



THE COCKROACH SOLUTION GUIDE

BROUGHT TO YOU BY BAYER ENVIRONMENTAL SCIENCE

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by **BAYER.**



The Bayer Cockroach Solution

Contents

- Overview
- Our Products
- Integrated Pest Management
- Cockroach Insecticides
- Cockroach Treatment Guide
- Cockroach Treatment Tips



The Bayer Cockroach Solution

- Cockroaches have a negative impact on public health
- Bayer Environmental Science has an arsenal of insecticide baits, residual sprays and dusts so you can custom-design IPM programs that work fast



Bayer Cockroach Solutions



Maxforce[®]
IMPACT[™]



Maxforce[®]
ROACH



Temprid[®]
SC



Drione[®]

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Integrated Pest Management

Definition

- Is defined as an effective and environmentally sensitive approach that relies on common sense practices to effectively manage pests economically with the least possible hazard to people, property, and the environment.



IPM

Integrated Pest Management

- IPM is critical to
 - Ensuring customer satisfaction
 - Building your business
 - Enhancing your company's reputation
 - Preventing future infestations
- IPM includes five steps for success
 - Inspection
 - Identification
 - Recommendation/Customer education
 - Treatment
 - Evaluation



Inspection

Integrated Pest Management

- Look for cockroaches, their signs and conducive conditions for infestations
 - Fecal matter/Oral secretions
 - Egg cases
 - Cast skins
 - Carcasses





Inspection

Integrated Pest Management

- A service report checklist can help you
 - Save time
 - Record findings
 - Confirm nothing is forgotten
 - Communicate with customers



Inspection

Integrated Pest Management

- Proper inspection tools will make your job easier





Identification

Integrated Pest Management

- Be able to identify the common cockroach species and understand the biology and behavior of all common cockroach species
- This information will help you save time and do the best job possible



Identification

Integrated Pest Management

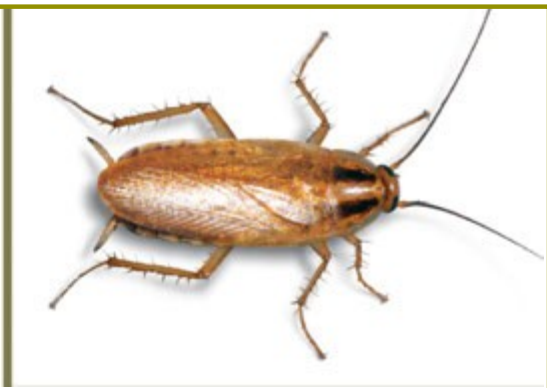
German Cockroach



Egg Case



Nymph



Adult



Identification

Integrated Pest Management

American Cockroach



Egg Case



Nymph



Adult



Identification

Integrated Pest Management

Australian Cockroach



Egg Case

Nymph

Adult



Identification

Integrated Pest Management

Oriental Cockroach



Egg Case

Nymph

Adult



Identification

Integrated Pest Management

Smokybrown Cockroach



Egg Case



Nymph



Adult



Identification

Integrated Pest Management

Brownbanded Cockroach



Egg Case

Nymph

Adult



Recommendations

Integrated Pest Management

- IPM should include non-chemical and chemical control methods that best fit the residential or commercial environment





Vacuum IPM

- Vacuum to crash the population.
- Removes cockroach nymphs, adults and egg casings and helps to knockdown populations.
- Use a professional vacuum with a hepa filter.



Treatment

Integrated Pest Management

- The best areas to treat for cockroaches are
 - Cracks and crevices where cockroaches hide
 - Cockroach travel routes (along edges and corners of walls) “in between” where cockroaches hide and where they find food and water
 - Lines easy for cockroaches to follow
 - Pipes
 - Utility lines
 - Table legs



- ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



Treatment

Integrated Pest Management

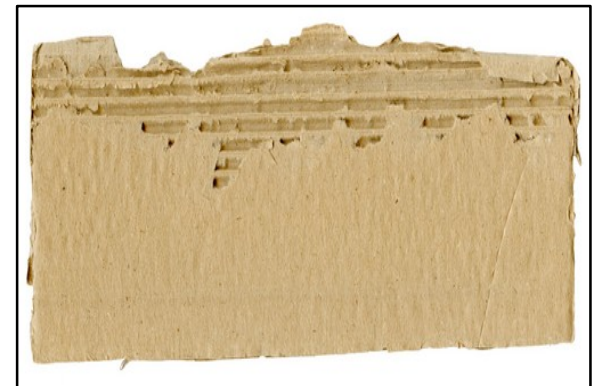
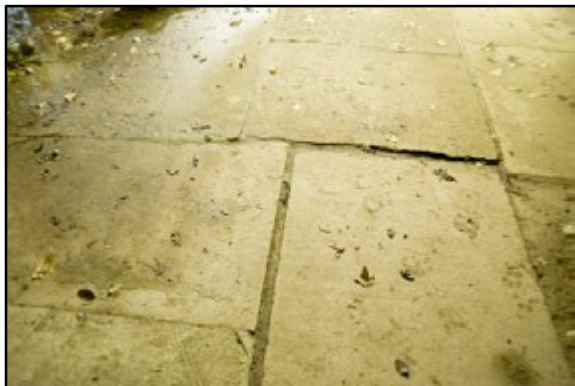
- Practice “Zone Management” for large accounts such as commercial kitchens
 - Divide the account into smaller zones
 - Address one zone at a time
 - Inspect and treat each zone accordingly



Treatment

Integrated Pest Management

- Pay attention to the micro-environment where cockroaches live
 - Are surfaces dirty or covered with grease?
 - Are they porous?
 - Is the area washed regularly?
 - What's the temperature?





Non-Chemical Control Procedures

Integrated Pest Management

- Communication with your customer is essential for successful IPM
- As an expert in cockroach control this is an opportunity to educate your customers
- The customer must be part of the solution
- Customers can take preventative measures in between Pest Management services to address sanitation and reduce harbourage sites



Non-Chemical Control Procedures

Integrated Pest Management

- Customers can
 - Improve sanitation





Non-Chemical Control Procedures

Integrated Pest Management

- Customers can
 - Repair and eliminate moisture problems
 - Reduce clutter





Non-Chemical Control Procedures

Integrated Pest Management

- Customers can
 - Seal cracks and crevices
 - Store food in cockroach-proof containers
 - Empty trash containers frequently
 - Pick up pet food
 - Improve sanitation
 - Reduce harborage and available food sources





Outdoor Peridomestic Control

Integrated Pest Management

- As an expert in IPM, you can
 - Seal cracks to eliminate entry points
 - Trim trees and shrubbery away from structure
 - Ensure windows, doors and screens fit tightly and install weather stripping as needed
 - Remove debris that attracts roaches



Maxforce Baits

Cockroach Insecticides



Maxforce[®]
IMPACT[®]



Maxforce[®]
ROACH[®]

- Two Unique Cockroach Baits ideal for bait rotation
- Both products offer exclusive Domino Effect™ a delayed action kill that allows cockroaches to take bait back to the colony
 - Roaches transfer the active ingredient to other roaches through vomophagy (feeding on vomit), cross contact (with contaminated roaches), coprophagy (feeding on feces of other roaches) and cannibalism
- **Rotate Maxforce Impact and Maxforce Roach every 90-120 days for best results.**



Maxforce[®]
IMPACT[®]

Unique formulation specially designed for bait averse roaches

Not reliant on simple sugars (that select for aversion), but more complex carbohydrates

Powerful **group 4 active ingredient**, with alternate mode of action
A proprietary feeding stimulant, in controlled-release **BlueBead** technology, assures excellent bait acceptance

Unique Features

None of the big 8 allergens,
A clean, white bait matrix
Highly effective on both normal and bait-averse strains of German roaches





Maxforce[®]
ROACH

- Excellent rotational bait with Maxforce Impact
- "Select" bait matrix is made up of a balanced diet (proteins, carbs, fats and oils)
- Contains the active ingredient hydramethylnon. The only **Group 20** insecticide available in a commercial cockroach bait
- Controls broad range of cockroaches



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Cockroach Insecticides

Residual Contact Spray

- For problem accounts that require a liquid residual spray
- Fast-acting and long lasting
- Contains two active ingredients with different modes of action
- Controls pyrethroid resistant cockroaches
- Applicable Uses
 - INDOOR PERIMETER, SPOT, CRACK AND CREVICE OR VOID TREATMENT ONLY
 - Can be foamed or misted in voids
 - Apply at entry points such as around doors and windows and where utilities enter.
 - Treat areas of the structure where pests are normally found or hide
 - such as behind baseboards, around water pipes, cabinets and under sinks.



