

S3883-258

06-03-2009

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U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505C)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

53883-258

Date of Issuance:

JUN 3 2009

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

PBO Synergist

Name and Address of Registrant (include ZIP Code):

Control Solutions, Inc.  
5903 Genoa-Red Bluff  
Pasadena, TX 77507-1041

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered/reregistered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with section 3(c)(7)(A) of FIFRA provided that you:

1. Submit and/or cite all data required for registration of your product under section 3(c)(5) of FIFRA when the Agency requires all registrants of similar products to submit such data; and submit acceptable responses required for reregistration of your product under section 4 of FIFRA.

(continued on page 2)

Signature of Approving Official:

See page #2.

Richard J. Gebken, Product Manager (10)  
Insecticide Branch, Registration Division (7505P)

Date:

JUN 3 2009

2. Make the following change(s) to the label:

- a. Change the product registration number to "EPA Reg. No. 53883-258"
- b. Make the following label revision(s):


Conditional Data Gaps:

- 1. Within one (1) year from the date of approval of this label amendment, Control Solutions, Inc. is obligated to submit a One Year Storage Stability (830.6317) study and a Corrosion Characteristics (830.6320) study on this product in support of this registration.<sup>1</sup>
3. You must submit two (2) copies of the revised final printed labeling, incorporating the above changes, before releasing the product for shipment. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6(e). Your release for shipment of the product bearing amended labeling constitutes accepting of these conditions.

Control Solutions, Inc. should note that a notice of availability of EPA's RED for products containing piperonyl butoxide was published in the *Federal Register* on July 26, 2006 (Volume 71, Number 143, Pages 42385-42386). As a result, additional data and/or labeling changes may be required for products containing piperonyl butoxide.

A copy of your label stamped "Accepted" is enclosed for your records along with hard copies of the acute toxicity, product chemistry and efficacy reviews completed for this product. If you have any questions about this label review, please contact Mr. Carmen J. Rodia, Jr. at (703) 306-0327 or via e-mail at [Rodia.Carmen@epa.gov](mailto:Rodia.Carmen@epa.gov).

Sincerely yours,

*FOR*  


Richard J. Gebken  
Product Manager (10)  
Insecticide Branch  
Registration Division (7505P)

Enclosures:      *Label stamped "Accepted"*  
                         *Acute Toxicity Review, dated May 6, 2009*  
                         *Product Chemistry Review, dated May 19, 2009*  
                         *Efficacy Review, dated May 29, 2009*

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<sup>1</sup> For more detailed information, please refer to page 2 of 3 of the product chemistry review for this product.

Control Solutions Inc.  
**PBO Synergist**

**For use as a synergist in a tank mix to improve control of insects. Assists in inhibition of mixed-function oxidase resistance in insects. Increases insect susceptibility to insecticides.**

Active Ingredient	By Wt.
Piperonyl butoxide technical .....	91.3%*
Other Ingredients .....	<u>8.7%</u>
Total .....	100.0%

\*Equivalent to 73.04% (butylcarbityl)(6-propylpiperonyl) ether and 18.26% related compounds

Contains 8.015 lb /gal piperonyl butoxide technical

**KEEP OUT OF REACH OF CHILDREN  
CAUTION**

Net Contents \_\_\_\_\_

<b>First Aid</b>	
<b>Acephate is an organophosphate, cholinesterase inhibitor.</b>	
<b>If on skin or clothing</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<b>If swallowed</b>	<ul style="list-style-type: none"> <li>• Call a poison control center or doctor immediately for treatment advice.</li> <li>• Have a person sip a glass of water if able to swallow.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If in Eyes</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>• Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>
<p>Have the product container or label with you when calling a poison control center or doctor, or going for treatment. For additional information on this product(including health concerns, medical emergencies, or pesticide incidents) you may call SafetyCall® International for emergency medical treatment at (866) 897-8050.</p>	

ACCEPTED  
*June 3, 2009*  
Under the Federal Insecticide, Fungicide,  
and Rodenticide Act, as amended, for the  
pesticide registered under:

EPA. Reg. No: 53883-258

**PRECAUTIONARY STATEMENTS  
HAZARDS TO HUMANS & DOMESTIC ANIMALS**

**CAUTION**

Harmful if swallowed or absorbed through the skin. Causes moderate eye irritation. Avoid contact with skin, eyes or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco or using the toilet. Remove and wash contaminated clothing before reuse.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

Some materials that are chemical-resistant to this product are listed below. Mixers, loaders, applicators and other handlers (including during mixing/loading, repair and cleaning of equipment, and disposal of pesticide) must wear the following:

- Long-sleeved shirt and long pants
- Chemical resistant gloves such as barrier laminate, viton, neoprene rubber or nitrile rubber
- Shoes plus socks

In addition to the above PPE, mixers and loaders supporting aerial applications to forests and/or applicators using a high-pressure wand in an enclosed area must wear at least a NIOSH-approved respirator with a dust/ mist filter with MSHA/ NIOSH approval number prefix TC-21C or any N, R, P, or HE filter.

In addition to the above PPE, applicators using hand-held foggers in an enclosed area must wear a half-face or full face or hood style NIOSH-Approved respirator with a dust/mist filtering cartridge with MSHA/ NIOSH approval number prefix TC-21C, or a cartridge or canister approved for pesticides (MSHA / NIOSH approval number prefix TC-14G), or a cartridge or canister with any N, R, P, or HE filter. See "Engineering Controls" for additional requirements.

