

Recognizing Green Category Pesticides for Use in Texas Schools

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In 1991, the Texas Legislature amended the Structural Pest Control Act (SPCA) to require that public school districts have an Integrated Pest Management (IPM) program. Since 1995, all public school districts in Texas must have a written pest management policy, designate and train a district IPM coordinator, and ensure that licensed applicators perform all pesticide applications. The IPM coordinator keeps detailed records of all pesticide applications and confirms that the district or its designated pest control provider uses the least hazardous methods to control pests. School IPM rules are overseen by the Texas Department of Agriculture, Structural Pest Control Division (SPCS).

In 2007, the legislature updated the laws to make regulatory guidelines for IPM in schools more specific. Texas school pesticide regulations classify all pesticides as Green, Yellow, or Red Category products.

Green Category pesticides pose the least potential hazard to people and the environment. They do not require prior written approval from the IPM coordinator and may be applied at the licensee's

discretion under the guidelines of the school district IPM program. However, there are a few considerations:

- When using Green Category pesticides indoors, post a notification in the area 48 hours in advance (see SPCS rules for pest control signs §7.146).
- When applying pesticides outdoors, post a notification in the area at the time of application. You can remove the sign after the application is complete.
- For both indoor and outdoor application, students must not be present during the application but can reenter the area when the application is complete unless the product or district requires a different reentry interval.

Yellow Category products usually include the Environmental Protection Agency signal word CAUTION on the label. They are typically residual insecticide products, such as Talstar® Professional insecticide, Suspend® SC, and Termidor® SC termiticide/insecticide. At the same time, most herbicides that have a CAUTION signal word fall under this category as well. These pesticides require approval by a certified applicator, and you must provide a copy of the approval form to the IPM coordinator.



Ants on liquid bait.
 Source: Michael Merchant



Apply Green Category pesticides when students are not present. They may return when the application is complete or the reentry interval expires.
 Source: Pixabay

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- When using Yellow Category pesticides indoors, post notification of the application 48 hours before treatment. Students cannot be present in the room or treated area during the application, within 4 hours afterward, or until the reentry interval specified on the pesticide label has expired, whichever time is longer.
- When applying pesticides outdoors, students cannot be within 10 feet of the application site. Secure the area and do not allow people to reenter the area for 4 hours after treatment or until the interval specified on the pesticide label has expired, whichever time is longer.

Red Category pesticides that carry EPA signal words such as WARNING and DANGER on the label to indicate the highest potential of risk to applicators or the environment. These products contain an active ingredient that, in Texas, designates them to be a restricted-use pesticide, a state-limited-use pesticide, or a regulated herbicide. Before applying a Red Category pesticide, the licensee must provide written justification for its use to the IPM coordinator and receive from them signed justification form for its use.

- When using Red Category pesticides indoors, students must not be present in the room or treatment area during application, within 8 hours afterward, or until the reentry interval specified on the pesticide label has expired, whichever time is longer.
- When applying these pesticides outdoors, secure the area according to Title 4, Part 1, Chapter 7, Subchapter H, Division 7, Section §7.204 of the Texas Structural Pest Control Regulations, which do not allow students within 25 feet of the application site, and prohibit reentry to the area for 8 hours, or until the reentry interval specified on the pesticide label has expired, whichever time is longer.

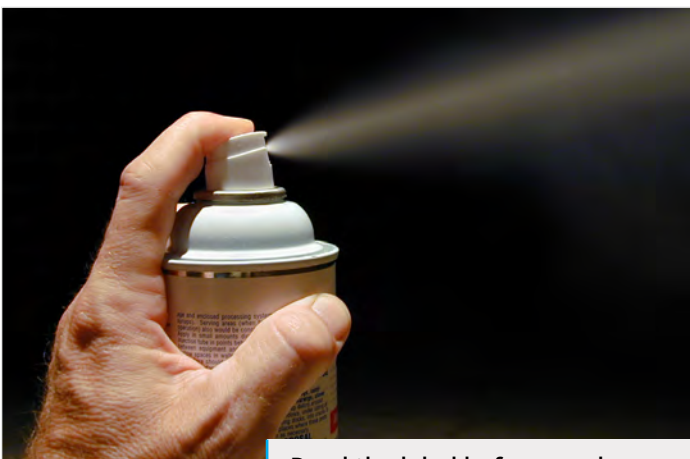


Paper wasps (*Polistes* spp.) nest in overhangs, trees, or shrubs. Not usually aggressive, they are more of a predator to other insects. Source: Pixabay

Although Texas schools may use any pesticide, they deem necessary to manage a pest problem, Texas Department of Agriculture regulations require that when using a Yellow or Red Category pesticide, written justification and approval must first be recorded and kept on file for at least 2 years. Also, certain Green Category products may have less restrictive reentry requirements than other pesticides. These requirements encourage schools to use the least hazardous materials necessary to do the job effectively.

