VECTOR-BAN™ PLUS

Multi Purpose Insecticide

- Vector-Ban™ Plus can be used in warehouses, homes, livestock housing facilities, milking parlors, poultry houses and residential yards.
- For use in automatic misting systems, outdoor band applications, indoors broadcast, crack & crevice, ULV & space spray, and on listed animals.
- Kills Mosquitoes, which may transmit West Nile Virus, Flies, Gnats, Wasps, Fleas, Ticks, Cockroaches, Spiders & many other nuisance pests.
- Vector-Ban™ Plus makes up to 55 gallons for Automatic Spraying Systems.

Introducing Vector-Ban™ Plus a Multi Purpose Insecticide with 10% Permethrin and 10% Piperonyl Butoxide. Vector-Ban™ Plus is a water-based insecticide that is designed for use in automatic misting systems, and can also be utilized in a variety of other application methods.

Providing quick knock-down, broad-spectrum insecticidal effectiveness and excellent residual activity, Vector-Ban™ Plus combines Permethrin with synergist PBO making it more active with a higher level of performance.

Vector-Ban™ Plus delivers control of the toughest nuisance pests such as Horn Flies, House Flies, Mosquitoes, Darkling Beetles, Wasps and Gnats on animals and premise use. For indoor applications Vector-Ban™ Plus kills and controls Bed Bugs, Cockroaches, Silverfish and Spiders.

By applying Vector-Ban™ Plus you are offering supreme quality and the finest economical choice.

800-242-5562 (Phone)
281-892-2501 (Fax)
www.controlsolutionsinc.com

CSI
CONTROL
SOLUTIONS
incorporated

VECTOR-BAN™ PLUS

Multi Purpose Insecticide

- **For Use Indoors and Outdoors**
- **Residential, Commercial Buildings, and Animal Housing**
- **For Use in Misting Systems**
- **Controls: Mosquitoes*, Flies, Gnats, Wasps, Fleas, Ticks, Cockroaches, Spiders and other nuisance insects.**

(Including the Culex species that may carry and transmit the West Nile Virus)

ACTIVE INGREDIENTS:

Permethrin	10.0%
Piperonyl Butoxide Technical	10.0%
INERT INGREDIENTS:	80.0%
TOTAL:	100.0%

Contains 0.78 lb. permethrin per gallon

EPA Reg. No. 53883-257 **EPA Est. No. 53883-TX-002**

KEEP OUT OF REACH OF CHILDREN

CAUTION

FIRST AID
If swallowed: Call poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. Do not induce vomiting unless told to do so by the poison control center or doctor. Do not give anything by mouth to an unconscious person.
If on skin or clothing: Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
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.

CONTROL SOLUTIONS, INC.
5903 GENOA-RED BLUFF • PASADENA, TEXAS 77507-1041 • 281-892-2500

READ ENTIRE LABEL BEFORE USE

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
CAUTION

Harmful if swallowed or absorbed through the skin. Avoid contact with skin, eyes or clothing. 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.

ENVIRONMENTAL HAZARDS

This product is toxic to aquatic organisms, including fish and invertebrates. Drift and runoff 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 runoff 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, or to areas where surface water is present or to intertidal areas below the mean 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 the 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 restriction.

This product is highly toxic to bees exposed to direct treatment on blooming crops or weeds. Do not apply this product or allow it to drift to blooming crops or weeds while bees are actively visiting the treatment area.

PHYSICAL OR CHEMICAL HAZARDS

Do not use in or on electrical equipment due to potential for shock hazard.

PERSONAL PROTECTIVE EQUIPMENT (PPE):

Some materials that are chemical-resistant to this product are listed below. If you want more options, follow the instructions for category A on an EPA chemical-resistance category selection chart.