**User Safety Requirements:**

Follow manufacturer's instructions for cleaning/maintaining PPE. If no such instructions for washables exist, use detergent and hot water. Keep and wash PPE separately from other laundry.

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them.

**Engineering Controls:**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240 (d)(6)]

Human flaggers are prohibited. Flagging to support aerial application is limited to use of mechanical flaggers or GPS (Global Positioning System.)

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands with plenty of soap and water before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to aquatic organisms, including fish and invertebrates. Drift and run-off may be hazardous to aquatic organisms in water adjacent to treated areas. This product may

contaminate water through run-off. This water has a potential for run-off for several weeks after application. Poorly draining soils and soils with shallow water tables are more prone to produce run-off that contains this product.

Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash-waters or rinsate.

Do not discharge effluent containing this product into lakes, streams, ponds, estuaries, oceans or other water unless in accordance with the requirements of a National Pollutant Discharge Elimination System (NPDES) permit and the permitting authority has been notified in writing prior to discharge. Do not discharge effluent containing this product into sewer systems without previously notifying the local sewage treatment plant authority. For guidance, contact your State Water Board or Regional Office of the EPA. See Directions for Use for additional precautions and restrictions.

**PHYSICAL OR CHEMICAL HAZARDS**  
Do not use or store near heat or open flame.

**DIRECTIONS FOR USE**

It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. **READ ENTIRE LABEL AND PAMPHLET. USE STRICTLY IN ACCORDANCE WITH PRECAUTIONARY STATEMENTS AND DIRECTIONS AND WITH APPLICABLE STATE AND FEDERAL REGULATIONS.**

For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

**AGRICULTURAL USE REQUIREMENTS**  
Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the areas during application. For any requirements specific to your state or tribe, consult the agency responsible for pesticide regulation.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil or water, is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

**NON-AGRICULTURAL USE REQUIREMENTS**  
The requirements in this box apply to uses of this product that are NOT within the scope of the Worker Protection Standard for agricultural pesticides (40 CFR part 170). The WPS applies when this product is used to produce agricultural plants on farms, forests, nurseries, or greenhouses.

Do not enter or allow others to enter treated areas without protective clothing until sprays have dried, and until vapors, mists, or aerosols have dispersed and the treated area has been thoroughly ventilated.

**TANK MIXES:** Tank mixing or use of this product with any other product which is not specifically and expressly authorized by the label shall be the exclusive risk of user, applicator, and/or application advisor.

Read and follow the most restrictive label instructions and precautions of all products in a tank mix.

**GENERAL PRECAUTIONS AND USE RESTRICTIONS**

This product is an emulsifiable concentrate for use as an additive in insecticides and acaricides, to improve control of insects and mites. PBA Synergist aids in reducing oxidative resistance that can develop in insects and mites. PBO Synergist has no insecticidal effect of its own.

- Apply this product only as specified on this label.
- Do not contaminate of food or feedstuffs.
- Do not apply this product in a way that will contact adults, children or pets, either directly or through drift.
- Only protected handlers may be in the treatment area during application.
- For metered release devices: Not for use in residential areas. Do not use in nurseries or rooms where infants, ill or aged persons are confined. Do not place metering device directly over or within 8 feet of exposed food, dishes, utensils, food processing equipment and food handling or preparation. Do not install within 3 feet of air vents. Carefully follow directions for the dispenser unit and when replacing cans or conducting maintenance.
- Do not use in aircraft cabins except in compliance with PR Notice 96-3.
- Do not wet plants to point of run-off or drip. Do not use treated articles until spray has dried.
- Do not apply directly to or near water, storm drains or drainage ditches. Do not apply in windy conditions. To prevent run-off, do not over-water the treated area(s) or apply when heavy rain is expected. Rinse application equipment only over lawn or garden area.
- Not for use in outdoor residential misting systems.
- Do not remain in treated area. Exit area immediately and remain outside the treated area until aerosols, vapors and/or mists have dispersed.
- Remove or cover exposed food and drinking water before application. Remove or cover dishes, utensils, food processing equipment and food preparation surfaces, or wash them before use.
- When used in dairy barns or facilities: Close milk bulk tank lids to prevent contamination from spray and from dead or falling insects. Remove or cover milking utensils before application. Wash teats of animals before milking.
- For agricultural premises, commercial animal housing and equipment, direct application to non-domestic animals/livestock, greenhouse grown ornamental, flowering and foliage plants and outdoor ornamentals and lawns: Do not apply more than 1 time per day.
- For food crops grown outdoors or in greenhouses in agricultural settings: Do not apply more than 10 times per season. Do not reapply within 3 days except under extreme pest pressure. In case of extreme pest pressure, do not reapply within 24 hours. Do not apply to cotton within 14 days of seed harvest.
- For indoor food handling/processing facilities: Do not make space spray applications when facility is in operation. During space spray applications, cover or remove exposed food. During space spray applications, cover food processing surfaces or clean after treatment with a suitable detergent, rinse with potable water before use. Do not apply more than 1 time per day.
- For post-harvest application to vegetables, fruits and nuts: Do not apply more than 1 time per day. Do not reapply within 7 days. Do not apply more than 10 times to sweet potatoes.
- For post-harvest application to stored grain and seed: Do not reapply within 30 days.
- For food stored in bags: Direct application to food contact surfaces is prohibited.

**APPLICATION INSTRUCTIONS**

PBO Synergist may be applied using ground application sprayers, hand-held sprayers, power sprayers, foggers, ULV applicators, or by chemigation.