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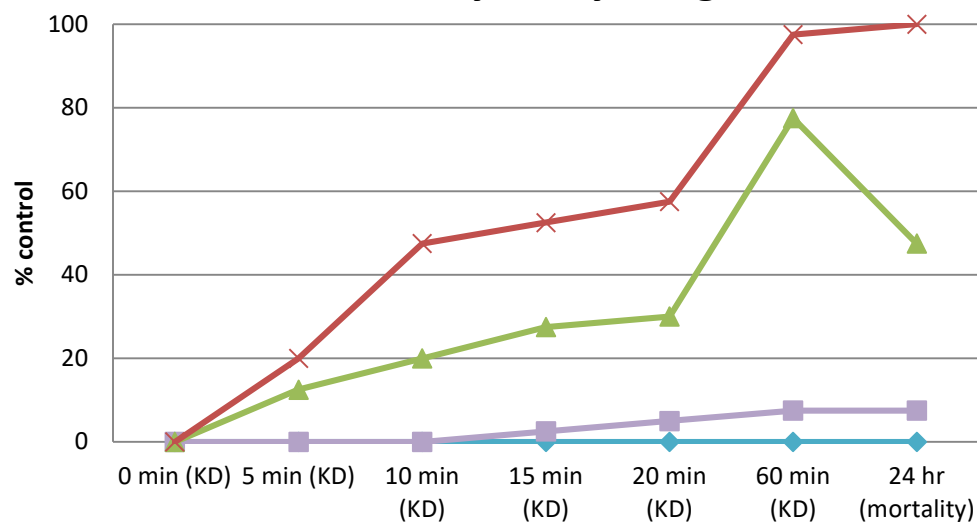
ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



TempridTM
SC

Temprid is highly effective in controlling
pyrethroid resistant German cockroaches

Laboratory study on glazed tiles



Better knockdown 100%
mortality
(on glazed tiles)

- ◆— Untreated
- Imidacloprid 21 mg a.i./m²
- ▲— straight pyrethroid 10.5 mg a.i./m²
- ×— Temprid (imidacloprid + betacyfluthrin) 21 + 10.5 mg a.i./m²

Labelled for foaming and misting in void treatments indoors



ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



Drione®

Cockroach Insecticides

Dusts

- Dusts provide effective penetration into cracks and crevices and large voids
- Dusts will deliver a long, effective residual making harborages uninhabitable for long periods of time



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ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



Drione®

Cockroach Insecticides

Drione

- Silica-based desiccant dust with natural pyrethrum
- Provides quick control and a residual of up to six months
- Also can be used as a powerful flushing agent



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ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



