

DIATHOR™

BED BUG KILLER

WITH AMORPHOUS SILICA

The long-lasting, pesticide-free aerosol for controlling bed bugs.

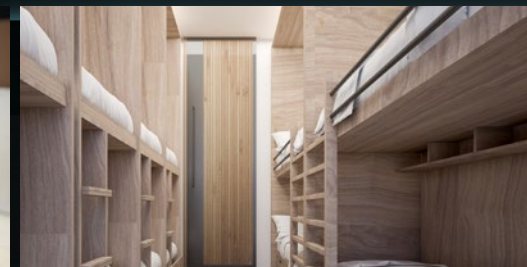
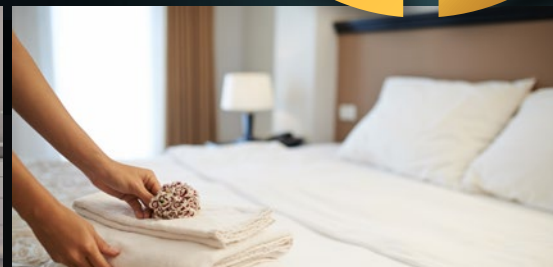
DIATHOR Bed Bug Killer contains a unique and highly abrasive grade of pyrogenic, **amorphous silica** – ideal for killing bed bugs.

- ✓ Low risk & easy to use
- ✓ Long-lasting results
- ✓ Controls resistant strains
- ✓ Tested in Australia and overseas



PHYSICAL MODE OF ACTION

DIATHOR kills bed bugs via rapid dehydration caused by breaking down the bug's waterproof exterior



MAKES BED BUGS 'DEAD BUGS'

APVMA approved for bedsteads, bedsprings, mattresses, upholstered furniture, floor coverings, cracks in walls, behind torn wallpaper, joints in woodwork, etc.

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DIATHOR™

BED BUG KILLER



Controls Resistant Strains

One particular problem for pest managers is the lack of insecticides that have high efficacy against bed bugs, as insecticide resistance to a range of chemical classes has been identified (Lilly et al. 2009¹). This ensures that control is a major challenge.

DIATHOR with its pesticide-free, physical mode of action, offers an effective solution against even the most resistant strains. Its mode of action limits the possibility of resistance developing due to its physical rather than chemical/metabolic mode of action.²

Safety in Use

Amorphous silicas have been used in a wide variety of applications, including food, cosmetics and pharmaceutical (oral and topical) products, for many decades. Based on extensive physico-chemical, ecotoxicology, toxicology, safety and epidemiology data, no environmental or health risks have been associated with these materials.

Amorphous silicas have not been shown to bioaccumulate and all disappear within a short time from living organisms by physiological excretion mechanisms.³

Tested in Australia and Overseas⁴

EASY TO USE:

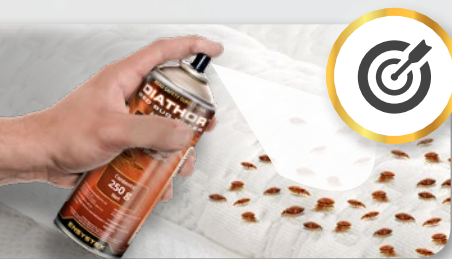
Shake can very well before use. DIATHOR will initially leave a visible deposit, which fades quickly, leaving reduced visible impact when compared to ready-to-use dust products. It is recommended for discreet placement. If in doubt, test a small area first and leave for ten minutes.

TECHNICAL DETAILS:

Formulation: Water-based aerosol

Net weight: 250 g

Active: 12 g/kg amorphous silica



DIRECT SPRAY TRIAL

For this trial the bed bugs were sprayed directly with DIATHOR.

BED BUG STRAIN	MORTALITY		
	1 DAY	2 DAYS	3 DAYS
Highly insecticide-resistant strain	70%	99%	100%
Susceptible strain	100%		



RESIDUAL PERFORMANCE TRIAL

DIATHOR was applied as a surface deposit and the bed bugs were later released on the surface. DIATHOR does not provide quick kill, but full control was achieved within 9 days on all strains. The speed of kill was notably faster than diatomaceous earth products, which typically take up to 14 days to achieve mortality.

Due to the physical nature of DIATHOR, the surface residual deposits will remain highly-effective for as long as the particles remain in place. In cracks and crevices, control for up to a year can be expected, in other environments control for up to 3 months is realistic.

BED BUG STRAIN	MORTALITY			
	4 DAYS	5 DAYS	8 DAYS	9 DAYS
Highly insecticide-resistant strain	88%	98%	100%	
Susceptible strain	88%	98%	98%	100%

1. Lilly G.D., Doggett S.L., Zalucki M.P., Orton C.J. and Russell R.C. (2009). Bed bugs that bite back, confirmation of insecticide resistance in the common bed bug, *Cimex lectularius*. Professional Pest Manager, 13(5): 22-24.

2. Ebeling, W. (1971). Sorptive dusts for pest control. Ann. Rev. Entomol. 16:123-158.

3. Fruijtjer-Pölloth, C. (2012). The toxicological mode of action and the safety of synthetic amorphous silica—A nanostructured material. Toxicology, 294:61-79.

4. Regulatory trials performed by Thailand Food & Drug Administration, Department of Medical Entomology, against *Cimex hemipterus* Fabricius; and, Department of Medical Entomology, Institute of Clinical Pathology & Medical Research, NSW Department of Health, against *Cimex lectularius* Linnaeus.

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