Not for use in outdoor residential misting systems.

**SPRAY DRIFT MANAGEMENT**

Avoiding spray drift at the application site is the responsibility of the applicator and the grower. The interactions of many equipment and weather-related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions.

**Aerial Applications**

Do not apply at wind speeds greater than 10 mph at the application site. Do not make any type of application into temperature inversions. Apply as a medium or coarser spray (ASABE Standard 572). Do not release spray at a height greater than 10 feet above the ground or crop canopy. Boom length must not exceed 75% of the wingspan or 90% of the rotor blade diameter. Aerial applicators must consider airspeed and nozzle orientation in controlling droplet size. When applications are made with a cross-wind, the swath will be displaced downwind. The applicator must compensate for this downwind displacement at the downwind edge of the application area by adjusting the path of the aircraft upwind.

**Ground applications**

Do not release spray at a height greater than 4 feet above ground or crop canopy.

**Airblast applications**

Direct spray into the canopy. Turn off outward-pointing nozzles when spraying row ends, and when spraying outer rows.

PBO Synergist is for use as an additive to insecticides or acaricides applied according to label directions on growing food, feed, or seed crops outdoors, or in greenhouses, or on dormant crops.

**CROPS**

**RESTRICTIONS FOR USE ON FOOD CROPS:**

**Maximum application rates:**

- Field and orchard– 0.5 lbs ai/acre or 0.012 lb ai /1000 square feet
- Hydroponically grown crops – 1.0 ppm ai in water
- Greenhouse space sprays - 0.0014 lbs ai/1000 cubic feet
- Greenhouse surface spray – 0.012 lbs per 1000 square feet or 0.5 lbs ai per acre.

**ROOT AND TUBER VEGETABLES**

Arracacha, arrowroot, purple arrowroot, Japanese artichoke, Jerusalem artichoke, beets, sugarbeets, edible burdock, carrot, cassava (bitter or sweet), celeriac, chervil (turnip rooted), chicory, dasheen (taro), ginger, ginseng, horse radish, leren, parsley (turnip rooted), parsnip, potatoes, radish, Japanese radish (daikon), rutabaga, salsify, black salsify, Spanish salsify, sweet potatoes, taniel (cocoyam), turmeric, turnip, true yams, bean yams.

**LEAVES OF ROOT AND TUBER VEGETABLES**

Beets, sugarbeets, edible burdock, carrot, cassava (bitter or sweet), celeriac, chervil (turnip rooted), chicory, dasheen (taro), parsnip, radish, Japanese radish (daikon), rutabaga, black salsify, sweet potatoes, taniel (cocoyam), turnip, true yam.

**BULB VEGETABLES (Allium spp.)**

Garlic, great-headed garlic, leek, onion (dry bulb or green) spring onion (scallions), Welsh onion, shallots.

**LEAFY VEGETABLES**

Amaranth (leafy amaranth, Chinese spinach, tampala), arrugula (roquette), celery, celtuce, chervil, corn salad, chrysanthemum (edible leaved), chrysanthemum (garland), cress (garden), cress (upland, yellow rocket, winter cress), dandelion, dock (sorrel), endive, escarole, fennel (Florence), lettuce (head and leaf), orach, parsley, purslane (garden and winter), rhubarb, romaine, spinach, fine spinach (Malabar, Ceylon), spinach (new Zealand), Swiss chard.

**BRASSICA (COLE) LEAFY VEGETABLES**

Broccoli, broccoflower, cavolo broccolo, Chinese broccoli (gai lan), broccoli raab (rapini), Brussels sprouts, cabbage, Chinese cabbage (bok choy), Chinese cabbage (napa), Chinese mustard cabbage (gai choy), cauliflower, collards, kale, kohlrabi, mizuna, mustard greens, mustard spinach, rape greens.

**LEGUME VEGETABLES (SUCCULENT OR DRIED)**

Adzuki beans, asparagus beans, black-eyed peas, broad beans (fava beans), catjang, chick peas (garbanzo beans), Chinese longbeans, cowpeas, crowder peas, field beans, guar, jackbeans, sword beans, kidney beans, lablab beans (hyacinth beans), Lima beans, lentils, moth beans, mung beans, navy beans, peas (dwarf, edible, pod, English, garden green, field, snowpeas, sugar snap peas), pigeon peas, pinto beans, rice beans, runner beans, snap peas, southern peas, soybeans, grain lupin, sweet lupin, white lupin, pole beans, tepary beans, urd beans, wax beans, yardlong beans.

**LEGUME VEGETABLE FOLIAGE**

Plant part of any legume vegetables included in the legume vegetable group that will be used as animal feed, including any variety of beans and field peas.

**FRUITING VEGETABLES**

Eggplant, ground cherry, pepinos, peppers (bell, chili, cooking, pimento, sweet peppers), tomatillo, tomatoes.

**CUCURBIT VEGETABLES**

Balsam pear (bitter melon), Chinese waxgourd (Chinese preserving melon), citron melon, cucumber, gherkins, edible gourds, melons (hybrids, ananas, canary, canteloupe, casaba, charentais, crenshaw, galia, honeydew, honeyballs, mangomelon, muskmelon, Persian melon, piel de sapo), pumpkin, squash (summer and winter), western shipper melon, watermelon (including hybrids, seeded and unseeded.)