Cockroach Treatment Guide

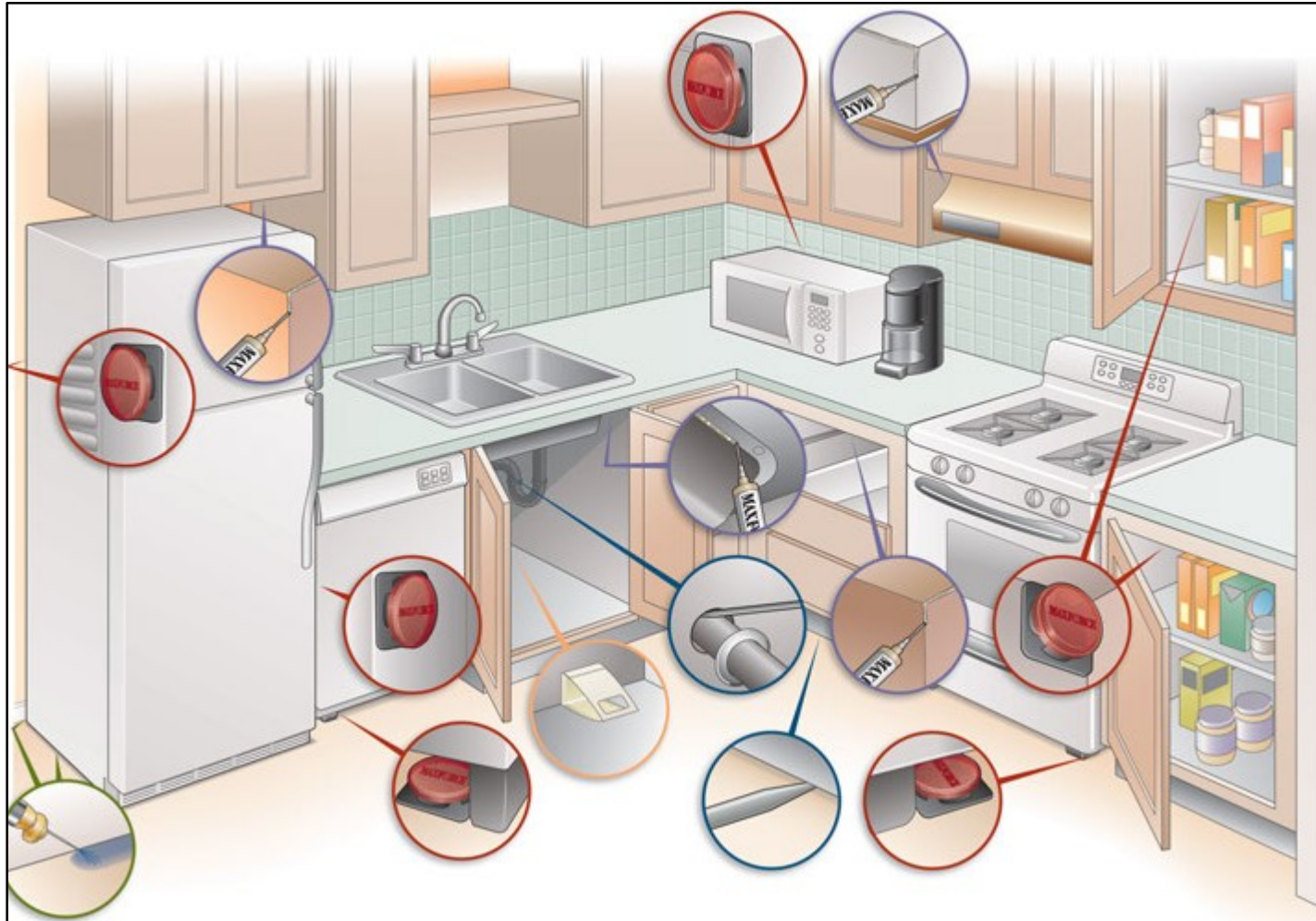
Overview

- Refer to the following treatment guide for residential and commercial accounts
- ALWAYS READ AND FOLLOW ALL PRODUCT LABEL DIRECTIONS