IPM Coordinators and all pesticide applicators working on school district property in Texas must be able to identify Green Category products (see [Title 4, Part 1, Chapter 7, Subchapter H, Division 7, Section §7.204](#) of the Texas Structural Pest Control Regulations). These products must be from at least one of the following categories:

- Biological (living) control agents
- Boric acid, disodium octaborate tetrahydrate, or related boron compounds
- Botanical insecticides containing no more than 5 percent synergist (does not include synthetic pyrethroids)
- Insect and rodent baits in tamper-resistant containers or for crack-and-crevice use only (not broadcast)
- Insect growth regulators (IGR)
- Microbe-based insecticides
- Pesticidal soap, natural or synthetic horticultural oils
- Silica gel, diatomaceous earth



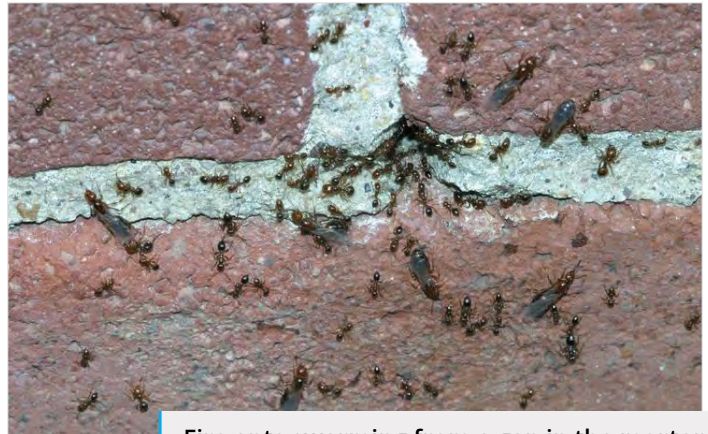
Read the label before you buy, use, or dispose of any pesticide.

Source: Michael Merchant

Identifying Green Category Products

Distinguishing Green products is not always easy; no packaging designation shows which pesticides are Green products under Texas law. Even pesticide distributors and sales personnel are often unfamiliar with which products are included in the Texas Green Category.

The following list includes common Green Category pesticides and serves as a guide to the most commonly used active ingredients and current trade names associated with these active ingredients. **Because trade names change frequently, schools and pest management professionals should learn the qualifying criteria for Green Category products, rather than depend on a list of trade names.**



Fire ants swarming from a gap in the mortar of a building. *Source: Michael Merchant*



Insect identification is critical to an IPM program. This American cockroach could be a sign of a widespread pest infestation, depending on its location and time of year. *Source: Michael Merchant*



Remember to post signs outdoors when making a Green Category pesticide application. Remove the sign once the application is complete or reentry interval is met. *Source: Michael Merchant*

Common Green Category Products

Type of Pesticide (I=Insecticide, R=Rodenticide, F=Fungicide, B=Biological pesticide, H=Herbicide)	Active Ingredient	Product Name
I	boric acid (orthoboric acid)	Borid, Nibor-D, Eaton's Answer Boric Acid Insecticidal Dust, InTice roach bait, InTice 10 Perimeter Bait Niban FG, BorActin Insecticide Powder, Provaunt, Magnetic Roach Bait, Niban Granular Bait, Harris Boric Acid Roach Powder, Enoz Roach Away, Avenger, Southern Ag, Zap-A-Roach, Hot Shot MaxAttrax, 707, BONIDE, Ficam Insect Bait
I, F	disodium octaborate tetrahydrate	Tim-bor, Bora-Care, Nibor-D, Ant Cafe, Gourmet Ant Bait Gel, Dominant 1%, Boracide, Board Defense, Jecta
I	diatomaceous earth	Concern, Perma-Guard Crawling Insect Control, Harris, Safer Home, Garden Safe
I	silica aerogel	CimeXa Insecticide Dust, PT Tri-Die, Drione Dust General Insect Control, Dryacide

Low-toxicity inorganics. These pesticides share noncarbon-based chemistry and destroy the waxy waterproofing on insect cuticles. Borate compounds, including boric acid and disodium octaborate, are long-lasting, water-soluble compounds that act as fungicides and insect stomach poisons.