**CITRUS FRUITS**

Calamondin, citrus citron, citrus hybrids, grapefruit, kumquats, lemons, limes, mandarins, tangerines, orange (sweet and sour), pummelo, satsuma mandarins.

**POME FRUITS**

Apple, crabapple, loquat, mayhaw, pear, oriental pear, quince.

**STONE FRUITS**

Apricot, cherries (sweet and sour), nectarines, peaches, plums, prunes, Chickasaw plums, Damson plums, Japanese plums, plumcot.

**SMALL FRUITS AND BERRIES**

Bingleberries, blackberries, blueberries, cranberries, currants, dewberries, elderberries, gooseberries, grapes, huckleberries, loganberries, lowberries, ollalieberries, black raspberries, red raspberries, strawberries, youngberries.

**TREE NUTS**

Almond, beech nut, Brazil nut, butternut, cashew, chestnut, chinquoin, filbert (hazelnut), hickory nut, macadamia nut (bush nut), pecan, pistachio, walnut (black and English or Persian).

**ORIENTAL VEGETABLES**



Japanese artichoke, Chinese broccoli (gai lan), Chinese cabbage (bok choy), Chinese mustard cabbage (gai choy), dasheen, ginger, ginseng, Chinese longbeans, mung beans, citron melon, balsam pear (bitter melon), Japanese radish (daikon), Chinese spinach, Chinese waxgourd.

#### **SUBTROPICAL FRUITS**

avaocado, banana, carob, Barbados cherry, charimoya, dates, durian (jackfruit), feijoa, figs, guava, kiwifruit, lychee, mango, papaya, passionfruit, pawpaw, persimmon, pineapple, pomegranate.

#### **CEREAL GRAINS**

Barley, buckwheat, corn (sweet, pop, and field), millet, proso, oats, pearl, rice, rye, sorghum (milo), teosinte, triticale, wheat, wild rice.

#### **FORAGE, FODDER AND STRAW OF CEREAL GRAINS**

Barley, buckwheat, corn (sweet, pop, and field), millet, proso, oats, pearl, rice, rye, sorghum (milo), teosinte, triticale, wheat, wild rice.

#### **GRASSES FOR SEED, FORAGE, FODDER AND HAY**

Includes any grass (graminaceae), green or cured, except sugarcane and those listed under "cereal grains", that will be used to graze or feed livestock, such as pasture grasses, range grasses, grasses grown for hay or silage, Bermuda grass, bluegrass, bromegrass, fescue, annual ryegrass, festulolium, hybrid ryegrass, Italian ryegrass, meadow fescue, orchard grass, Sudangrass, sorghum-Sudan, tall fescue, timothy, wheat hay, turfgrasses, bentgrass, Kentucky bluegrass, specialty grasses.

#### **NON-GRASS ANIMAL FEEDS**

Alfalfa, velvet bean, clover, kudzu, lespedeza, lupin, sainfoin, trefoil, crown vetch, milk vetch.

#### **HERBS AND SPICES**

Allspice, angelica, anise (anise seed), annatto, balm, basil, borage, burnet, chamomile, caper buds, caraway, black caraway, cardamom, cassia bark, cassia buds, catnip, celery seed, chervil, chives, Chinese chives, clary, cove buds, coriander (cilantro or Chinese parsley), coriander (cilantro) seed, costmary, cilantro, cumin, curry leaf, dill (weed, seed), fennel (Italian and sweet), fenugreek, grains of paradise, horehound, hyssop, juniper berry, lavender, lemongrass, lovage (leaf and seed), lace, marigold, marjoram (sweet, wild), mustard (seed), nasturtium, nutmeg, oregano, mint, paprika, parsley, pennyroyal, pepper (white or black), poppyseed, rosemary, rue, saffron, sage, savory (including summer or winter), sweet bay (bay leaf), tansy, tarragon, thyme, vanilla, watercress, wintergreen, woodruff, wormwood.

#### **OILSEED CROPS**

Canola, crambe, rapeseed, flax, safflower, sesame, soybeans, sunflowers.

#### **ADDITIONAL CROPS**

Artichoke, asparagus, avocado, coffee, cotton, hemp, hops, jojoba, mushrooms, olives, okra, peanuts, safflower, sesame, sugar cane, sunflowers, tea, tobacco.

#### **ORNAMENTALS**

##### **Flowering plants**

African violets, ageratum, aster, azalea, begonia, cactus, calceolaria, calendula, calla, camellia, carnation, ceanothus, Christmas trees, conifer plantations, conifer seed orchards, cineraria, chrysanthemum, coleus, cyclamen, cypress, daffodil, dahlia, delphinium, dogwood, fern, ficus, foliage plants, forest tree nurseries, palm and tropical tree nurseries, fuschia, gardenia, geranium, gladiolus, gloxinia, gypsophila, holly, hyacinth, hydrangia, iris, juniper, lily, maidenhair fern, marigold, narcissus, palm, pansy, pelargonium, peony, petunia, philodendron, phlox, pine, pyracantha, rhododendron, rose, rubber plant, snapdragon, stock, sweet pea, tulip, viburnum, wandering Jew, yew, zinnia.

##### **Trees and shrubs**

Andromeda, arborvitae, ash, beech, birch, boxwood, cotoneaster, crabapple, dogwood, elm, euonymus, fir, firethorn, forsythia, hawthorn, hemlock, hickory, holly, honey locust, horse chestnut, juniper, larch, laurel, lilac, linden, mimosa (silk tree), myrtle, oak, pine, privet, tulip tree (yellow poplar), willow.