Residential Treatment Guide

Indoor Treatment Guide



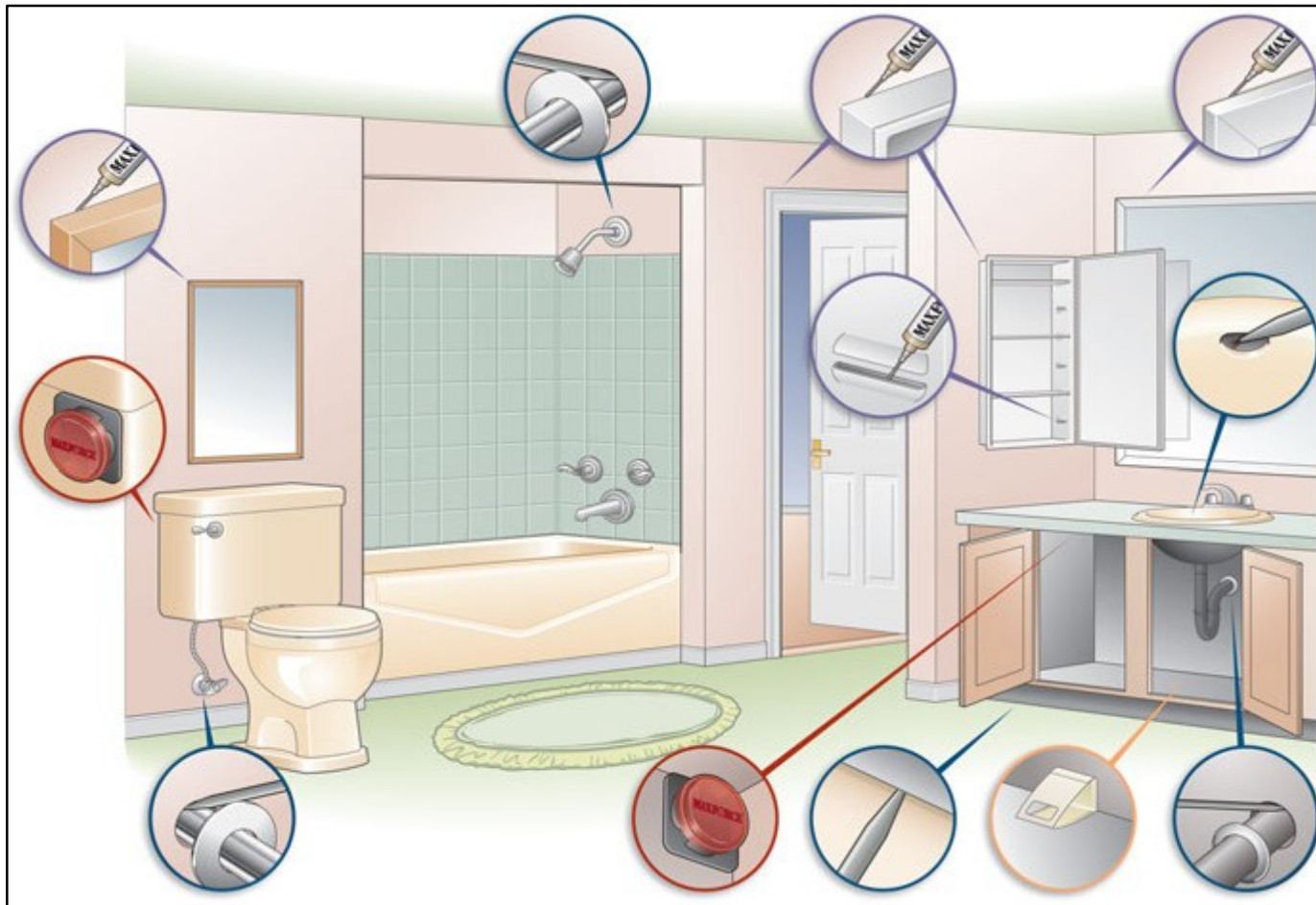
Maxforce Roach Stations are not available in Canada.
Refer to label to see where bait placements can be substituted

