



KWIAHT

Center for the Historical Ecology of the Salish Sea
PO Box 415, Lopez, WA 98261

HOME AND GARDEN PESTICIDES currently used in San Juan County, WA

Some products have multiple formulas; each is listed here separately

BRAND	PRODUCT NAME	Q	MOST TOXIC INGREDIENT	Acute toxicity to				Persistence		BCF
				Rats	Salmon	Daphnia	Bees	Soil	Water	
Ace	Ant Roach & Spider Killer	4	Cyhalothrin							
Ace	Ant Roach & Spider Killer	4	Tralomethrin							
Ace	Flower & Vegetable Insect Spray	2	Pyrethrin							
Ace	Flying Insect Killer	3+	Phenothrin							
Ace	Foaming Wasp & Hornet Killer 3	4	Cyhalothrin							
Ace	Garden & Pet Dust	3	Permethrin							
Ace	Home Insect Control	4	Tralomethrin							
Ace	Home Insect Control	6	Cyfluthrin							
Ace	House & Garden Bug Killer	3+	Phenothrin							
Ace	Indoor Fogger	2	Pyrethrin							
Ace	Malathion 50 Insect Spray Dilutable Concentrate	2	Malathion							
Ace	Multi-Purpose Garden & Pest Dust	3	Permethrin							
Ace	Sevin Insect Spray Dilutable Concentrate	1	Carbaryl							
Ace	Soil & Turf Insect Control Concentrate	3	Permethrin							
Ace	Wasp & Hornet Killer 2	4	Cyhalothrin							
American	Amdro Ant Block	3	Hydramethylnon							
American	Thuricide Concentrate	1+	B.thuringensis (1)							
Bayer Advanc	2-in-1 Systemic Rose & Flower Care	3	Disulfoton							
Bayer Advanc	All-in-One Rose & Flower Care Concentrate	4	Tebuconazole							
Bayer Advanc	Dual Action Rose & Flower Insect Killer	7	Cyfluthrin							
Bayer Advanc	Home Pest Control Indoor & Outdoor Insect Killer	6	Cyfluthrin							
Bonide	Dipel 150 Dust for Vegetable	1+	B.thuringensis (1)							
Bonide	Fruit Tree Spray Concentrate	3	Carbaryl							
Bonide	Garden Dust	2	Rotenone							
Bonide	Hot Pepper Wax Insect Repellant	?	Capsaicin (2)							
Bonide	Liquid Rotenone-Pyrethrins Spray Concentrate	2	Rotenone							
Bonide	Malathion Insect Control Concentrate	2	Malathion							
Bonide	Mosquito Beater	2+	Naphthalene							
Bonide	Rotenone 1% Dust	2	Rotenone							
Bonide	Rotenone 5% Insect Control	2	Rotenone							
Bonide	Termite & Carpenter Ant Killer	3	Permethrin							
Bonide	Termite & Carpenter Ant Killer Concentrate	3	Permethrin							