Mixers, loaders, applicators, and other handlers (including during mixing / loading, repair and cleaning of equipment, and disposal of pesticide) must wear the following:

- Long-sleeve shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves such as barrier laminate, viton, neoprene rubber or nitrile rubber
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate and for handlers performing animal dip applications

Applicators using ULV cold foggers or fog/ mist generators in indoor spaces must wear:

- Coveralls over long-sleeved shirt and long pants
- Chemical-resistant gloves
- Chemical resistant footwear plus socks, and
- Chemical-resistant headgear, if overhead exposure

Applicators using ULV cold foggers and/or fog/mist generators in outdoor spaces must wear:

- Long-sleeve shirt and long pants
- Shoes plus socks, and
- Chemical-resistant gloves

All other mixers, loaders, applicators, and other handlers must wear

- Long-sleeve shirt and long pants
- Shoes plus socks
- Chemical-resistant gloves
- Chemical-resistant apron for mixers/loaders, persons cleaning equipment, and persons exposed to the concentrate and for handlers performing animal dip applications

In addition to the above PPE, applicators using a high-pressure hand wand in an enclosed area must wear at least a NIOSH-approved respirator with:

- A dust / mist filtering cartridge (MSHA / NIOSH approval number prefix TC - 21C) or
- A canister approved for pesticides (MSHA / NIOSH approval number prefix TC - 14G) or
- A cartridge or canister with any N, R, P, or HE filter

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.

USER SAFETY RECOMMENDATIONS

Users should wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.

Users should remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

Users should 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.

Discard clothing and other absorbent materials that have been drenched (except as required by directions for use) or heavily contaminated with this product's concentrate. Do not reuse them.

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 PET USE, USE ONLY ON DOGS

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

GENERAL PRECAUTIONS AND USE RESTRICTIONS

- Apply this product only as specified on this label.
- Do not use spoons or measuring cups for food purposes after use with pesticides.
- Do not use in food areas of restaurants or food handling establishments or other areas where food is commercially prepared or processed. Do not use in a facility that is in operation or in serving areas while food is exposed. Serving areas are defined as areas where prepared foods are served such as dining rooms, but exclude areas where food may be prepared or held. When used in the home, cover or remove all exposed food and cooking utensils and cover all food-processing surfaces or wash thoroughly after treatment and before re-use.
- Do not contaminate food or feedstuffs.
- Do not apply this product in a way that will contact workers or other persons, either directly or through drift.
- Except when applying to pets or livestock or through outdoor residential misting systems, do not apply this product in a way that will contact workers or other persons, either directly or through drift.
- Except when applying to pets or livestock or through outdoor residential misting systems, only protected handlers may be in the area during application.
- Except when applying to pets or livestock or through outdoor residential misting systems, do not enter or allow others to enter until vapors, mists, and aerosols have dispersed, and the area has been thoroughly ventilated.
- Do not remain in the treated area. Exit immediately and remain outside the treated area until vapors, mists and aerosols have dispersed.
- Remove or cover exposed food and drinking water before application.
- Do not use in aircraft cabins except in compliance with PR Notice 96-3.
- 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 water the treated area(s) or apply when heavy rain is expected. Rinse application equipment only over treated area.
- Do not wet plants to point of run-off or drip. Do not use treated articles until spray has dried.
- 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.
- Remove pets and birds, and cover fish aquaria before application. Turn off aquarium filtering systems before spraying and wait approximately 15 minutes after application before turning the filter back on.
- This product is not for use on plants being grown for sale or for other commercial use. This product should not be used for research purposes, for commercial seed production, for commercial nursery use, or forestry use.

DIRECTIONS FOR APPLYING

SHAKE WELL BEFORE USING

Use a clean sprayer. Carefully measure and mix the amount of concentrate and water as directed, and mix thoroughly. Spray as directed. Thorough coverage is important. Make applications when insects first appear. Repeat applications as directed. Flush sprayer with clean water after each use.

Use dilution rate as indicated.
1 fl. oz. = 6 tsp. or 2 Tbsp.
8 fl. oz. = ½ pt. or 1 cup

OUTDOOR USE AREAS

Corrals, drive-in theatres, drive-in restaurants, feed lots, gardens, homes, parks, golf courses, playgrounds, recreational areas, swine lots, urban areas, zoos

PREMISE SPRAY APPLICATION METHODS:

To control:

Mosquitoes, nuisance flies, wasps, hornets, yellow jackets, and skippers:

Dilute 6.4 fl oz per gallon of spray dilution (1 part concentrate in 39 parts water). Treat resting places such as walls, ceilings, moldings, screens, doorframes, window frames, and similar resting places. Do not apply when the premises are occupied. Cover any exposed food, drinking water, drinking fountains and animal feed before application. In zoos, prevent reptiles from being exposed to the product.