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Residential Treatment Guide

Indoor Cockroach Control



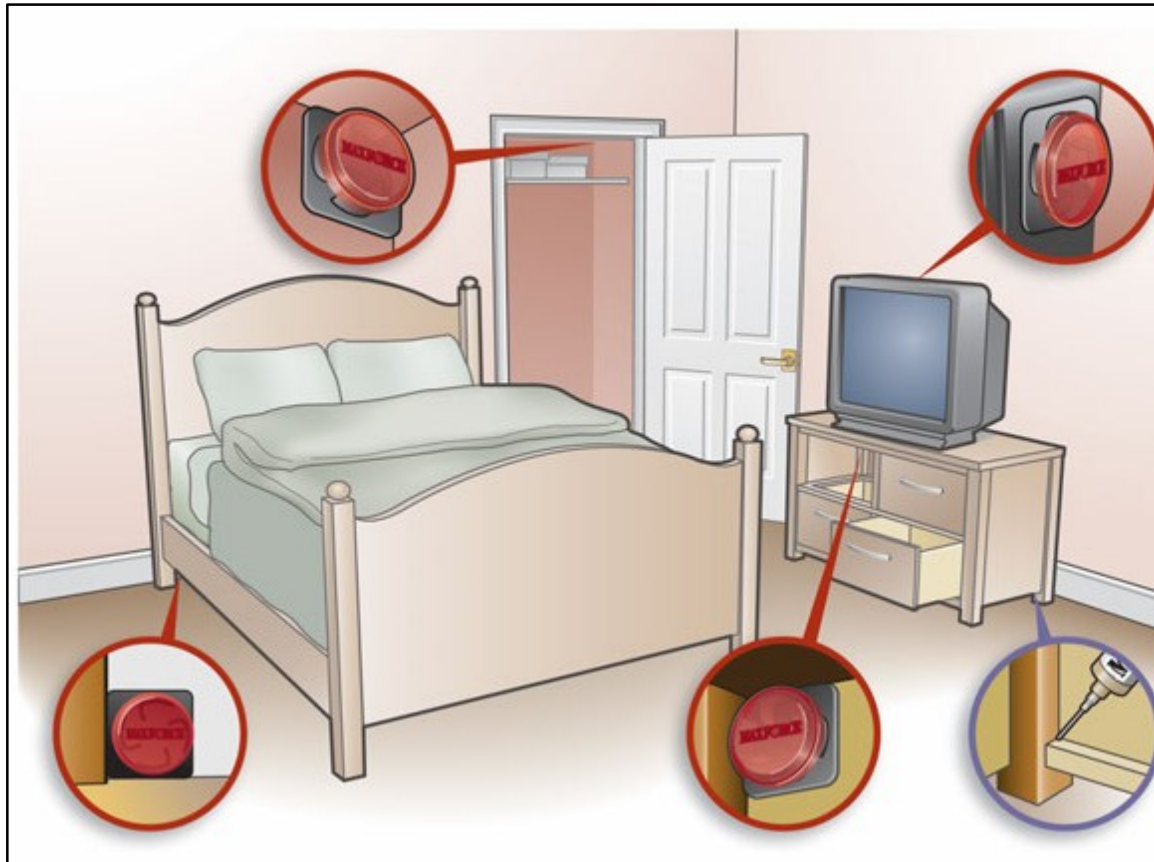
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Residential Treatment Guide

Indoor Cockroach Control



- Use caution when applying bait stations to wall paper, painted surfaces or fine wood that may become damaged when the station is removed.

Maxforce Roach Stations are not available in Canada.

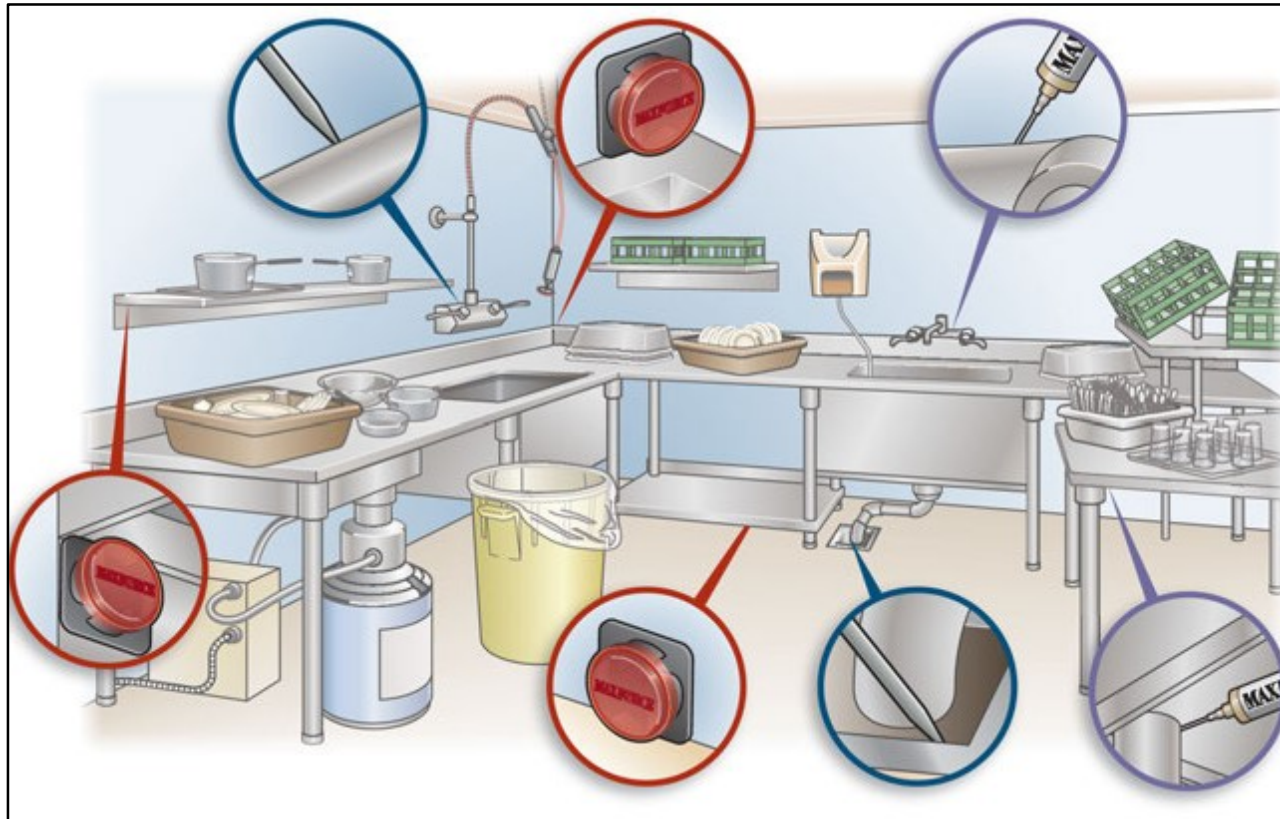
Refer to label to see where bait placements can be substituted