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				Rats	Salmon	Daphnia	Bees	Soil	
Bonide	Termite & Carpenter Ant Killer Ready-to-Use	4	Deltamethrin	Red	Red	Red	Red	Red	Red
Concern	Citrus Home Pest Control	?	Limonene (2)	Grey	Grey	Grey	Grey	Grey	Grey
Concern	Diatomaceous Earth Crawling Insect Killer	2+	Diatoms (3)	Grey	Grey	Grey	Red	Red	Grey
Corry's	Insect Killer	1	Carbaryl	Red	Red	Red	Red	Red	Red
Corry's	Liquid Slug & Snail Control	1	Metaldehyde	Red	Red	Red	Red	Red	Red
Corry's	Slug & Snail Death 3.25	1	Metaldehyde	Red	Red	Red	Red	Red	Red
Cutter	Bug Free Backyard Fogger (2-pack)	3	Permethrin	Red	Red	Red	Red	Red	Red
Cutter	Bug Free Backyard Spray Concentrate	3	Permethrin	Red	Red	Red	Red	Red	Red
Do It Best	Ant & Roach Killer	3	Fenvalerate	Red	Red	Red	Red	Red	Red
Do It Best	Multi-Purpose Garden & Pest Dust	3	Permethrin	Red	Red	Red	Red	Red	Red
Do It Best	Soil & Turf Insect Control	3	Permethrin	Red	Red	Red	Red	Red	Red
Do It Best	Wasp & Hornet Killer	3+	Phenothrin	Red	Red	Red	Red	Red	Red
Dr. Earth	Home & Garden Insect Spray	?	Essential oils (2)	Grey	Grey	Grey	Grey	Grey	Grey
Dr. Earth	Rose & Flower Insect Spray	?	Essential oils (2)	Grey	Grey	Grey	Grey	Grey	Grey
Dyna-Grow	Pure Neem Oil	3+	Neem oil	Red	Red	Red	Red	Red	Red
Eaton's Answer	Boric Acid Insecticidal Dust	?	Boric acid	Grey	Grey	Grey	Grey	Grey	Grey
Enforcer	Ant Kill & Barrier Treatment	3	Permethrin	Red	Red	Red	Red	Red	Red
Enforcer	Bug Max 365	4	Deltamethrin	Red	Red	Red	Red	Red	Red
Enforcer	Bug Max Insect Killer Concentrate	4	Deltamethrin	Red	Red	Red	Red	Red	Red
Enforcer	Flea Fogger XX	3	Permethrin	Red	Red	Red	Red	Red	Red
Enforcer	Four Hour Fogger XX	3+	Phenothrin	Red	Red	Red	Red	Red	Red
Enforcer	Home Pest Control XII	4	Deltamethrin	Red	Red	Red	Red	Red	Red
Enforcer	Instant Knockdown Wasp & Hornet Killer	3	Permethrin	Red	Red	Red	Red	Red	Red
Enforcer	Wasp & Yellow Jacket Foam	3+	Phenothrin	Red	Red	Red	Red	Red	Red
Ferti-Lome	Borer Bagworm Leafminer Tent Caterpillar Spray	3	Spinosad	Red	Red	Red	Red	Red	Red
Ferti-Lome	Dipel Dust	1+	B.thuringensis (1)	Red	Red	Red	Red	Red	Red
Ferti-Lome	Indoor/Outdoor Multipurpose Insect Spray	3	Permethrin	Red	Red	Red	Red	Red	Red
Ferti-Lome	Liquid Fruit Tree Spray	3	Malathion	Red	Red	Red	Red	Red	Red
Force II	Deadline Slug & Snail Killer	1	Metaldehyde	Red	Red	Red	Red	Red	Red
Garden Safe	Houseplant & Garden Insect Spray	2	Pyrethrin	Red	Red	Red	Red	Red	Red
Garden Safe	Insecticidal Soap	?	Fatty acid salts	Grey	Grey	Grey	Grey	Grey	Grey
Garden Safe	Rose & Flower Insect Spray	2	Pyrethrin	Red	Red	Red	Red	Red	Red
Garden Safe	Slug & Snail Bait	1	Iron phosphate	Red	Red	Red	Red	Red	Red
Garden Safe	Schultz Fruit & Vegetable Insect Spray	2	Pyrethrin	Red	Red	Red	Red	Red	Red
Garden Tech	Sevin Bug Killer	1	Carbaryl	Red	Red	Red	Red	Red	Red
Garden Tech	Sevin Ready-to-Spray Bug Killer	1	Carbaryl	Red	Red	Red	Red	Red	Red