Gypsy Moth Caterpillars and Adults, Adult Japanese Beetles, Eastern and Forest Tent Caterpillars, Mole Crickets and Grasshoppers:
Dilute 6.4 fl oz per gallon of spray dilution (1 part concentrate in 39 parts water). Apply to ensure thorough coverage of upper and lower leaf surfaces. Lawns should be not taller than 3 inches at time of application. Thoroughly wet grass a few hours before applying. Water with 1/4 inch of water immediately after application. For heavy infestations, repeat application after 2 weeks. Treat trees and shrubs as soon as insects emerge (usually late spring). Treat leaves, branches, and tree trunks evenly, making sure to penetrate dense foliage. Repeat application every 7 days as necessary for control. On roses and in flower gardens: treat plants and flowers as soon as insects appear. Spray plants and flowers making sure to penetrate dense foliage and ensure thorough coverage of upper and lower surfaces of leaves. Repeat application every 7 days or as necessary for control.

Ants, Crickets, Earwigs, Fleas and Ticks (including ticks that carry Lyme disease):
Under normal conditions, dilute 3.2 fl oz per gallon of dilution (1 part concentrate in 39 parts water). For severe infestations, use 6.4 fl oz per gallon of dilution (1 part concentrate in 19 parts water). Also treat 400 linear feet with a 6 inch spray band. For localized infestations of these insects in areas where there are weeds or bushy non-crop areas, spray infested areas thoroughly. For ants, thoroughly wet hills and runways.

Clover Mites, Millipedes, Sowbugs (Pillbugs):
Under normal conditions, dilute 3.2 fl oz per gallon of mixture (1 part concentrate in 39 parts water). For severe infestations, use 6.4 fl oz per gallon of water (1 part concentrate in 19 parts water). For prevention of infestation of buildings, treat the building foundation to a height of 2 to 3 feet where pests are active and may find entrance. Also, apply as a residual spray to outside surfaces of buildings, patios, garages, and other areas where these pests may be found.

Armyworms, Cutworms, Chinch Bugs, Sod Webworms:
Dilute 3.2 fl oz per gallon of spray dilution (1 part concentrate in 39 parts water). Lawns should be not taller than 3 inches at time of application. Thoroughly wet grass a few hours before applying. Delay watering or mowing for 24 hours after treatment. For heavy infestations, repeat application after 2 weeks.

Fire Ant Control
Mix 6.4 fl. oz. per gallon of dilution (1:19) and apply using a sprinkler can or similar equipment that provides a gentle application. Gently apply 1 gallon of the mixture over the surface of each mound. Thoroughly wet mound and surrounding area to a diameter of 4 feet. For best results apply in cool weather 65º-80º F or early in the morning or late in the evening. Treat new mounds as they appear. Do not disturb the mound prior to treatment. Treat all mounds in the vicinity, and treat all colonies which have not yet constructed mounds. Do not use equipment that produces a pressurized spray since this will disturb fire ants and cause migration reducing product effectiveness.

OUTDOOR RESIDENTIAL MISTING SYSTEMS (RESIDENTIAL YARDS, PLAYSCAPES)
NOTE: NOT REGISTERED FOR USE in automatic ULV misting systems in the State of New York.
Use to control, or temporarily reduce annoyance from spiders and accessible stages of: mosquitoes, including the Culex species which may carry and transmit West Nile virus; flies, deer flies, horse flies; gnats; hornets, wasps, yellow jackets; firebrats; small flying moths; earwigs; fleas; ticks, including species that may carry and transmit Lyme disease; cockroaches; crickets; silverfish; Asian lady beetles; and other nuisance insects.

When using this product installers and service technicians must comply with license, certification, or registration requirements of the states, tribes, or local authorities where they are installed.

Do not apply this pesticide when people, pets, and food are present.

Do not use in an evaporative cooling system.

Direct nozzles to spray towards the target area and away from swimming pools, water bodies, or eating and cooking areas.

Do not set nozzles to direct mist near outside air conditioning systems or other outdoor home air intakes.