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Commercial Treatment Guide

Dishwashing Station



- Record and report sanitation issues and report ongoing progress to the correct person.

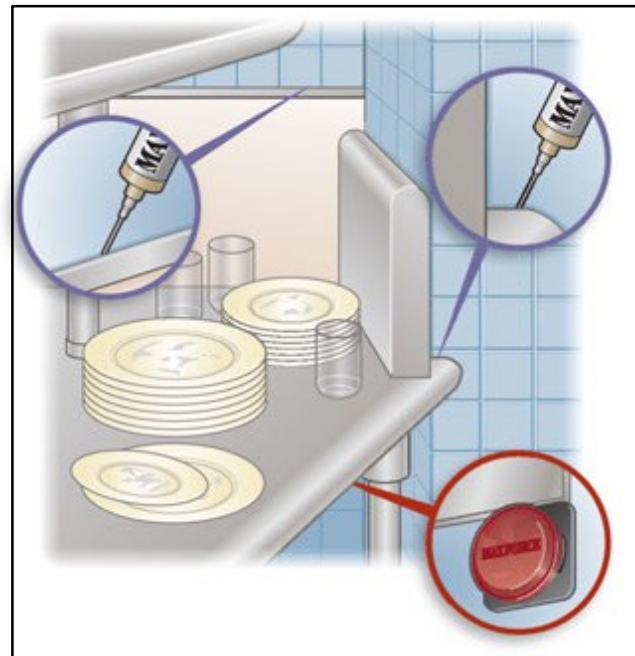
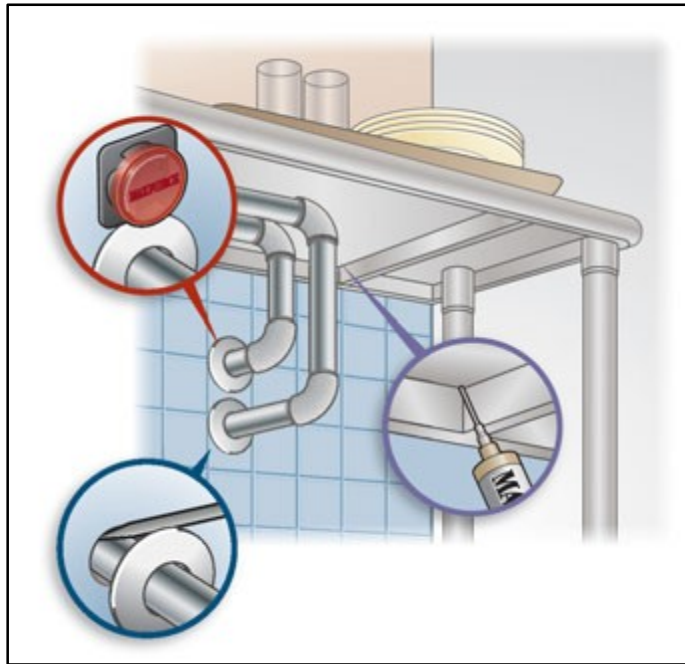
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Commercial Treatment Guide