Common Green Category Products

Type of Pesticide (I=Insecticide, R=Rodenticide, F=Fungicide, B=Biological pesticide, H=Herbicide)	Active Ingredient	Product Name
I	sodium tetraborate decahydrate (borax)	Terro PCO Liquid Ant Bait, InTice Gelanimo Ant Bait, InTice Thiquid Ant Bait, InTice Rover Ant Bait, DominAnt Liquid Ant Bait, Maggie's Farm Ant Killer
I	pentahydrate borax	ETiBOR-48
<p>Insect growth regulators (IGRs). IGRs are synthetic versions of hormones. They do not kill insects outright, but disrupt their normal growth and reproduction process. The IGR mode of action is specific to insects and toxicity to humans is very low.</p>		
I	cyromazine	Citation, Synterra WSP
I	hydroprene	Gentrol IGR Concentrate, Gentrol Point Source, Gentrol Aerosol, Tekko Trio IGR Concentrate, Tekko Trio IGR Foam
I	methoprene	Precor IGR Concentrate, Altosid Mosquito Briquets, Meteor IGR Concentrate, Extinguish Fire Ant Bait, Altosid Pro-G Mosquito Larvicide, Amdro Quick Kill Mosquito Bombs
I	pyriproxyfen	Distance Fire Ant Bait, Nylar, NyGuard, Archer, Pivot
I	pyriproxyfen, abamectin	Venndetta PLUS Cockroach Gel Bait
I	pyriproxyfen, novaluron	Tekko Pro
I	tebufenozide	Confirm 2F
I	novaluron	Pedestal Novaluron IGR Insecticide
<p>Baits. Baits are a mixture of an insecticide with food that attracts pests. They are relatively safe because of the low percentage of active ingredients, especially when applied only in cracks, crevices, or in an enclosed bait station. Texas School IPM rules require that insect or rodent baits (i.e., fire ant baits; containerized cockroach baits; granular ant, cockroach, and cricket baits; and rodent baits) be used in tamper-resistant containers or placed in cracks and crevices, but not broadcasted.</p>		
I	fipronil	Maxforce FC Magnum Roach Killer Bait Gel, Maxfore FC Ant and Roach Bait Stations, Maxforce Carpenter Ant Bait Gel, Maxforce Fleet Ant Bait Gel, Maxforce FC Select Roach Killer Bait Gel, Taurus SC Termiticide
I	hexaflumuron, noviflumuron	Hex-Pro, Recruit HD Termite Bait
I	hydramethylnon	Amdro Pro Fire Ant Bait, ProBait Professional Fire Ant Bait, Maxforce Complete Granular Insect Bait, Maxforce FC Roach Killer Small Bait Stations
I	imidacloprid	Pre-Empt Professional Cockroach Gel Bait, Maxforce Quantum Ant Bait, InVict Gold Cockroach Gel, InVict Xpress Granular Bait, InVict Blitz Ant Bait, Quali-Pro Imidacloprid 0.5 G, Neogen SureKill Roach Gel Bait, Neogen SureKill Ant Gel Bait
I	indoxacarb	Advion Cockroach Gel Bait, Advion Cockroach Bait Arena, Advion Ant Gel Bait, Advion Ant Bait Arena, Doxem Precise Replacement Bait, Revenge Invisible Roach Bait with Puffer, Savitri Cockroach Gel Bait, Advion MicroFlow Insect Bait, Advion WDG Insecticide, Advion Evolution Cockroach Gel Bait
I	acetamiprid	Transport Roach Bait, EndZone Insecticide Stickers
I	dinotefuran	PT Alpine Pressurized Fly Bait, Alpine Cockroach Gel Bait Rotation 1 Reservoir, PT Alpine Foam RTU, Hot Shot Ultra Clear Roach and Ant Gel Bait, Starbar QuikStrike II Fly Abatement Strip
I	sulfluramid	Advance 360A Dual Choice Ant Bait Stations
I	thiamethoxam	Optigard Ant Gel Bait, Optigard Flex Liquid