If used in a system with a reservoir tank for the end use dilution, the system reservoir tank must be locked. Securely attach the end use and use pesticide label and a dilution statement to the system tank in a weather protected area or plastic sleeve. The dilution statement must be phrased as follows (see dilution table below):

"THIS CONTAINER HOLDS 1 PART VECTOR-BAN PLUS TO 110 PARTS WATER."
OR
"THIS CONTAINER HOLDS 1 PART VECTOR-BAN PLUS TO 55 PARTS WATER."

If the system works on an automatic timer, set the timing for application when people, pets, and food are unlikely to be present.

If the system works when a person operates a remote activation device, then application of this pesticide when people, pets, and food are present is prohibited.

Contact the system manufacturer for guidance or assistance to assure compliance with the following requirement:
This product may only be used in systems that have been calibrated to apply no more than the maximum application rate of 0.0054 pounds VECTOR-BAN PLUS, (0.09 fluid ounces VECTOR-BAN PLUS) per 1000 cubic feet per day (equivalent to 1.66 g per 100 M³).

Mixing directions for systems that utilize a reservoir tank for the end dilution:
Partially fill reservoir tank half full with water, add VECTOR-BAN PLUS, then fill remainder of reservoir tank. For 1:100 dilution, mix 11.6 fluid ounces VECTOR-BAN PLUS per 10 gallons of water. In case of high insect population or hard-to-control species, use 23.25 ounces per 10 gallons of water for a 1:55 dilution ratio. It is recommended that the system reservoir tank be shaded from direct sunlight and direct heat sources.

If used in a direct injection system, the pesticide container must be locked. Securely attach the end use label to the pesticide container in a weather protected area or plastic sleeve.

System nozzles and pressure should be able to deliver a fine particle droplet size (ULV, mist or aerosol).

DILUTION TABLE FOR AUTOMATIC SPRAYING SYSTEMS

Tank size (gallons)	Fluid ounces concentrate per gallon of water	Fluid ounces of concentrate to add to tank
1	For 1:100 dilution:	1.16
15		17
20		23
30		35
55		64
1	For 1:55 dilution	2.32
15		34
20		46
30		70
55		128
TO REFILL A PARTIALLY FILLED TANK: Determine the amount of additional solution (in gallons) required to re-fill the tank. Multiply the number of gallons required to refill times 1.16 to determine the amount of this concentrate to add when refilling (to achieve 0.09% synergized permethrin solution.)		

WHEN USING INDOORS
SURFACE SPRAY APPLICATION METHODS
Nonfood / nonfeed areas include: 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): bakeries, flour mills, granaries, motels, meat packing plants, railroad cars, ships' holds, truck trailers, beverage plants, food processing plants, hospitals, industrial installations, homes, restaurants, supermarkets, canneries, grain elevators, hotels, kennels, office buildings, schools and warehouses.

Cockroaches, Waterbugs, Palmetto Bugs, Ants, Silverfish, Firebrats, Spiders, Crickets, Millipedes, Centipedes, Sowbugs, Pillbugs, Clover Mites, Cheese Mites, Granary Weevils, Rice Weevils, Confused Flour Beetles, Rust Red Flour Beetles, Saw-toothed Grain Beetles, Spider Beetles, Cigarette Beetles, Drug Store Beetles, Darkling Beetles, Mealworms, Grain Mites, Cadelles, and Lesser Houseflies and other manure-breeding flies:
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). For severe infestations, use 6.4 fl oz per gallon (1:19). Use a sprayer adjusted to deliver a coarse wet spray. Direct the spray into hiding places, cracks and crevices, under pallets, around containers of stored foods, around the base of machinery and behind shelves and drawers. Avoid spraying into machinery openings or electrical equipment. Spray bookcases for silverfish. Spray ant trails, nests and points of entry. Only when used as a surface application, spray floors, walls, and other surfaces at a rate of one gallon per 750 square feet of surface. For maintenance use, dilute 1 part concentrate to 100 parts water (1.28 ounces per gallon) (8 teaspoons per gallon). This makes a 0.1% permethrin ready to use product.

Centipedes, Ground Beetles, Pillbugs, Sowbugs, Scorpions and Ticks:
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). For severe infestations, use 6.4 fl oz per gallon (1:19). Apply around windows and doors as well as other places where insects may enter the premises. Also treat storage areas, baseboards, and other locations where these insects might hide. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water).

