

# Controlling Scorpions with Fendona® CS controlled release insecticide

## Risks posed by scorpions

Scorpion stings range from irritating to severe, depending on the species and the possible allergenic response of the person or pet being stung. The good news is that very few U.S. species are considered deadly and they do not transmit disease. The sting of a scorpion can be compared to that of a bee or wasp. An ice pack applied to the affected area will alleviate some pain. However, as with any sting, allergic reactions in the victim may develop. Mild to severe reactions may lead to edema, discoloration, numbness and pain, which may last minutes to days.

## Common scorpions of the U.S.

Worldwide, there are approximately 1,500 species of scorpions. About 90 of these have been identified in the U.S. Around 59, 42 and 18 species have been identified in California, Arizona and Texas/New Mexico, respectively. The striped bark scorpion *Centruroides vittatus* (Southwestern U.S.) and the stripe-tail scorpion *Vaejovis spinigeris* (AZ/NM/CA) are most common. Scorpions can be found in many habitats but are most abundant in desert areas.

## Life cycle and behavior

Scorpions are nocturnal (night active), which helps them maintain proper body temperatures and water balance. A waxy layer on the outer cuticle of scorpions decreases moisture loss. The cuticle fluoresces under blacklight. This can be helpful during night inspections. Scorpions are predators, lay in soil burrows, cracks, crevices, under stones, etc., and wait for prey. They feed on insects, spiders, centipedes, earthworms and other scorpions.

Adult scorpions perform an elaborate courtship, after which the male will leave a sperm packet for the female. Gestation can range from 5 to 12+ months. Females give birth to live young. Litter size of the striped bark scorpion ranges from 13 to 47 (average = 31). After hatching, the first instar scorpions climb on the mother's back. She carries them for 1 to 2 weeks. After the next molt, the second instars leave the mother and fend for themselves. The striped bark scorpion will undergo 5 to 6 molts before adulthood. Adult females may have several broods. Most scorpions live from 3 to 8 years, with some species living over 20 years.

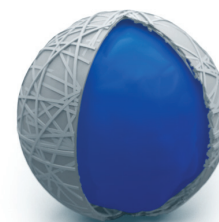


NOMTCB/Ed Freytag



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Above: Scorpion telson (top), Striped bark scorpion, *Centruroides vittatus* (Say), on wood (middle), and under blacklight (bottom).



Contains the two most active isomers of the eight in cypermethrin.

×	×	 <chem>CN1C=CC2=C(C=C1)C(=O)N(C)C2</chem>	<b>4x</b> as active as cypermethrin	Billions of microcaps with fast kill
×	×			
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×	×			

The advanced encapsulation protects the alpha-cypermethrin, which is up to 4 times more active than cypermethrin.

## Use Fendona® CS controlled release insecticide against scorpions

**Fendona CS** insecticide features advanced micro-mesh encapsulation technology that preserves the active ingredient in a protective, water-resistant cage, ready to act when a scorpion encounters it. This micro-mesh technology enables fast knockdown, residual control and broad coverage, helping reduce costly callbacks.

### Long residual for better protection

This is a major reason professionals choose **Fendona CS** insecticide. Studies show it provides residual control of scorpions. See chart.

### New active ingredient for scorpion control

The active ingredient in **Fendona CS** insecticide, alpha-cypermethrin, is new to the U.S. pest control market and is four times as active as cypermethrin.

## Fendona CS control tips

### Where should I treat for best results?

**On Structure:** This product can be used as a residual treatment on outdoor surfaces of buildings, porches, window frames, eaves, patios, garages, garbage sheds, and other areas where pests congregate or enter premises. Treat entry points such as doors and windows, and under siding and eaves of a structure, including gaps beneath siding, overhanging ledges, undersides of decks, weep holes and other protected areas. Voids created by brick and stone veneers can be especially attractive to scorpions. Treatment of these voids is also important.

**Off Structure:** Treat stone/rubble walls and piles, wood piles, bases and trunks of shrubbery, trees, mulch, vegetation and other areas where scorpions may harbor. Treatments should be made to and under landscaping stones, landscaping ties, mulch, gravel, grassed areas, garden beds, under splash guards and other possible harborage areas.

**Interior:** Indoor treatments should be directed at potential points of entry, corners, cracks and crevices where scorpions hide. Voids can be excellent harborages and good areas for treatment. Garages are common points of entry. Treatments and sticky traps can be helpful.

**Application Tip:** When treating mulch, landscaping rocks, foundation wall and adjacent soil, etc., consider using more water to carry Fendona CS insecticide finished dilution into the more protected areas where scorpions are commonly found.

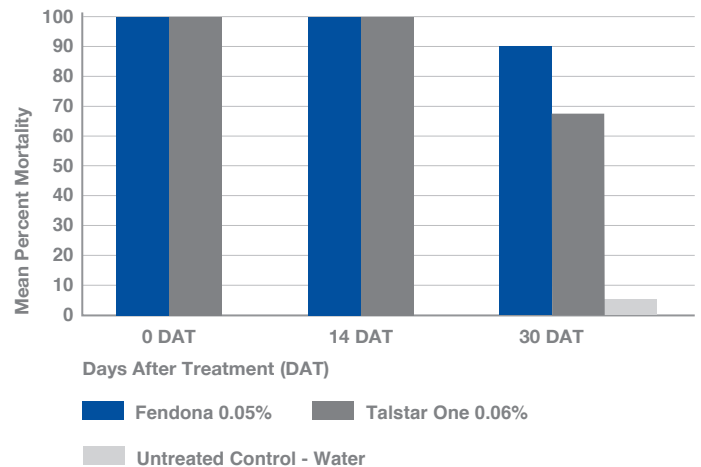
There are many application options available for PMPs. Power sprayers provide an option to use additional water carriers to penetrate harborages. Backpack sprayers allow for additional volume while still directing application, especially for exterior

treatments. Handheld units provide directed treatments for more precise placement (both exterior and interior).

### What rate should be used for best results?

An application rate of 2.0 fl oz/1,000 ft<sup>2</sup> is supported by the label. Application should be made to limit runoff from structural surfaces.

### Results — Mortality 0, 14 and 30 DAT



Treatment date: 8 August, 2015. Entomology Consultants LLC.

### How often should I treat for scorpions?

**Fendona CS** insecticide has shown excellent control.

Scheduled treatments every three to four weeks during the season of highest scorpion pressure has been demonstrated to improve client satisfaction. The label allows repeated treatments as necessary, but not more than twice per week, and treatments must be at least three days apart.

## Other recommendations for satisfying customers

- Educate customers about the nature of scorpion control.
- Establish realistic expectations for control.
- Use Integrated Pest Management for enhanced scorpion control. Habitat modification is critical. Ideas include:
  1. Remove trash, logs, stones, bricks, firewood, etc. from around the structure.
  2. Trim branches away from buildings and mow near the foundation.
  3. Install weather stripping around all doors and windows where needed.
  4. Plug holes with copper wool, nylon pads, foam or wire screen
  5. Caulk around all pipes, eaves and other cracks found around the structure.
- Make clear recommendations or assist customer to eliminate harborage sites and exclude scorpions from the structure.

Always read and follow label directions.

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