**RATES**

**NOTE:** PBO Synergist is intended for mixing with insecticides or acaracides listed. PBO Synergist has no insecticidal activity of its own. Rates indicated on this label refer to the proportion of PBO Synergist to be added to the insecticide or acaracide. Carefully observe the label directions for the insecticide or acaracide to be used, and apply at rates directed on those labels. **Always follow the most restrictive label directions, restrictions, and precautions of all products in a tank-mix.** Do not mix with any product that prohibits tank mixtures with piperonyl butoxide.

Rate Restrictions – Food crops		
Crop	Maximum Use Rate	Restrictions
Field and orchard crops	8 fl. oz. per acre (0.5 lb. ai per acre) or 0.2 fl. oz. per 1000 square feet	Do not apply more than 10 times per year. Do not re-apply within 3 days except in case of extreme pest pressure, in which case do not re-apply within 24 hours. Do not apply to cotton within 14 days of seed harvest.
Hydroponic crops	1.0 ppm ai in water (equivalent to 1 fl. oz. PBO Synergist per 62,500 gallons water).	
Greenhouse space spray	0.22 fl oz per 10,000 cubic feet	
Greenhouse surface spray	0.2 fl oz per 1000 sq. feet.	

Rate Restrictions – ornamental, flowering and foliage plants		
Crop	Maximum Use Rate	Restrictions
Greenhouse surface spray	0.58 fl oz per 1000 sq ft	Do not apply ore than once per day
Greenhouse space spray	0.67 fl oz per 10,000cu ft	
Forestry	20 fl oz per acre	
Sod farms	16 fl oz per acre	

**TANK MIXING**

Prior to tank mixing, do a compatibility test using the proper proportions of pesticide, synergist and water to ensure physical compatibility of the mixture. Mix at a rate of 2 to 8 fl oz of PBO Synergist per acre, based on the amount of active ingredient. In the absence of specific data or prior experience on growing crops and ornamentals (outdoors, in greenhouses or indoors), it is recommended that tank mixes be tested for any phytotoxic injury to a small sample of the plants to be treated prior to use.

**Calculating the amount of PBO Synergist**

Most insecticides are synergized at a rate of 1 to 10 parts PBO Synergist active ingredient to 1 part insecticide active ingredient. Determine the amount of insecticide ai to be used in pounds, then multiply that by the ratio of PBO Synergist desired (1 to 10). Then divide by 0.0625 (the amount of PBO Synergist ai in pounds per fluid ounces. This will be the number of fluid ounces of PBO Synergist to use.

$$\text{LB insecticide ai} \times \text{ratio of PBO Synergist} = \text{Fluid ounces PBO Synergist required}$$

$$0.0625$$

**TANK MIX RECOMMENDED MIX RATES**

**NOTE:** Do not exceed maximum use rates in Rate Restrictions table above

Tank mix insecticide	If insecticide rate per acre is:	Then PBO Synergist rate is
Abamectin 2% ai	5 – 10 fl oz	2 fl oz
	16 fl oz	3 fl oz
	20 fl oz	4 fl oz
	0.8 – 1.6 fl oz	2 fl oz

β - cyfluthrin 12.7% ai	0.8 – 1.6 fl oz	2 fl oz
	1.8 – 2.4 fl oz	3 fl oz
	2.8 fl oz	3.5 fl oz
	3.2 fl oz	4 fl oz
	6.4 fl oz	8 fl oz
Cyfluthrin 25% ai	0.8 fl oz	2 fl oz
	1.6 fl oz	4 fl oz
	2 fl oz	5 fl oz
	2.8 fl oz	7 fl oz
	3.2 – 6.4 fl oz	8 fl oz
Cyfluthrin 20% ai	1 fl oz	2 fl oz
	2 fl oz	4 fl oz
	2.5 fl oz	5 fl oz
	3 fl oz	6 fl oz
	3.5 fl oz	7 fl oz
	4 – 8 fl oz	8 fl oz
Cypermethrin 30.6% ai	2 fl oz	6.4 fl oz
	2.5 – 5 fl oz	8 fl oz
Bifenthrin 10% i	6.4 fl oz	6.4 fl oz
	8 - 32 fl oz	8 fl oz
Bifenthrin 25.1% ai	1.6 fl oz	4 fl oz
	2.1 fl oz	5.3 fl oz
	2.6 fl oz	6.4 fl oz
	3.2 - 32 fl oz	8 fl oz
Esfenvalerate 8.4% ai	2.9 fl oz	2.4 fl oz
	4.8 fl oz	4 fl oz
	5.8 fl oz	4.8 fl oz
	8 fl oz	6.4 fl oz
	9.6 - 14.5 fl oz	8 fl oz
Fenpropathrin 30.9% ai	5 1/3 - 21 1/3 fl oz	8 fl oz
Imidacloprid 17.4% ai	2 fl oz	4 fl oz
	3 fl oz	6 fl oz
	3.8 fl oz	7.6 fl oz
	4 - 20 fl oz	8 fl oz
Imidacloprid 75% ai	0.8 - 1 fl oz	8 fl oz
Lambda cyhalothrin 11% ai	1.92 fl oz	2.4 fl oz
	2.56 fl oz	3.2 fl oz
	3.2 fl oz	4 fl oz
	3.84 fl oz	4.8 fl oz
Methomyl 29% ai	12 - 48 fl oz	8 fl oz
Permethrin 38.4% ai	2 fl oz	4 fl oz