Carpet Beetles:
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of water (1:39). For severe infestations, use 6.4 fl oz per gallon (1:19). Spray edges of carpeting and under carpeting and rugs. Make localized application to floor and baseboards. Spray directly into cracks, closets and infested areas of shelving. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water).

Flying Insect Resting Places (aids in the control of Mosquitoes, Gnats, Skippers, Boxelder Bugs, Multi-colored Asian Lady Beetles):
Use 6.4 fl oz VECTOR-BAN PLUS per gallon of spray dilution (1:19). This makes 0.5% permethrin ready to use product. Apply to walls, ceilings, moldings, screens, door frames, window frames, beams, and light cords. Spray to get complete coverage but not to runoff.

Clothes Moths:
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). This makes 0.25% permethrin ready to use product. For severe infestations, use 6.4 fl oz per gallon (1:19). This makes 0.5% permethrin ready to use product. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water). This makes a 0.1% permethrin ready to use product.

Remove infested clothing or other fabrics from storage, brush off any surface debris or insects, and air for a few hours in sunlight if possible. Spray empty chests, closets, bureaus and other storage containers, directing the spray into cracks, joints and crevices. Do not spray to runoff. After airing, infested articles may be sprayed with a light mist, keeping nozzle at least three feet from fabric to avoid excessive wetting, which may leave stains or other marks.

Bed Bugs:
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). This makes 0.25% permethrin ready to use product. For severe infestations, use 6.4 fl oz per gallon (1:19). This makes 0.5% permethrin ready to use product. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water. This makes 0.1% permethrin ready to use product.

Before treating, spray fabric in an inconspicuous area to check for staining or discoloration. Inspect again after drying. If no staining occurs, lightly spray mattresses on all surfaces, as well as around tufts and seams. Avoid over-wetting which may cause staining. Take beds apart and spray into all joints or other places where there is access by bugs. Treat baseboards, moldings, and floors. Allow all treated articles to thoroughly dry before use.

Lice and Louse Eggs (on inanimate objects):
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). This makes 0.25% permethrin ready to use product. For severe infestations, use 6.4 fl oz per gallon (1:19). This makes 0.5% permethrin ready to use product. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water. This makes 0.1% permethrin ready to use product.

Garments and bedding should be laundered or dry cleaned if possible. Spray only those that cannot be washed or dry cleaned. Apply a light spray from a distance of about 8 to 10 inches. Spray in an inconspicuous area prior to use to test for possible staining or discoloration. Inspect again after drying. Spray from a distance of 8 to 10 inches. Treat only those garments and parts of bedding, including mattresses and furniture that cannot be either laundered or dry cleaned. Allow all treated articles to dry thoroughly before re-use.

SPACE SPRAY APPLICATION METHODS
House Flies, Fruit Flies, Gnats, Mosquitoes, Skipper Flies, Wasps, Hornets, Bees, Black Flies, Multi-colored Asian Lady Beetles, Boxelder Bugs, Angoumois Grain Moths, and Tobacco Moths
Under normal conditions, dilute 3.2 fluid ounces VECTOR-BAN PLUS per gallon of spray dilution (1:39). This makes 0.25% permethrin ready to use product. For severe infestations, use 6.4 fl oz per gallon (1:19). This makes 0.5% permethrin ready to use product. For maintenance use, dilute 1:100 (8 teaspoons per gallon of water. This makes 0.1% permethrin ready to use product.

Apply with mechanical or compressed air equipment adjusted to deliver a fine mist. Do not use thermal fogging equipment. Close doors and windows and shut off ventilating systems. Spray at an upward angle to uniformly mist the entire space at a rate of 1 ounce dilution per 1,000 cubic feet of space. Do not remain in treated area. Exit area immediately, and keep the treated area closed for at least 10 minutes. Ventilate the area and sweep up dead insects before occupying.

ANIMALS AND ANIMAL PREMISE USE AREAS

Cattle barns, swine houses, milk rooms, kennels, poultry houses, horse barns, dairies, milking parlors, feed lots, stables, paddocks. May be used on dairy and beef cattle, sheep, goats, swine, horses, poultry and dogs.

