Shelf life	Min. 2 years	
Quality & specifications	Conform to international standards (FAO/WHO, CIPAC methods)	

METHOD OF APPLICATION

This product is an emulsifiable concentrate ready to be mixed into water just before application to fruit and foliage with airblast sprayers or handguns. Applications are made from ground equipment as dilute or concentrate spray. Add the required amount of the product to the half-filled spray tank and agitate while adding the remaining water. Apply the solution immediately after mixing.

The spray concentration depends on the type of spray equipment, the crop, the infestation pressure and the local experience. Since Amitraz has no systemic action, good foliage coverage should be observed.

Adjust the recommended rates according to the development of the crop, the kind and infestation pressure of the pest and its location on the plants. Follow the dosage rates per ha or per hl listed in the table hereafter.

RATES OF APPLICATION

The dosage rates range from 0.3 to 1.4 kg active ingredient/ha, with maximum 2 applications per year. If one additional application is needed, it may be applied within 7 days of harvest. Do not exceed the maximum rates per ha.

Pre-harvest intervals : Pome fruit, peaches: 14 days; cherries: 28 d; cucumber: 3d; oranges, cottonseed: 7 d.

Follow the directions of local authorities. **Maximum residue level** (in ppm) : Pome fruit, peaches, cherries, cucumber, oranges, cottonseed: 0.5

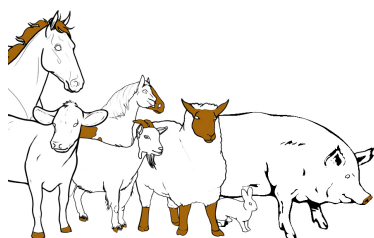
Follow the dosage rates (expressed in g of active ingredient or l of the product per ha or per hl, for high and low volume applications) listed in the tables hereafter.

CROPS AND PESTS	HIGH VOLUME (g a.i./ha)	LOW VOLUME (litres of 20 EC/ha)
COTTON Lepidoptera, Cotton bollworm (<i>Heliothis</i> spp), Pink bollworm (<i>Pectinophora gossypiella</i>), Red Sudan bollworm (<i>Diparopsis castanea</i>). Cotton leafworm (<i>Spodoptera</i> spp), Leaf perforator (<i>Bucculatrix thurberiella</i>), Spiny (spotted) bollworm, <i>Earias</i> spp. <u>Timing</u> : Spray when eggs first appear in the crop and repeat at regular intervals throughout the season. Whitefly (<i>Bemisia tabaci</i>) <u>Timing</u> : Spray when whitefly first appear in the crop and repeat at regular intervals throughout the season. Thrips spp, Aphida (<i>Aphis</i> spp), Jassida (<i>Empoasca</i> spp), Mites (<i>Tetranychus</i> spp) <u>Timing</u> : Spray when these pests first appear in the crop and repeat at regular intervals throughout the season.	300 – 600 200 – 600 500 – 700 500 – 700	1.5 - 3.0 2.5 - 3.5 2.5 - 3.5 2.5 - 3.5

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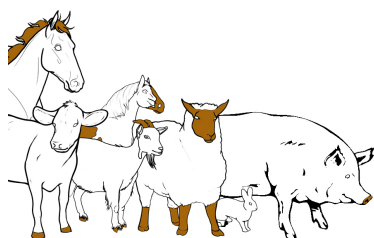
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CROPS AND PESTS	HIGH VOLUME		LOW VOLUME	
	g a.i./ha	L 20 EC/ha	g a.i./ha	L 20 EC/ha
DECIDUOUS TOP FRUITS				
Panonychus ulmi <u>Timing:</u> Apply the first spray at 60-80% egg hatch and repeat at 2-3 weeks intervals.	20 – 60	1 – 3	400 – 1200	2 – 6
Mites: Tetranychus spp., including T. urticae, T. cinnabarinus and T. pacificus. <u>Timing:</u> Spray at the first signs of infestation and repeat at 2-3 weeks intervals.	40 – 60	2 – 3	800 – 1200	4 – 6
Aculus schelectendali, Epitrimerus pyri. <u>Timing:</u> Spray at the first signs of infestation and continue at regular 2-3 weeks intervals.	20 – 30	1.0 - 1.5	400 – 600	2 – 3
Codling moth (Cydia pomonella). <u>Timing:</u> Apply the first spray immediately after adult emergence and repeat at 2-3 week intervals for at least 5 applications.	50 – 70	2.5 - 3.5	1000 – 1400	5 – 7
Aphids: Aphis pomi, Dysaphis pyri, Dysaphis plantaginea, Eriosoma lanigerum, Myzus persicae, Phorodon humuli. <u>Timing:</u> Spray at the first signs of infestation and continue at regular 2-3 weeks intervals. Will give good suppression of aphids in an intensive spray program against mites.	50 – 70	2.5 - 3.5	1000 – 1400	5 – 7
Apple maggot: Rhagoletis pomonella, White apple leafhopper (Typhlocyba pomaria), San Jose scale (Quadraspidictus perniciosus), Plum cucurlio (Conotrachelus nenuphar). <u>Timing:</u> Used in a full season's program against mites will give useful suppression of these pests.	50 – 70	2.5 - 3.5	1000 – 1400	5 – 7
Pears only Pear psylla (Psylla pericola). <u>Timing:</u> Spray when attack first occurs and repeat at regular intervals. The higher rate is required to give consistently good control of overwintering adults.	30 – 50	1.5 - 2.5	600 – 1000	3 – 5
Apples only Leaf miners (Leucoptera scitella, Phyllono-rycter blancardella). <u>Timing:</u> Apply the first spray at petal fall and repeat at 2-3 weeks intervals with a minimum of 4 applications.				
CITRUS Mites: Panonychus citri. <u>Timing:</u> Apply first spray at 60-80% egg hatch and repeat at 2-3 week intervals.	20 – 50	1.0 - 3.0	400 – 1200	2 – 6
Tetranychus spp. <u>Timing:</u> Spray at the first signs of infestation and continue at regular 2-3 weeks intervals.	40 – 60	2.0 - 3.0	800 – 1200	4 – 6
	20 – 30	1.0 - 1.5	400 – 600	2 – 3