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					Salmon	Daphnia	Bees	Soil	Water	
Garden Tech	Sevin-5 Ready-to-Use 5% Dust Bug Killer	1	Carbaryl							
Grant's	Ant & Spider Killer	3	Permethrin							
Grant's	Grant's Kills Ants	3	Hydramethylnon							
Green Light	BT Worm Killer	1+	B.thuringensis (1)							
Green Light	Fruit Tree Spray	2	Pyrethrin							
Green Light	Home & Garden Insect Spray	?	Essential oils (2)							
Green Light	Lawn & Garden Insect Spray Conc w/ Spinosad	3	Spinosad							
Green Light	Neem Concentrate	3+	Neem oil							
Green Light	Neem II Ready-To-Use	3+	Neem oil							
Green Light	Organic Home Pest Control	?	Essential oils (2)							
Green Light	Rose Defense Concentrate	3+	Neem oil							
Green Light	Rose Defense Ready-to-Use	3+	Neem oil							
Green Light	Yard Safe Insect Repellant	?	Thujol (1)							
Hi-Yield	5%Carbaryl Garden & Pet Dust	1	Carbaryl							
Hi-Yield	D.I.Y. Indoor Pest Control	5	Pyriproxyfen							
Hi-Yield	Garden, Pet & Livestock Dust	3	Permethrin							
Hi-Yield	Garden, Pet & Livestock Insect Control Concentr	3	Permethrin							
Hi-Yield	Kill-A-Bug II Lawn Granules	3	Permethrin							
Hi-Yield	Wasp & Hornet Spray	3+	Phenothrin							
Hot Shot	Ant Killer Plus 3	4	Cyhalothrin							
Hot Shot	Fogger 3	3	Permethrin							
Hot Shot	Roach & Ant Killer 4	4	Cyhalothrin							
Hot Shot	Spider Killer	4	Cyhalothrin							
Hot Shot	Wasp & Hornet Killer	4	Cyhalothrin							
Lilly Miller	Dormant Spray for Insects	2+	Petroleum (4)							
Lilly Miller	Go-West Meal	1	Carbaryl							
Lilly Miller	Grasshopper, Earwig, Cutworm & Sowbug Bait	1	Carbaryl							
Lilly Miller	Rhododendron Rose & Flower Dust	3	Permethrin							
Lilly Miller	Slug & Snail Bait	1	Metaldehyde							
Lilly Miller	Slug & Snail Insect Killer Bait	1	Carbaryl							
Lilly Miller	Systemic Rose, Shrub & Flower Care	0	Acephate							
Orange Guard	Home Pest Control	?	Limonene							
Ortho	Borer & Leaf Miner Spray Concentrate	4	Chlorpyrifos							
Ortho	Bug-B-Gon Lawn & Soil	1	Carbaryl							
Ortho	Bug-geta Plus Snail, Slug & Insect Killer	1	Metaldehyde							
Ortho	Bug-geta Snail, & Slug Killer 1	1	Metaldehyde							

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Ortho	Garden & Landscape Insect Killer Max	5	Esfenvalerate	Red	Red	Red	Red	Grey	Red	
Ortho	Garden Insect Dust Max	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Ortho	Home Defense Indoor Insect Killer	?	Limonene	Red	Red	Red	Red	Grey	Red	
Ortho	Home Defense Max	6	Bifenthrin	Red	Red	Red	Red	Grey	Red	
Ortho	Home Orchard Spray	4	Methoxychlor	Red	Red	Red	Red	Grey	Red	
Ortho	Indoor Insect Fogger	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Ortho	Lawn & Garden Insect Killer Max Concentrate	5	Esfenvalerate	Red	Red	Red	Red	Grey	Red	
Ortho	Malathion Plus Insect Spray Concentrate	2	Malathion	Red	Red	Red	Red	Grey	Red	
Ortho	Mosquito-B-Gon Area Repellant	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Ortho	Mosquito-B-Gon Tree, Shrub & Lawn Spray	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Ortho	Orthenex Insect & Disease Control	4	Resmethrin	Red	Red	Red	Red	Grey	Red	
Ortho	Orthenex Insect & Disease Control Concentrate	5	Fenbutatin	Red	Red	Red	Red	Grey	Red	
Ortho	ProSelect Flying Insect Killer	3+	Phenothrin	Red	Red	Red	Red	Grey	Red	
Ortho	ProSelect Hornet & Wasp Killer	3+	Phenothrin	Red	Red	Red	Red	Grey	Red	
Ortho	ProSelect Roach, Ant & Spider Killer	5	Esfenvalerate	Red	Red	Red	Red	Grey	Red	
Ortho	Rose & Flower Insect Killer	6	Bifenthrin	Red	Red	Red	Red	Grey	Red	
Ortho	Rose Pride Rose & Shrub Disease Control Conc	0	Triforine	Red	Red	Red	Red	Grey	Red	
Ortho	Systemic Insect Killer	5	Fenbutatin	Red	Red	Red	Red	Grey	Red	
Ortho	Termite & Carpenter Ant Killer Concentrate	6	Bifenthrin	Red	Red	Red	Red	Grey	Red	
Ortho	Volck Oil Spray Dormant Season Insect Killer	2+	Petroleum (4)	Red	Red	Red	Red	Grey	Red	
PIC	Boric Acid Roach Killer III	?	Boric acid	Red	Red	Red	Red	Grey	Red	
Poison-Free	Ant & Roach Killer	?	Mint oil (2)	Red	Red	Red	Red	Grey	Red	
Poison-Free	Flying Insect Killer	?	Mint oil (2)	Red	Red	Red	Red	Grey	Red	
Poison-Free	Wasp & Hornet Killer	?	Mint oil (2)	Red	Red	Red	Red	Grey	Red	
Raid	Ant & Roach Killer 17	6	Cypermethrin	Red	Red	Red	Red	Grey	Red	
Raid	Concentrated Deep Reach Fogger	6	Cypermethrin	Red	Red	Red	Red	Grey	Red	
Raid	Flying Insect Killer Formula 6	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Raid	Fumigator	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Raid	House & Garden Bug Killer Formula 7	3	Phenothrin	Red	Red	Red	Red	Grey	Red	
Raid	Outdoor Roach & Ant Killer	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Raid	Wasp & Hornet Killer 271	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Raid	Yard Guard Mosquito Fogger	3	Permethrin	Red	Red	Red	Red	Grey	Red	
Safer	3-In-1 Garden Spray II	?	Fatty acid salts	Red	Red	Red	Red	Grey	Red	
Safer	Ant & Roach Killing Powder	?	Boric acid	Red	Red	Red	Red	Grey	Red	
Safer	Ant & Crawling Insect Killer	2+	Diatoms (3)	Red	Red	Red	Red	Grey	Red	