Horn Flies, House Flies, Mosquitoes and Gnats:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Apply to wet the hair thoroughly, especially topline, underline, flanks, withers and other infested areas. Repeat every 5 to 12 days when insect pressure is not excessive, or as needed when there is a large population of flies.

Stable Flies, Horse Flies and Deer Flies:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

SPECIMEN

Apply 1 quart per adult animal, especially topline, underline, flanks, withers and other commonly attacked areas. Repeat daily if needed.

Face Flies:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Apply using a spray that has large wetting droplets. Apply to the face of the animal before releasing to pasture. Apply sufficiently to wet the face, but not more than 1.5 ounces per animal. Repeat daily as needed.

Poultry Lice:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Spray roosts, walls, and nests or cages thoroughly, followed by spraying as fine mist directly over the birds.

Bed Bugs and Mites (including Northern fowl mite) in poultry houses:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Spray into crevices of roost poles, cracks in walls and cracks in nests where the bed bugs and mites might hide. Spray birds with a fine mist being sure to cover vents. One gallon should cover 100 birds.

Sheep "Tick" or Ked:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Dip sheep, or spray with sufficient pressure to penetrate the wool. Treat at rate that will thoroughly wet the animal.

Meal Worms, Darkling Beetles:
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Apply as a fog or fine mist treatment directing mist toward the ceiling and upper corners, until the space is filled with mist. Use about 2 fluid ounces of dilution per 1000 cubic feet of space. For best results, close doors and windows before spraying and keep closed for 10 to 15 minutes after applying. Vacate the treated area and ventilate before re-occupying.

Blowflies, Hog Lice, Ticks (including deer ticks that transmit Lyme disease) on swine:
Dilute 8 fluid ounces in 5 gallons of oil. Spray, dip or apply by sponge 1 pint of dilution per animal, especially around the ears.

Poultry Mites, Northern Fowl Mites and Lice:
Dilute 8 teaspoons per gallon of water (1:100). This makes a 0.1% permethrin ready to use product. Spray at a rate of 1 gallon of spray per 100 birds with a fine mist. Spray roosts, walls and nests or cages. Do not spray to runoff.

Fleas, Ticks, Lice and Mange Mites (adults and larvae on dogs and livestock):
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.05% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.1% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.025% permethrin ready to use product.

Thoroughly wet the animal by dipping, sponging or spraying. Allow the animal to dry in a warm place without rinsing or toweling. Gives long lasting protection against re-infestation. Repeat at intervals of 2 to 3 weeks.

DO NOT TREAT PUPPIES LESS THAN TWELVE WEEKS OLD. DO NOT APPLY TO CATS OR THEIR BEDDING.

Sensitivities may occur after using ANY pesticide product for pets. If signs of sensitivity occur, bathe your pet with mild soap and rinse with plenty of water. If the signs continue consult a veterinarian immediately.

Consult a veterinarian before using this product on aged, debilitated, medicated, ill, pregnant or nursing animals.

Fleas, Flies, Ticks, Lice and Mange Mites (adults and larvae) in kennels, doghouses, runs and yards
Under normal conditions, dilute 4 teaspoons VECTOR-BAN PLUS per gallon of water (1:200). This makes 0.25% permethrin ready to use product. For severe infestations, use 8 teaspoons per gallon (1:100). This makes 0.5% permethrin ready to use product. For maintenance use, dilute 1:400 (2 teaspoons per gallon of water). This makes 0.01% permethrin ready to use product.

Spray pet beds, resting quarters, nearby cracks and crevices, along and behind baseboards, moldings, window and door frames and localized areas of floor and floor coverings including carpets. Avoid over-wetting sensitive fabrics, which may cause staining. Test sensitive fabrics for possible staining by spraying an inconspicuous spot and allowing to dry. Fresh bedding should be placed in animal quarters once spray has dried. Adult fleas and larvae contacted by spray will be killed.

Do not treat cat bedding.

FOR DAIRY CATTLE: Spray lactating dairy cows only after milking is complete.

FOR SWINE: Do not ship animals for slaughter within 5 days of last treatment.

DIRECTIONS FOR USE IN AUTOMATIC MISTING AND ULV SPRAYING SYSTEMS:
In areas such as animal quarters, dairy and beef barns, poultry houses, swine housing, warehouses, zoos and other listed livestock or animal housing areas.

