

INSECTICIDE

Cyclaniliprole (CYCLAPRYN™)

Wide spectrum insecticide

Cyclaniliprole is a diamide insecticide (IRAC Group 28) discovered by ISK.

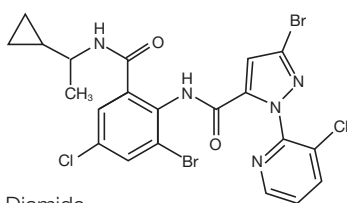
Cyclaniliprole is highly effective against numerous insect pest in various orders, including Lepidoptera, Coleoptera, Hemiptera, Thysanoptera and Diptera. With its combination of good rainfastness and long-lasting efficacy the use of Cyclaniliprole will aid in reducing the number of necessary insecticide application. In addition to its outstanding efficacy, Cyclaniliprole has excellent crop safety for all registered crops.

ISK has developed Cyclaniliprole since 2004 and obtained initial registrations in Korea, US, Canada and Japan in 2017. Cyclaniliprole is now registered in 13 countries. ISK is currently expanding the approved uses of Cyclaniliprole and is pursuing additional registrations in other countries.



Physico-Chemical Properties

Chemical structure



Class : Diamide

IUPAC name : 2',3-dibromo-4'-chloro-1'-((1*RS*)-1-cyclopropylethyl)carbamoyl)pyrazole-5-carboxanilide

Molecular weight : 602.1

Molecular formula : C₂₁H₁₇Br₂Cl₂N₅O₂

Vapour pressure : 2.4 x 10⁻⁶ Pa (25°C)

Water solubility : 0.15 mg/L (20°C)

Form : White crystalline solid

Development code : IKI-3106

Toxicology & Ecotoxicology

Rat LD₅₀ (oral) : > 2,000 mg/kg (f)

Rat LD₅₀ (dermal) : > 2,000 mg/kg (m/f)

Rat LC₅₀ (inhalation) : > 4.62 mg/L (m/f)

Skin irritation : non irritant (rabbit)

Eye irritation : GHS Not classified (rabbit)

Skin sensitization : not a sensitizer (guinea pig)

Avian LD₅₀ (acute oral) : > 2,000 mg/kg (quail, m/f)

Avian LD₅₀ (subacute oral) : > 5,000 ppm in feed (quail)

Fish LC₅₀ : > 0.630 mg/L (carp, 96 h)

Bees LD₅₀ (acute oral) : 0.66µg a.i./bee (96 h)

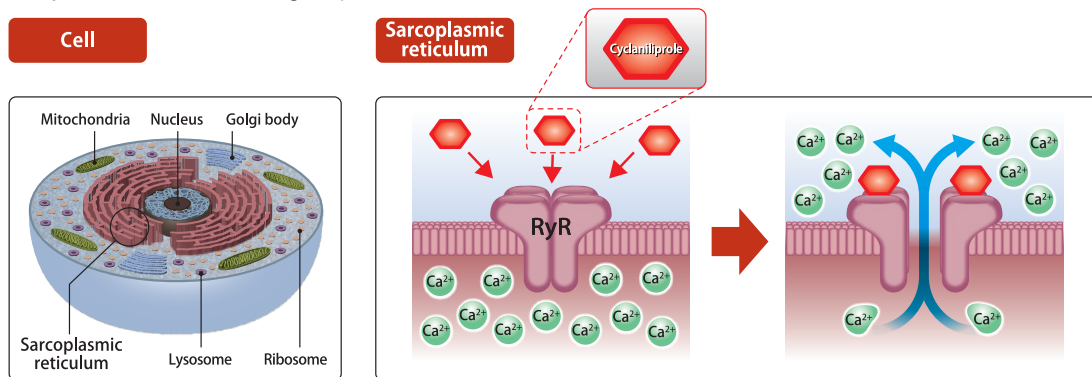
Bees LD₅₀ (acute contact) : 0.83µg a.i./bee (96 h)

Daphnia magna EC₅₀ : 0.0808 mg/L (48 h)

Mode of Action

Cyclaniliprole acts by selective activation of the ryanodine receptor (RyR) in the sarcoplasmic reticulum of target insect pests. Once exposed, through contact or ingestion, Cyclaniliprole attaches to the insect RyR inducing the uncontrolled release of calcium stores present in muscle cells.