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					Salmon	Daphnia	Bees	Soil	Water	
Safer	Caterpillar Killer for Trees, Shrubs & Vegetables	1+	B.thuringensis (1)		Red					
Safer	Diatomaceous Earth	2+	Diatoms (3)					Red		Grey
Safer	Garden Dust	1+	B.thuringensis (1)		Red				Grey	
Safer	Houseplant Insect Killer	2	Pyrethrin		Red	Red				
Safer	Houseplant Insect Killing Soap Seaweed Extract II	?	Fatty acid salts					Grey		Grey
Safer	Insect Killing Soap	?	Fatty acid salts					Grey		Grey
Safer	Insect Killing Soap Concentrate	?	Fatty acid salts					Grey		Grey
Safer	Mosquito Patrol Insect Killer	3	Permethrin		Red					
Safer	Roach & Ant Killing Powder	?	Boric acid					Grey		Grey
Safer	Rose & Flower Insect Killer II	?	Fatty acid salts					Grey		Grey
Safer	Tomato & Vegetable Insect Killer	?	Fatty acid salts					Grey		Grey
Safer	Yard & Garden Insect Killer II	?	Fatty acid salts					Grey		Grey
Schultz	Houseplant & Garden Insect Spray	2	Pyrethrin		Red					
Sluggo	Sluggo	1	Iron phosphate					Red		Grey
Spectracide	Ant Shield Home Barrier	3	Permethrin		Red					
Spectracide	Ant Shield Home Barrier Granules	3	Permethrin		Red					
Spectracide	Ant Shield Home Barrier Insect Killer 2	3	Permethrin		Red					
Spectracide	Bug Stop Garden & Lawn Insect Control Concen	3	Permethrin		Red					
Spectracide	Bug Stop Indoor Fogger 2	3	Permethrin		Red					
Spectracide	Bug Stop Indoor Plus Outdoor Insect Killer	4	Cyhalothrin		Red				Grey	Red
Spectracide	Immunox Plus Multi-Purpose Fungicide	3	Permethrin		Red					
Spectracide	Immunox Plus Insect & Disease Control	3	Permethrin		Red					
Spectracide	Immunox Plus Insect & Disease Concentrate	3	Permethrin		Red					
Spectracide	Spider Killer	4	Cyhalothrin		Red				Grey	Red
Spectracide	Triazicide Once & Done Insect Killer [granules]	4	Cyhalothrin		Red				Grey	Red
Spectracide	Triazicide Soil & Turf Insect Killer Concentrate	4	Cyhalothrin		Red				Grey	Red
Spectracide	Wasp & Hornet Killer 3	4	Cyhalothrin		Red				Grey	Red
Sun Spray	Ultra-Fine Year Round Pesticidal Oil	2+	Petroleum						Red	Grey
Tanglefoot	Tree Tanglefoot Pest Barrier	?	Canola oil							Grey
TAT	TAT Liquid Power Jet	5	Esfenvalerate	Red	Red					Red
Terro	Ant Dust	4	Deltamethrin		Red					Red
Terro	Ant Killer Outdoor	3	Permethrin		Red					
Terro	Ant Killer Plus Outdoor Multi-Purpose Insect Cont	3	Permethrin		Red					
Terro	Ant Killer Spray 1	3	Permethrin		Red					
Wellmark	Pre-Strike Outdoor Fogger	5	Deltamethrin		Red				Red	Red
Worry Free	Ferramol Slug & Snail Bait	1	Iron phosphate					Red		Grey