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I	clothianidin	Maxforce Impact Roach Gel Bait
R	brodifacoum	FINAL All-Weather BLOX, Talon Weatherblok XT, Talon G, Talon Ultrablok, Neogen Havoc Attack Blocks Rodenticide, FINAL Soft Bait with Lumitrack, Motomco Jaguar Rodenticide Place Pacs Bait Bucket, Havoc Place Packs Rodenticide
R	bromadiolone	CONTRAC All-Weather Blocks, Maki Paraffin Blocks, Just One Bite Rat and Mouse Bait, Maki Bulk Paraffinized Pellets, Maki Pellet Place Packs, JT Eaton Bait Block 2G Second Generation Rodenticide
R	bromethalin	Top Gun All-Weather Rodenticide Bait Block, FASTRAC All-Weather Blox, Tomcat Bromethalin Bait Chunx, Prowler 4 lb. Rodent Bait Chunx, Talpirid Mole Bait, Gladiator All Weather Bait Blox, TakeDown II Soft Bait, Victor Moleworms Rodenticide
R	chlorophacinone	Rozol Paraffin Pellets, Flatline Soft Bait
R	difethialone	Generation Mini-blocks, FirstStrike Rat/Mouse Soft Bait, BlueMax Mini Blocks Rodenticide, Generation Bulk Pellets
R	diphacinone	DITRAC All-Weather Blox, LIQUA-TOX II Liquid Bait, JT Eaton Bait Block Rodenticide, PCQ Pro Burrow Bait, Eratication Rodent Bait, Neogen Ramik Green All-Weather Rodenticide
<p>Microbe-based. Microbe-based pesticides contain active or killed microbes or microbial byproducts. Their toxicity to non-insects is low, and they break down quickly in the environment.</p>		
I	avermectin-B, abamectin	PT Avert, PT Ascend, Advance 375A Select Granular Ant Bait, Avid 0.15 EC Insecticide, Vendetta Cockroach Gel Bait , InVict AB Insect Paste
I	bacillus sphaericus	VectoLex Granules
I	bacillus thuringiensis	DiPel Biological Insecticide, Bactimos Briquets, Gnatrol Biological Larvicide, AquaBac Larvicide, Mosquito Dunks, Teknar Biological Larvicide, Summit B.T.I. Briquets, Monterey Bt Biological Insecticide, BONIDE Thuricide, Deliver Biological Insecticide, Southern Ag Thuricide BT Caterpillar Control, Captain Jack's BT Thuricide, Summit Quick-Kill Mosquito Bits, VectoBac WDG, MarkNature
I, B	beauveria bassiana	BotaniGard 22WP, BotaniGard ES, BuildASoil, MarkNature, BioCeres WP, BotaniGard MAXX, balEnce Fly Spray, Mycotrol ESO, Mycotrol WPO
I	microbial-based drain cleaners	DrainGel Drain Organic Cleaner , InVade Bio Foam, ZEP Drain Defense, Mrs. Meyer's Probiotic Drain Maintenance, Professor Amos Fast Flow Super 7 Concentrated Natural Microbial Drain Cleaner, Green Gobbler Enzyme Drain Cleaner, Forid Drain Gel Cleaner, EcoStrong Drain and Fruit Fly Eliminator, Correction Enterprises Microbial Drain Cleaner, Bio-Clean
I	spinosad	Conserve SC Insecticide, BONIDE Captain Jack's Deadbug Brew, Monterey Sluggo Plus, Natular G30 WSP, Entrust SC Naturalyte Insecticide, Fertilome Come and Get It II Fire Ant Killer