To kill Flies, House Flies, Horn Flies, Stable Flies, Deer Flies, Horse Flies, Mosquitoes, including the Culex species that may carry and transmit the West Nile Virus, Gnats, Hornets, Wasps, Yellow Jackets, Fire Brats, Small Flying Moths, Earwigs, Fleas, Ticks, Crickets, Cockroaches, Silverfish, Spiders and other listed insects: Mix 1/2 gallon (64 fluid ounces) of VECTOR-BAN PLUS in 55 gallons of water to yield a solution of 0.09% permethrin plus 0.09% PBO. For high populations of insects or when treating species that are difficult to control, mix up to 1 gallon of VECTOR-BAN PLUS in 55 gallons of water to yield a solution of 0.18% permethrin and 0.18% piperonyl butoxide. When filling tank, partially fill the system reservoir tank with water, add concentrates to tank, then add water to obtain desired dilution.

System nozzles should deliver fine particle size droplets (aerosol or mist). Nozzles should be rated for a delivery rate not to exceed 1.25 fluid ounces of solution per minute, with one nozzle covering 100 square feet. Set system timer to operate in accordance with equipment directions. Automatic spraying systems must not be designed and programmed to release pesticides where feed or water is directly exposed to spray mist.

Personnel should vacate containment treatment areas while treatment is in progress. Treated areas should be thoroughly ventilated prior to re-entry by personnel. Do not use in commercial food/feed handing establishments, restaurants, or other areas where food is commercially prepared or processed.

STORAGE AND DISPOSAL

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

PESTICIDE STORAGE: Store upright at room temperature. Avoid exposure to extreme temperatures.

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

CONTAINER DISPOSAL: If empty: Non-refillable container. Do not reuse or refill this container. Offer for recycling if available. Clean container 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 1/4 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. For help with any spill, leak, fire or exposure involving this material, call CHEMTREC 1-800-424-9300.

NOTE: Buyer assumes all risks of use, storage or handling of this product not in strict accordance with label.

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 consistent with applicable 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.

SPECIMEN

MATERIAL SAFETY DATA SHEET

Vector-Ban™ Plus
Multi Purpose Insecticide

Section 1 – Product Identification

Product Name:	Vector Ban Plus	EPA Registration #: 53883-257
Manufacturer:	Control Solutions Inc. 5903 Genoa- Red Bluff Pasadena, TX 77507 281-892-2500	EPA Establishment #: 53883-TX-002

Section 2 – Chemical Composition

Material	CAS #	% by Weight	OSHA PEL/ACGIH TLV
Permethrin	52645-53-1	10.0%	None established
Piperonyl Butoxide	51-03-6	10.0%	None established
Inert Ingredients	-	80.0%	None established

Section 3 – Hazard Identification

Symptoms of Toxicity:	Permethrin may induce neurotoxic symptoms including diarrhea, salivation, tremors, convulsions, hyperactivity and hypersensitivity to touch or sound.
Flammability:	Not flammable.
Reactivity:	Stable under normal storage conditions.
Carcinogenicity:	Not carcinogenic.

Section 4 – First Aid

Eye Contact:	Flush eyes with water for 15 minutes. Seek medical attention if irritation persists.
Inhalation:	Remove person to fresh air. Call poison control center immediately. Give artificial respiration if necessary.
Ingestion:	Call poison control center immediately. Do not induce vomiting unless directed to do so by physician.
Dermal Contact:	Wash promptly with plenty of soap and water. Wash contaminated clothing.
Notes/Physician's Information:	You may also contact SafetyCall® International (866) 897-8050 for emergency medical treatment information.

Section 5 – Fire and Explosion Hazards

Flash Point:	Will not flash.	Upper Flammability Limit: N/A
Extinguishing Media:	Water fog, CO_2, foam, dry chemical	Lower Flammability Limit: N/A
Special Procedures:	Use self-contained breathing apparatus. Cool fire exposed areas and equipment.	
Unusual Fire Hazards:	May release irritating and toxic gases due to thermal decomposition or combustion.	
Reactivity/Stability:	Stable. May release HCl, oxides of chlorine, CO, hydrogen and carbon. Avoid strong oxidizers and corrosives. Hazardous polymerization will not occur.	