Pesticide product datasheet notes

Toxicity rankings are based on acute LC50, the concentration of each active ingredient that kills 50% of the animals exposed to it within a few hours. Persistence rankings are based on the maximum number of days that ingredients remain bioactive in soils or freshwater, experimentally. BCF (bio-concentration factor) is an index calculated from experimental data. The original source of the fates and effects data summarized in this table is the European Community ecotoxicity database FOOTPRINT.

In this table, red blocks indicate that the active ingredients in the product are at least **1000 times** more toxic than the least toxic alternative active ingredients in the products we have analyzed; or that they persist for six months or longer; or have a bio-concentration factor of 500 or greater. White blocks do not mean that a product is "safe," only that it is *less* toxic or persistent.

The number of red blocks for each product is shown in the Q (quotient) box following the product name. If this number is four or more, the Q box is red: we recommend that you do not use this product in San Juan County. If the number is 1 to 3, the Q box is yellow; these products are still very toxic to wildlife, especially aquatic wildlife, even if they are handled carefully. Green boxes indicate products that are not acutely very toxic to wildlife in small quantities, although they may be toxic in large concentrations. Use them with care. Some are very persistent in the environment, and accumulate over time.

Many products have gray boxes marked. Gray means that there are insufficient data to evaluate the product's ecotoxicity at this time. It includes many "natural" products that are becoming quite popular. We recommend that you read the following notes as part of deciding whether you should consider these products relatively "safe". Bearing in mind the Precautionary Principle—if the impacts are unknown, assume that the product is unsafe until there is reliable evidence to the contrary—we have marked several products as red (not recommended) because they are very toxic to some animals and still unknown with respect to others. Also, remember that "fatty acid"-based products are surfactants, and like cleaning products should only be used sparingly outdoors.

1. This microbe is specific to butterflies and moths (Lepidoptera), so bear in mind that it will not only kill "pests" but also kill all of our beautiful (and often rare) island butterflies. It has also been shown to have adverse effects on freshwater fish.
2. Essential oils such as capsaicin (from chiles), thujol (from cedars), allycin (from garlic), mint oil, clove oil, and cinnamon oil have mainly been studied in relation to their uses in cosmetics and flavorings. Their environmental persistence and toxicity to non-human animals is largely unstudied. However, since plants have evolved these compounds as chemical defenses to insects and other herbivores—and they have been used for years as "natural" insecticides—it is presumed that they are also acutely toxic to fish and other aquatic wildlife, although we do not yet know precisely *how* toxic they may be.
3. Diatomaceous earth consists chiefly of fossil diatoms, which are essentially bits of sharp broken biotic glass. They can injure small soil arthropods and insects that ingest them. The amounts that are toxic to larger animals is not known.
4. Petroleum is a mixture of hundreds of chemical compounds, most of which are toxic to some degree. The main concerns for the environment are polycyclic aromatic hydrocarbons (PAHs) such as naphthalene, which can be 5% or more of petroleum. We have based our ranking of petroleum on its PAH content, but actual aggregate toxicity of some products may be greater.