



# DG CEDAR OIL

## Naturally Effective Pest Control Safe for Families and Pets

Neutralizes Fleas • Ticks • Mites • Bedbugs • Moths • Mosquitoes

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### Garden and Agricultural Insect Control Spray Concentrate A Nature's Defender Cedar Oil Formula

This all natural bio-based insect neutralizer is primarily for outdoor use to control fleas, ticks, mites, mosquitoes and other pests. It poses no harm to the environment, pets, farm animals, water ways, soil, crops or the community as a whole. Nature's Defender technology provides a high level of arthropod and other insect knockdown on contact. It's residual effects subsequently act as a repellent to these same insects. Cedar oil will also help fight bacteria, mildew and fungus with it's natural microbial properties.

Nature's Defender combines organically obtained cedar oil from Texas Hill Country cedar trees with an inert ingredient (Lactic Acid) to create a water soluble product. The formulation will not separate before or after diluting to a spray ready state. The spray ready product can then be distributed easily and efficiently using household spray methods such as compression or pressure sprayers, back pack sprayers, garden type hose end sprayers or even fogging machines. Spray ready dilutions can also be prepared in very large quantities for distribution using farm or agricultural spraying trucks or other equipment.

The bio solvent influence of cedar oil will dissolve insect eggs and larvae by eroding the exoskeleton and cuticle, thus promoting rapid dehydration. Egg-layer cycles are further interrupted by pheromone interference with the insect's octopamine neuro receptors. The next generation of arthropod is thereby eliminated.

Dilution ratio's vary depending on intended use and application method. Hand held waterless sprayers, backpack sprayers and fogger machines typically require 4 ounces concentrate to one gallon water. Garden type hose end attachable sprayers typically use 4 or 6 ounces of concentrate mixed with 28 or 26 ounces of water in the cup of sprayer prior to attaching hose and spraying. Larger spray equipment can dilute at 1 gallon concentrate into a 100 gallon water tank for example. Various ratios can be used effectively to control insects such as Ants, Mosquito's, Flies, Moths, Grubs, Army Worms, Mole Crickets, Fleas, Ticks, Chiggers, Grasshoppers, White Fly, Mediterranean Fruit Fly, Mites, Citrus Rust Mite, nematodes, Aphids, Scale, Stink Bugs, Bag Worms, Eastern Tent Caterpillar and numerous other flying, crawling and subterranean pests including termites of all species.

Since Nature's Defender is also a natural and organic bactericide and fungicide it will effectively control Powdery Mildew and other related fungal organisms such as Brown Patch, Take All Patch, Dollar Spot and other Turf Yellowing disease. As a larvacide, it will destroy both eggs and larvae in standing water and other areas. Nature's Defender is approved for use in organic farming protocols for organic production.



Nature's Defender Garden and Agricultural Concentrate 32 oz.



Nature's Defender Garden and Agricultural Concentrate One Gallon

### General Usage Guidelines:

- The first application is the most important. The objective is to make sure a liberal soak is accomplished to all areas including the shrubbery, tree's, grass and concrete areas including any standing water. Do not spray on azaleas or rhododendrons.
- When applying Nature's Defender to landscapes it should be done in the morning or early evening times. Applications should be avoided in the middle of the afternoon due to possible heat related phytotoxic burn to plant life.
- Nature's Defender can be applied as a drench, foliar spray.
- Application rates will vary depending on the apparatus used to deliver the product. During a heavy insect season you can apply as often as needed.
- To keep insect's moving away from structures, we suggest you start with washing down the side of structures you intend to protect from insects and working outwardly from the structure.

## General dilution ratios for treatment by applicator type

### 20 gallon garden type hose end sprayer:

Pour 8 ounces of concentrate into cup of hose end sprayer. Fill remainder of cup to fill line with water. Screw on hose end top to close cup and hook up to a garden hose. This will give you approximately 20 full gallons of ready-to-spray insect protection product.

### Trigger type, Back Pack & Pump up sprayers:

Mix 3% or 4 ounces of concentrate to one gallon water.  
One quart Nature's Defender concentrate makes 8 gallons of spray ready product.

### Large trailer or truck mounted tank applicators:

64 ounces of concentrate to 55 gallons of water  
1 gallon of concentrate to 100 gallons of water  
2 gallon of concentrate to 200 gallons of water

### Misting Systems:

Mix 32 ounces of Nature's Defender concentrate to 55 gallons of water in drum

### Water Injection Systems:

2 to 3 ounces concentrate per 1000 sq ft per zone - per month

### Non thermal fogging:

3% or 4 ounces of concentrate to one gallon water

### Grub worm treatments:

Using 8 ounces Natures Defender to one gallon of water, you need to saturate the infested area to penetrate deep into the soil. Best time to spray is right before a good rainfall, regular watering agenda or spray additional water right on top of treatment for deep penetration.

## Dilution Chart by Insect % Concentrate to Water

Insect	Tank Sprayer	Pump Sprayer	Non Thermal Fogger
Mosquitos	1.3%	1.3%	5.5%
Flies	1.3%	1.3%	2.5%
Cinch Bugs	2.6%	5.5%	
Fleas	2.6%	5.5%	5.5%
Gnats	1.3%	1.3%	5.5%
Moths	2.5%	5.5%	5.5%
No-See-Ums	1.3%	1.3%	5.5%
Ticks	6.6%	6.6%	
Silver Fish		1.3%	5.5%
Carpet Beetles		5.5%	5.5%
Earwigs	7.3%	5.5%	5.5%
Mites	5.5%	5.5%	5.5%
Crickets	8.3%	8.3%	8.3%
Spiders	2.5%	5.5%	5.5%
Fire Brats	3.1%	3.1%	3.1%
Palmetto Bugs	8.3%	5.5%	5.5%
Fungus Gnats	3.1%	5.5%	5.5%
Fruit Flies		5.5%	5.5%
Fire Ants	1.3%	6%	
Chiggers	1.3%	1.3%	1.3%
Cereal Beetles		11%	11%
Grasshoppers	8.3%	8.3%	8.3%

## Nature's Defender Garden and Agricultural Concentrate Product Notifications

- Nature's Defender is a highly concentrated cedar oil formula (see schedule for dilution ratios).
- Do not take internally. KEEP OUT OF REACH OF CHILDREN.
- After use, wash hands with soap and water.
- May cause phytotoxic burn to plant life if applied in temperatures above 90 degrees Fahrenheit.
- When applying any product, one should use proper eye and glove protection.
- Do Not Use on or Spray Around Pet Reptiles, Rabbits, Pet Mice, Pet Rats, Ferrets, Guinea Pigs, or Exotic Pet Birds.
- Avoid Contact With Eyes. In case of eye contact, flush with water for at least 15 minutes.

Minimum risk pesticide registration exempt per FIFRA section 25(b) 40CFR 152.25b

Active Ingredient: Cedar Oil 85% 40CFR 152.25 CAS # 68990-83-0

Inert Ingredient: Ethyl lactate/Lactic Acid 15% 4A 40 CFR 180.950 CAS #97-64-3