	4 - 16 fl oz	8 fl oz
Permethrin 25% ai	3.2 fl oz	4 fl oz
	6.4 - 32 fl oz	8 fl oz
Zeta- cypermethrin 9.6%ai	1.28 - 1.92 fl oz	2 fl oz
	2.24 - 3 fl oz	3 fl oz
	3.2 - 4 fl oz	4 fl oz
Zeta-cypermethrin 18.1% ai	1.4 fl oz	2.6 fl oz
	1.9 fl oz	3.5 fl oz
	2 fl oz	3.8 fl oz
	2.4 fl oz	4.5 fl oz
	2.8 fl oz	5.3 fl oz
	3 fl oz	5.6 fl oz
	3.4 fl oz	6.4 fl oz
	4.3 fl oz	8 fl oz

**CHEMIGATION**

PBO Synergist may be applied through the following types of sprinkler irrigation systems: center pivot, lateral move, end tow, side / wheel roll, traveler, big gun, solid set, or hand move. Do not apply this product through any other type of irrigation system.

Ensure uniform distribution of water to avoid crop injury or illegal residue levels in the crop. For questions about calibration, contact your State Extension Service Specialists, the equipment manufacturer, or other experts.

Do not apply by chemigation when wind speed favors drift beyond the area intended for treatment.

Do not connect any irrigation system (including in greenhouses) used for pesticide application to a public water system unless the safety devices prescribed on the pesticide label for public water systems are in place.

A person knowledgeable about the chemigation system and responsible for its operation, or under the supervision of the responsible person, shall shut the system down and make adjustments when necessary should the need arise.

The system must contain a functional check valve, vacuum relief valve, and low-pressure drain appropriately located on the irrigation pipeline to prevent water source contamination from backflow. The pesticide injection pipeline must contain a functional, automatic, quick-closing check valve to prevent flow of fluid back toward the injection pump. The pesticide injection pipeline must also contain a functional, normally-closed solenoid-operated valve on the intake side of the injection pump, and connected to the system interlock to prevent fluid from being drawn from the supply tank when the irrigation system is shut down manually or automatically. The system must contain functional interlocking controls to automatically shut off the pesticide injection pump when the pump motor stops. The irrigation line or water pump must include a functional pressure valve which will stop the water pump motor when the water pressure decreases to the point where pesticide distribution is adversely affected.

Systems must have a metering pump such as a positive displacement injection pump (e.g. diaphragm pump) designed for and constructed of materials that are compatible with pesticides, and capable of being fitted with a system interlock.

Maintain constant agitation in the chemical supply tank during the entire period of application. Applications will be made more accurate and uniform by injection of a larger volume of more dilute pesticide suspension per unit of time.

**NON-CROP USES**

PBO Synergist may be mixed with insecticides registered for use in the following areas:

**Residential dwellings or indoors in commercial or institutional buildings** including houses (indoor or outdoor), multiple unit housing, hotels, schools, restaurants, food processing facilities, food storage facilities, bakeries, healthcare facilities, warehouses, office buildings, factories, industrial facilities  
Do not use in aircraft cabins except in compliance with PR Notice 96-3.

For correct rate of insecticide, refer to the label of the tank-mix insecticide.

When used as a space spray, do not exceed 0.4 fl oz of PBO Synergist per 1000 cu ft of treated area. Do not apply more than 1 time per day. Thoroughly ventilate the treated area before re-entry or re-occupying.

If used as a crack and crevice or broadcast surface spray, do not exceed 8 fl oz of PBO Synergist per 1000 sq ft of treated area. Do not apply more than 1 time per day.

For metered-release device space sprays, do not exceed 0.80 fl oz of PBO Synergist per 1000 cu ft of treated area. Do not apply more than 1 time per day

**FOOD HANDLING ESTABLISHMENTS**

(Places other than private residences in which food is held, processed, prepared or served)

NON-FOOD AREAS: PBO Synergist may be used to treat non-food areas such as garbage rooms, lavatories, floor drains (to sewers), entries and vestibules, offices, locker rooms, machine rooms, boiler rooms, garages, mop closets and storage (after canning or bottling).

FOOD AREAS: PBO Synergist can be used to treat food areas of food handling establishments, restaurants or other areas where foods are commercially prepared or served."

**POST-HARVEST APPLICATION TO FOOD COMMODITIES**

Do not apply PBO Synergist except in mixture with an insecticide registered for use in post-harvest application to food commodities. Carefully follow label directions for the insecticide being used. PBO Synergist may be added to appropriately labeled insecticides on: potatoes, tomatoes, peas, sweet potatoes, apples, blackberries, blueberries, boysenberries, cherries, crabapples, currants, dewberries, figs, gooseberries, grapes, guava, loganberries, mangoes, muskmelons, oranges, peaches, pears, pineapples, plums, raspberries, almonds, walnuts, copra, peanuts.

When used as a space spray to fruits, vegetables and copra, do not exceed 0.16 fl oz of PBO Synergist per 1000 cu ft of space treated. When used as a surface application to the commodities listed, do not exceed 1.6 fl oz of PBO Synergist per 1000 sq ft of treated area. When used as a surface application to fruit or tomatoes in baskets or hampers, do not exceed 0.013 fl oz of PBO Synergist per 1000 lb of fruit. When used as a dip or spray, do not exceed 0.64 fl oz of PBO Synergist per 10 gallons of water.