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Type of Pesticide (I=Insecticide, R=Rodenticide, F=Fungicide, B=Biological pesticide, H=Herbicide)	Active Ingredient	Product Name
<p>Botanicals. Botanical pesticides contain active ingredients extracted from plants. Once sprayed, botanical pesticides such as pyrethrum (pyrethrins) have a short residual life. Pyrethrum is usually mixed with a synthetic chemical, peperonyl butoxide (PBO), to enhance effectiveness. PBO is not an insecticide, but a synergist—a substance that, when added to a pesticide, increases its effectiveness several-fold. Under the Texas School IPM rules, these products cannot contain more than a 5 percent synergist.</p>		
I	2-phenethyl propionate	EcoPCO ACU Insecticide
I	2-phenethyl propionate + pyrethrins	EcoPCO D-X Dust Insecticide, EcoPCO AR-X Multi-Purpose Insecticide
I	2-phenethyl propionate + rosemary	EcoEXEMPT JET
I	2-phenethyl propionate + rosemary oil, peppermint oil, wintergreen oil	Essentria Broadcast
I	2-phenethyl propionate + rosemary oil, thyme oil	EcoVia EC, Maggie's Farm Home Bug Spray
I	2-phenethyl propionate + thyme oil	EcoVia WD
I, F	azadirachtin	Acatin, Neemix, Triact, AzaGuard, AzaSol, AzaSol WSP, Molt-X, Aza-Direct, Azatin O, Azatrol EC, EcoGarden
I, H	d-limonene	D'BUG, SUPA, Avenger, Cide-Kick, Orange Guard Fire Ant Control
I	eugenol (clove oil), cinnamon oil, cedar oil	Snake Out Snake Repellent, RO-PEL Snake Repellent, BONIDE Snake Stopper Snake Repellent
I	eugenol (clove oil), thyme oil, wintergreen oil	Essentria G Granular Insecticide
I	geraniol	ProVerde Wasp and Hornet Killer, Bug Bandit, BANISH, Zevo, STEM Ant-Roach-Fly Trigger Spray, Zevo Ant Roach & Fly Multi-Insect Trigger Spray, Zevo Ant Roach & Spider Crawling Insect Spray, STEM Flying Insect Killer Aerosol
I	geraniol, cedar oil, sodium lauryl sulphate	EcoRaider
I	geraniol, cinnamon oil	ProVerde Broad Spectrum Insect Killer
I	lemongrass oil, geraniol	EcoVia WD, STEM
I	pyrethrins (pyrethrum)	CB-38 Extra, PT Microcare, P.I. Contact Insecticide, Martin's, EverGreen Pyrethrum Concentrate, BONIDE Pyrethrin Garden Insect Spray, Evergreen Pyrethrum Concentrate, PyGanic, Evergreen, PyGanic Gardening, PyGanic Specialty, Monterey Bug Buster-O
I	rosemary, geraniol, peppermint oil	Essentria IC-3, ecoSMART Natural Flying Insect Killer,
I	rosemary, peppermint oil	Essentria All Purpose, EcoSMART
I	thyme	ProVerde Dust Insecticide, Thyme Guard, Thymox, Huma Gro PROUD 3, Guarda, PathoCURB
I	thyme oil, lemongrass, citronella, sodium lauryl sulphate	Nature's Element Web Out, Nisus Web Out

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Type of Pesticide (I=Insecticide, R=Rodenticide, F=Fungicide, B=Biological pesticide, H=Herbicide)	Active Ingredient	Product Name
Biological insecticides. Biological controls use living organisms such as predators, parasites, and disease-causing pathogens to control pests.		
I, B	entomopathogenic nematodes (<i>Steinernema</i>)	Millennium Biological, NemAttack, Sound Horticulture, NaturesGoodGuys Live Beneficial Nematodes, Evergreen Growers Supply, Growers House, Buglogical, Bugs for Growers
Pesticidal soap and natural and synthetic horticultural oils. These contact insecticides kill small, soft-bodied insects.		
I	potassium salts of fatty acids	Safer Insecticidal Soap, Garden Safe Insecticidal Soap Insect Killer, Monterey, Des-X, Southern Ag, BONIDE Insecticidal Soap, Garden Safe, Kopa, Method
I	petroleum oil-foliar spray	PureSpray GREEN Organic Horticultural Spray Oil, Summit Year-Round Horticultural Spray Oil, Monterey, BONIDE All Seasons, Ultra-Pure Oil
I, F	highly refined paraffinic oil	BONIDE All Seasons Horticultural & Dormant Spray Oil, Ultra-Pure Oil Horticultural Insecticide, Miticide and Fungicide, Southern Ag, SuffOil-X

For More Information

For more information about integrated pest management in schools and childcare facilities, visit the AgriLife Extension website at <http://schoolipm.tamu.edu>.

This is not an official publication of the Texas Department of Agriculture. If in doubt about what constitutes a Green Category product, where and when they may be used, and how to obtain approval for Yellow and Red Category products in schools, contact the Texas Department of Agriculture Structural

Pest Control Service at P.O. Box 12847, Austin, Texas 78711-2847, email spcs@TexasAgriculture.gov, call (866) 918-4481, or visit their website at <http://www.texasagriculture.gov/spcs>.

This material is based upon work also supported by the National Institute of Food and Agriculture, U.S. Department of Agriculture, CPPM – Texas A&M AgriLife Extension Service IPM Program 2021-70006-35347. Any opinions, findings, conclusions, or recommendations expressed in this publication are those of the author(s) and do not necessarily reflect the view of the U.S. Department of Agriculture.

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