Symptomology after treatment involves immediate feeding cessation, muscle contraction, paralysis and eventual death. In addition, Cyclaniliprole has been shown to be minimally active on the RyR of mammals due to its high selectivity and favorable toxicological profile.



☆ Muscle paralysis caused by depletion of internal calcium stores



Treated by Cyclaniliprole



Untreated



ISHIHARA SANGYO KAISHA, LTD.

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1-3-15 Edobori, Nishi-ku, Osaka 550-0002 TEL +81-6-6444-7154

Characteristics

- IRAC Group 28
- Mode of action: Ryanodine receptor modulator (RyRMs)
- Broad spectrum activity protecting plants from numerous pest species
- Highly effective in controlling most major species of lepidopteran pests
- Efficacious by contact and ingestion
- Requires less active ingredient compared to most other diamide insecticides
- Provides rapid feeding cessation and long-lasting control
- Excellent efficacy on various pest life stages resulting in reduced damage
- Adulticidal activity leading to fewer eggs present in treated crops



Pest Spectrum

Lepidoptera	<i>Amyelois transitella</i>	<i>Anarsia lineatella</i>	<i>Carposina sasakii</i>
	<i>Chilo suppressalis</i>	<i>Choristoneura rosaceana</i>	<i>Cydia caryana</i>
	<i>Cydia molesta</i>	<i>Cydia pomonella</i>	<i>Diaphania hyalinata</i>
	<i>Diaphania nitidalis</i>	<i>Glossosphecia romanovi</i>	<i>Grapholita dimorpha</i>
	<i>Grapholita molesta</i>	<i>Helicoverpa armigera</i>	<i>Helicoverpa zea</i>
	<i>Heliothis virescens</i>	<i>Lyonetia clerkella</i>	<i>Neoleucinodes elegantalis</i>
	<i>Ostrinia nubilalis</i>	<i>Paralobesia viteana</i>	<i>Pieris rapae</i>
	<i>Plutella xylostella</i>	<i>Spodoptera eridania</i>	<i>Spodoptera exigua</i>
	<i>Spodoptera frugiperda</i>	<i>Spodoptera litura</i>	<i>Spodoptera sunia</i>
	<i>Tecia solanivora</i>	<i>Trichoplusia ni</i>	<i>Tuta absoluta</i>
Coleoptera	<i>Acalymma vittatum</i>	<i>Anthonomus eugenii</i>	<i>Aromia bungii</i>
	<i>Conotrachelus nenuphar</i>	<i>Hypothenemus hampei</i>	<i>Leptinotarsa decemlineata</i>
	<i>Popillia japonica</i>	<i>Premnotrypes suturicallus</i>	<i>Premnotrypes vorax</i>
Hemiptera	<i>Aphis gossypii</i>	<i>Bactericera cockerelli</i>	<i>Bemisia tabaci</i>
	<i>Davidsonaspis aguacatae</i>	<i>Diaphorina citri</i>	<i>Hemiberlesia lataniae</i>
	<i>Lygus lineolaris</i>	<i>Myzus persicae</i>	<i>Plautia crossota</i>
Thysanoptera	<i>Frankliniella occidentalis</i>	<i>Scirtothrips dorsalis</i>	<i>Scirtothrips perseae</i>
	<i>Thrips hawaiiensis</i>	<i>Thrips palmi</i>	<i>Thrips tabaci</i>
Diptera	<i>Bactrocera tsuneonis</i>	<i>Drosophila suzukii</i>	<i>Liriomyza sativae</i>
	<i>Liriomyza trifolii</i>	<i>Prodioplosis longifila</i>	<i>Rhagoletis pomonella</i>

and more

Product

Trade Names	TEPPAN, MUTEKI, HARVANTA, VERDEPRYN, SARISA, RAPITAN etc	
Formulations	5%SL, 10%SL etc.	
Registered Countries	Asia	Japan, Korea, Vietnam
	Oceania	Australia
	Americas	Brazil, Canada, Chile, Colombia, Guatemala, Honduras, Mexico, Peru, USA

Always read and follow the product label instructions in your country.