**STORED GRAIN AND SEED**

Maximum rates are listed below. Do not re-apply within 30 days.

barley	0.53 fl oz per 100 lb commodity	beans	0.43 fl oz per 100 lb commodity
lima beans	0.46 fl oz per 100 lb commodity	birdseed	0.51 fl oz per 100 lb commodity
buckwheat	0.53 fl oz per 100 lb commodity	Cocoa beans	0.59 fl oz per 100 lb commodity
corn	0.46 fl oz per 100 lb commodity	cottonseed	0.91 fl oz per 100 lb commodity
flax	0.46 fl oz per 100 lb commodity	grain sorghum	0.46 fl oz per 100 lb commodity
oats	0.8 fl oz per 100 lb commodity	field peas	0.43 fl oz per 100 lb commodity
rice	0.58 fl oz per 100 lb commodity	rye	0.46 fl oz per 100 lb commodity
wheat (club, common, durum)	0.43 fl oz per 100 lb commodity	emmer, spelt	0.64 fl oz per 100 lb commodity

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### **FOOD STORED IN BAGS**

Storage areas containing food in impermeable bags may be treated with a space spray. Do not exceed 0.4 fl oz of PBO Synergist per 1000 cu ft of space treated. Direct application to food contact surfaces is prohibited.

### **GENERAL OUTDOOR AREAS**

Apply in a broadcast spray of insecticide at a maximum rate of 1.2 fl oz PBO Synergist per 1000 sq ft. in treated areas such as non-agricultural rights-of-way; commercial, industrial, or institutional properties, outdoor eating establishments; parks; landscape; turf; home exteriors; other building or industrial facilities; outdoor mechanical equipment. For crack and crevice or spot treatments, the maximum rate is 8 fl oz PBO Synergist per 1000 sq ft.

Do not apply more than once per day.

### **OUTDOOR ORNAMENTALS AND LAWNS**

Sites such as trees, shrubs, flowers, foliage plants, lawns, yards, turf grass, golf courses, parks and landscape.

When used as a broadcast surface application, do not exceed 0.32 fl oz of PBO Synergist per 1000 sq ft treated (16 fl oz per acre). When used as a crack and crevice or spot surface treatment (including applications for fire ants or turf diagnostic aid), do not exceed 8 fl oz of PBO Synergist per 1000 sq ft of treated area.

Do not apply more than once per day.

### **PET PREMISES**

May be used in a space spray application for pet premises. Do not exceed 0.5 fl oz of PBO Synergist per 1000 cu of space treated. For broadcast surface sprays, crack and crevice or spot surface treatments, do not exceed 8 fl oz of PBO Synergist per 1000 sq ft of treated area.

### **DIRECT APPLICATION TO LIVESTOCK, DAIRY AND POULTRY ANIMALS**

PBO Synergist may be tank mixed with insecticides labeled for application directly to non-domestic animals (including lactating dairy animals, meat and poultry animals). Do not apply more than 1 time per day. Do not apply microencapsulated product to lactating or food animals

### **LIVESTOCK, DAIRY AND POULTRY PRODUCTION FACILITIES AND PREMISES**

PBO Synergist may be tank mixed with insecticides labeled for used in and around livestock, dairy and poultry production facilities, indoor agricultural premises, commercial animal housing and equipment to improve kill of listed flying and crawling insects.

WHEN ANIMALS ARE NOT PRESENT: When used as a space spray, do not exceed 4.0 fl oz of PBO Synergist per 1000 cu ft of space treated. For surface applications, crack and crevice or spot surface treatments, do not exceed 8 fl oz of PBO Synergist per 1000 sq ft of treated area. For metered-release device space sprays, do not exceed 0.80 fl oz of PBO Synergist per 1000 cu ft of space treated per day. Do not apply more than 1 time per day.

WHEN ANIMALS ARE PRESENT: When used as a space spray when non-domestic animals are present, do not exceed 1.28 fl oz of PBO Synergist per 1000 cu ft of space treated.

### **OUTDOOR AGRICULTURAL PREMISES**

When used as a broadcast surface spray application, do not exceed 0.32 fl oz of PBO Synergist per 1000 sq ft treated (16 fl oz per acre). For crack and crevice or spot surface sprays (including applications for fire ants or turf diagnostic aid), do not exceed 8 fl oz of PBO Synergist per 1000 sq ft of space treated. Do not apply more than 1 time per day.

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**PBO SYNERGIST NON-CROP USE RATES and RESTRICTIONS**

FOR GROWING PLANTS THAT WILL BE CONSUMED AS FOOD, DO NOT EXCEED 0.384 FL OZ (2.3 TEASPOONS) OF PBO SYNERGIST PER 1000 SQ FT, PER APPLICATION.

**Non-Crop Mixing Rates Table**

NOTE: always follow rates and restrictions of the insecticide label. The following table refers only to the mixture rate of PBO Synergist. PBO Synergist is not intended for use without an insecticide.