Section 6 – Spill/Release Procedures

Absorbent:	Universal absorbent pads, vermiculite, or clay granules.
Containment:	Do not discharge into municipal wastewater or public storm drains. Eliminate runoff as much as possible.
Waste Disposal:	Dispose of waste material in municipal land-fill or through licensed TSDF. Open dumping is prohibited. Not an RCRA hazardous waste.
Reporting:	Report all major spills and uncontrolled releases to proper local, state, and federal agencies.
Emergency Contact #:	Chemtrec: 1-800-424-9300

Section 7 – Storage and Handling Instructions

Storage Conditions:	Do not store near feed, food, or within the reach of children. Containers should be stored in a cool, dry, well-ventilated area away from flammable materials and ignition sources.
Special Handling Considerations:	Exercise caution to prevent damage to or leakage from containers.
Container Disposal:	Do not reuse empty containers. Triple rinse (or equivalent), then offer for recycling or render unusable and dispose of in municipal landfill or with licensed TSDF.

Section 8 – Protective Equipment/Engineering Controls

Eye Protection:	Avoid contact
Respiratory Protection:	None likely to be needed.
Dermal Protection:	Long sleeves, pants, shoes with socks.
Engineering Controls:	Use only in adequately ventilated areas.
Other Precautions:	Wash thoroughly after handling. Remove and wash clothing before reuse.

Section 9 – Physical Data

Odor:	Slight characteristic	Melting Point:	N/A
Physical State:	Viscous liquid	Flash Point:	N/A
Color:	Translucent yellow to white	Specific Gravity:	.92 (g/ml)
Bulk Density:	N/A	pH:	5.25
Vapor Pressure:	N/A	Water Solubility:	Emulsifies
Viscosity:	N/A	Refractive Index:	N/A

Section 10 – Toxicity

EPA Toxicity Category:	Caution	Oral LD_{50}:	>500 mg/kg	
Skin Contact:	Slightly irritating	Dermal LD_{50}:	>1000 mg/kg	
Eye Contact:	Slightly irritating	Inhalation LC_{50}:	>10 mg/kg	
HMIS/NFPA Classification:	Fire - 0	Health - 1	Fire - 0	Health - 1
	Reactivity - 0	Special - none	Reactivity - 0	
Other Comments:	Avoid cross contamination. Always wash hands thoroughly after handling pesticides and before eating, drinking, or smoking.			

Section 11 – Ecological Data

Aquatic:	Permethrin: LC_{50} (96h) for rainbow trout: 2.5 ug/L Permethrin: LC_{50} (96h) for Bluegill: 1.8 ug/L
Avian:	LD_{50} Bobwhite quail- >10,000 mg/kg
Bioaccumulation:	Does not bioaccumulate.
Summary:	This product is extremely toxic to fish. Do not apply directly to water. Drifts and runoff from treated areas may be hazardous to aquatic organisms in treated areas.

Section 12 – Transportation

DOT:	Not regulated
IATA:	Not regulated
IMDG:	Not regulated
Federal Motor Carrier Classification:	Insecticide, Liquid, Other Than Agriculture N.O.I.B.N.

Section 13 – Regulatory

Section 302/TPQ: (emergency planning)	Contains no components listed under section 302.
Section 304/EHS RQ: (release notification)	Contains no components listed under section 304.
CERCLA RQ: (release notification)	Not regulated by CERCLA.
Section 311/Tier II: (MSDS submission)	Acute health hazard.
Section 313/TRI Chemicals:	10.0% permethrin, CAS #: 52645-53-1 10.0% piperonyl butoxide, CAS #: 51-03-6
RCRA Haz-Waste Code(s):	None
CAA TQ: (air emissions)	None

Section 14 – Other

NFPA and HMIS ratings assigned to this product are based on the hazards of its ingredient (s). Because the customer is most aware of the application of the product, he must ensure that the proper personal protective equipment (PPE) is provided consistent with information contained in the product MSDS.

The information provided on this Material Safety Data Sheet is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Control Solutions, Inc. The data on this sheet relates only to the specific material designated herein. Control Solutions, Inc. assumes no legal responsibility for the accuracy or completeness of this data, nor for use or reliance upon this data.

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