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<p>Phyllocoptruta oleivora. Timing: Spray at the first signs of infestation and continue at regular 2-3 weeks intervals. Scale insects: Ceroplastea spp, Saissetia spp. Timing: Apply the first spray during the crawler (larval) stage and repeat at regular intervals.</p>	50 - 60	2.5 - 3.0	1000 - 1200	5 - 6
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CROPS AND PESTS	HIGH VOLUME		LOW VOLUME	
	g a.i./ha	L 20 EC/ha	g a.i./ha	L 20 EC/ha
ORNAMENTALS Carnations, chrysanthemus, roses, pot plants and other annuals and perennials. Against mites: Panonychus	30 - 60	1.5 - 2.5	600 - 1000	3 - 5
VEGETABLES & SOFT FRUITS Tetranychus urticae, T. pacificus and other T. species Acalitus essigi, Aphids, Aphis gossypii, Aulocorhthum spp, Macrosiphum spp. Under cold conditions and on some crops under glass, the high rate may be necessary to achieve consistently good control.	40 - 60	2.0 - 3.0	800 - 1200	4 - 6
	40 - 60	2.0 - 3.0	800 - 1200	4 - 6

TOXICOLOGY AND ENVIRONMENTAL EFFECTS

Active Ingredient

Amitraz

Acute oral - LD50	(rats)	800	mg/kg
	(dogs)	100	mg/kg
Acute dermal - LD50	(rabbits)	> 1,600	mg/kg
	(rats)	> 2,000	mg/kg
Acute inhalation - LC50(4h)	(rats)	> 2.3	mg/l air
Eye irritation	(rabbits)	Non-irritant	
Skin irritation	(rabbits)	Non-irritant	
Chronic toxicity_NOEL 2-y feeding trials	(rats)	50	mg/kg diet daily
	(dogs)	0.25	mg/kg daily
Acceptable daily intake for man		0.003	mg/kg bw.
Toxicity to fish LC50	(48h) trout	2.7 - 4.0	mg/l
	(48h) Japanese carp	1.17	mg/l
	(96h) bluegill sunfish	1.30	mg/l
Toxicity to birds		Low toxicity	
LD50	(8-d) mallard duck	7,000	mg/kg
	Japanese quail	1,800	mg/kg
Toxicity to bees/predatory insects		Low toxicity	
LD50 ingestion		12	µg/bee

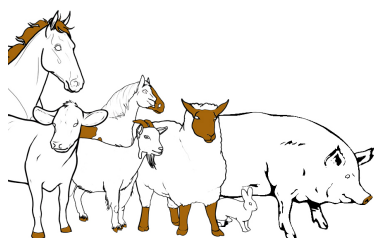
Formulation

Acute oral (calculated) LD50	rat	> 2,500	mg/kg
Acute dermal (calculated) LD50	rat	> 8,000	mg/kg
Eye irritation	(rabbit)	Low irritant	
Skin irritation	(rabbit)	Low irritant	
Toxicity to fish		Harmful	
Toxicity to bees		Low hazard in fields	

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SAFETY PRECAUTIONS

This product is harmful if swallowed and irritant to skin. Observe also the general rules for handling the crop protection chemicals:

- Keep out of reach of children, away from food, drink or feed.
- Wear suitable protective clothing, gloves, goggles and face shield.
- When using, do not eat, drink or smoke.
- Wash any contamination from skin or eyes immediately.
- Do not breathe spray mist.
- Wash hands and exposed skin before eating, drinking or smoking, before meals and after works.
- If you feel unwell, seek medical advice (show label where possible).

Storage and disposal

- Store in the original container, tightly closed, in a cool, well ventilated local, protected heat, away from food or feed.
- Do not reuse the container for any other purpose but destroy rinsed container by puncturing and crushing.
- **Harmful to fish:** do not contaminated ponds, waterways or ditches with chemical or used container.

EMERGENCY GUIDELINES

Symptoms of poisoning

Clinical signs of poisoning with amitraz formulation involve the central nervous system such as depression, ataxia, stupor and coma are most likely due to the organic solvent. Amitraz may cause bradycardia, hypotension, headache, nausea, vomiting, diarrhoea, dizziness, sedation and incoordination.

First aid

- In case of skin contact, remove all contaminated clothing and wash the patient thoroughly with plenty of water and soap.
- In case of eye contact, flush eyes with copious amounts of water for at least 15 minutes.
- If by inhalation, move to fresh air, administer oxygen if necessary. Keep the patient warm and quiet.
- If swallowed, gastric lavage should be carried out with protection of the airways. Keep the patient at absolute rest and seek medical assistance immediately. Do not induce vomiting to an unconscious patient.

Note to physician

No specific antidote known. Symptomatic treatment.

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