Tank mix insecticide	If insecticide rate is:	Then PBO Synergist rate is
Tau-fluvalinate 22.3% ai	0.2 fl oz	0.5 fl oz
	0.5 fl oz	1.25 fl oz
	4 - 10 fl oz	10 - 25 fl oz
Deltamethrin 4.75% ai	0.25 - 0.5 fl oz	0.25 fl oz
	0.75 fl oz	0.4 fl oz
	1 fl oz	0.5 fl oz
	1.5 fl oz	0.75 fl oz
	4 fl oz	2 fl oz
	8 fl oz	4 fl oz
Bifenthrin 7.9% ai	1 fl oz	0.8 fl oz
	2 fl oz	1.6 fl oz
	5 fl oz	4 fl oz
	10 fl oz	8 fl oz
	32 fl oz	26 fl oz
β-Cyfluthrin 11.8% ai	8 fl oz	0.34 fl oz
	12 fl oz	0.5 fl oz
	16 fl oz	0.68 fl oz
	24 fl oz	1 fl oz
	32 fl oz	1.25 fl oz
	40 fl oz	1.7 fl oz
	60 fl oz	2.5 fl oz
Esfenvalerate 6.4% ai	0.5 fl oz	0.35 fl oz
	1 fl oz	0.7 fl oz
Esfenvalerate 9.36% ai	0.4 fl oz	0.4 fl oz
	0.8 fl oz	0.8 fl oz
Esfenvalerate 3.48% ai	1 fl oz	0.3 fl oz
	2 fl oz	0.6 fl oz
Esfenvalerate 8.4% ai	2.9 fl oz	2.4 fl oz
	4.8 fl oz	4 fl oz
	5.8 fl oz	4.8 fl oz
	8 fl oz	6.4 fl oz
	9.6 - 14.5 fl oz	8 fl oz
Cyfluthrin 6% ai	1 fl oz	0.6 fl oz
	2 fl oz	1.2 fl oz

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Lambda Cyhalothrin 9.7% ai	0.2 fl oz	0.25 fl oz
	0.4 fl oz	0.5 fl oz
	0.8 fl oz	1 fl oz
Cypermethrin 23.5% ai	0.33 fl oz	0.85 fl oz
	0.5 fl oz	1.3 fl oz
	0.65 fl oz	1.7 fl oz
	1 fl oz	2.5 fl oz
	1.3 fl oz	3.4 fl oz
	2.6 fl oz	6.7 fl oz
	5.1 fl oz	13 fl oz
Permethrin 36.8% ai	1 fl oz	0.4 fl oz
	1.67 fl oz	0.67 fl oz
	3.33 fl oz	1.33 fl oz
	6.67 fl oz	2.67 fl oz
	16 fl oz	6 fl oz
	1 gal	50 fl oz
	1.25 gal	64 fl oz
Permethrin 25.6% ai	0.64 fl oz	0.25 fl oz
	1 fl oz	0.25 fl oz
	1.28 fl oz	0.33 fl oz
	2.6 fl oz	0.67 fl oz
	3.75 fl oz	1 fl oz
	5 fl oz	1.25 fl oz
	6 fl oz	1.5 fl oz
	10.4 fl oz	2.5 fl oz
	1 gal	32 fl oz
Permethrin 10% ai	0.32 fl oz	0.25 fl oz
	0.64 fl oz	0.25 fl oz
	1 fl oz	0.25 fl oz
	3.2 fl oz	0.5 fl oz
	6.4 fl oz	0.5 fl oz
Imidacloprid 21.4% ai	1 fl oz	2.5 fl oz
	0.27 fl oz	0.67 fl oz
	0.54 fl oz	1.35 fl oz
	1.08 fl oz	2.7 fl oz
	1.35 fl oz	3.37 fl oz
	2.7 fl oz	6.75 fl oz
	5.4 fl oz	13.5 fl oz

In the absence of experience or data with growing plants, a test for possible plant injury should be made on a small sample of the plants before widespread application.

**STORAGE AND DISPOSAL**

Do not contaminate water, food, or feed by storage and disposal.

**PESTICIDE STORAGE:** Store in original container, unopened in a cool, dry place.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product may be disposed of on site or at an approved waste disposal facility.

**CONTAINER DISPOSAL:** Non-refillable container. Do not reuse or refill this container. Triple rinse, or equivalent,



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promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State or local authorities.

**WARRANTY STATEMENT**

Control Solutions, Inc. warrants that this product conforms to the chemical description on the label thereof and is reasonably fit for purposes stated on such label only when used in accordance with directions under normal use conditions. It is impossible to eliminate all risks inherently associated with use of this product. Crop injury, ineffectiveness, or other unintended consequences may result because of such factors as weather conditions, presence of other materials, or the manner of use or application, all of which are beyond the control of Control Solutions, Inc. To the extent allowed by law, Control Solutions, Inc. shall in no event be liable for consequential, special, or indirect damages resulting from the use or handling of this product. All such risks shall be assumed by the Buyer. In addition to the foregoing, no purchaser of this product (other than an end user) shall be entitled to any reimbursement for any loss suffered as a result of any suspension or cancellation of the registration for this product by the U.S. Environmental Protection Agency. Except, as expressly provided herein, Control Solutions, Inc. makes no warranties, guarantees, or representations of any kind, either expressed or implied, or by usage of trade, statutory or otherwise, with regard to the product sold, including, but not limited to merchantability, fitness for a particular purpose, use or eligibility of the product for any particular trade usage. The exclusive remedy of any buyer or user of this product for any and all losses, injuries, or damage resulting from or in any way arising from the use, handling, or application of this product, whether in contract, warranty, tort, negligence, strict liability, or otherwise, shall be damages not exceeding the purchase price paid for this product or, at Control Solutions, Inc. election, the replacement of this product.

Control Solutions, Inc.  
5903 Genoa-Red Bluff  
Pasadena, TX 77507-1041  
EPA Reg. No. 53883 - ELI  
EPA Est. No. XXXXX-XX-XXX

Batch code: \_\_\_\_\_