Dishwashing Station



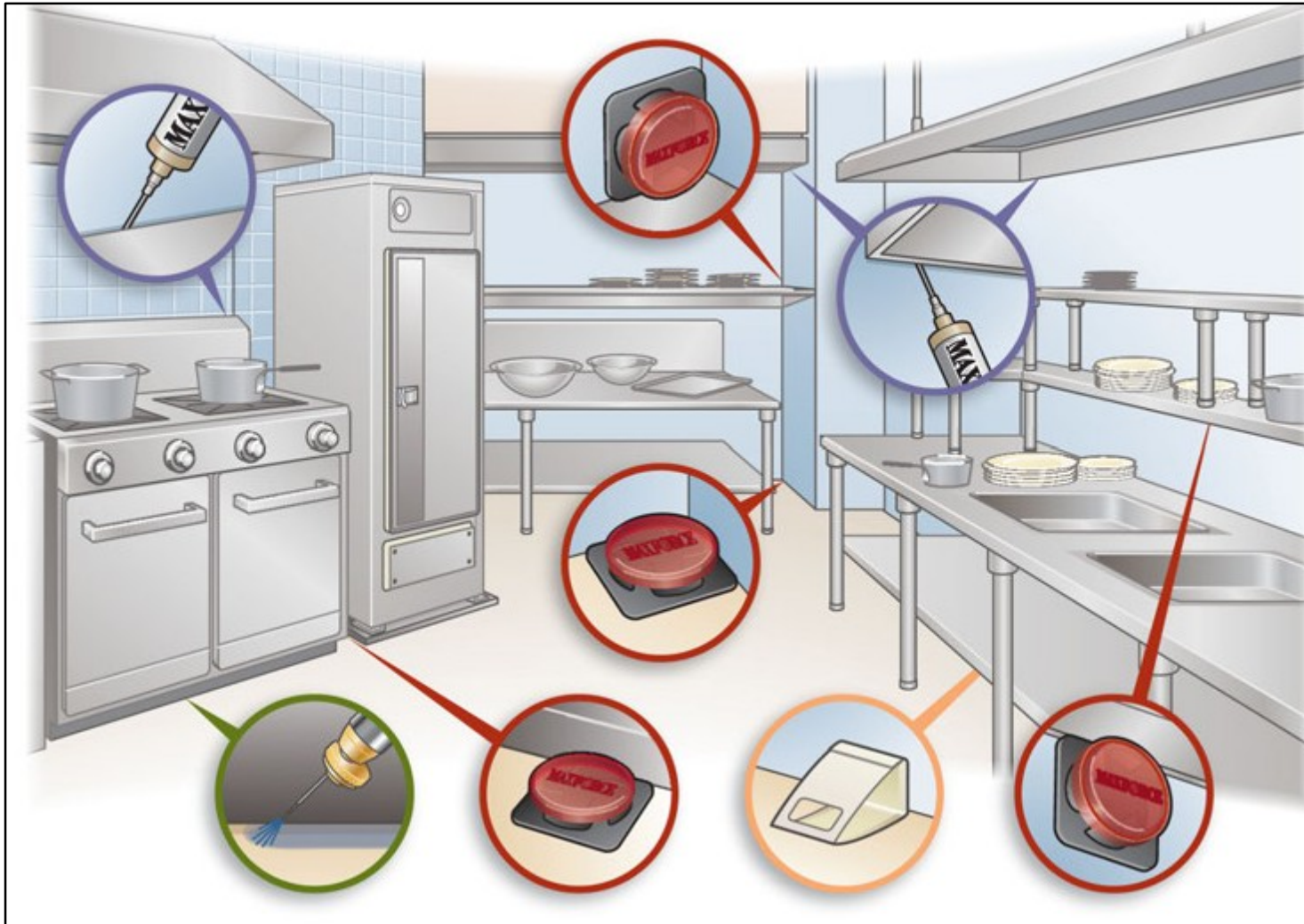
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Commercial Treatment Guide

Pot & Pan Storage



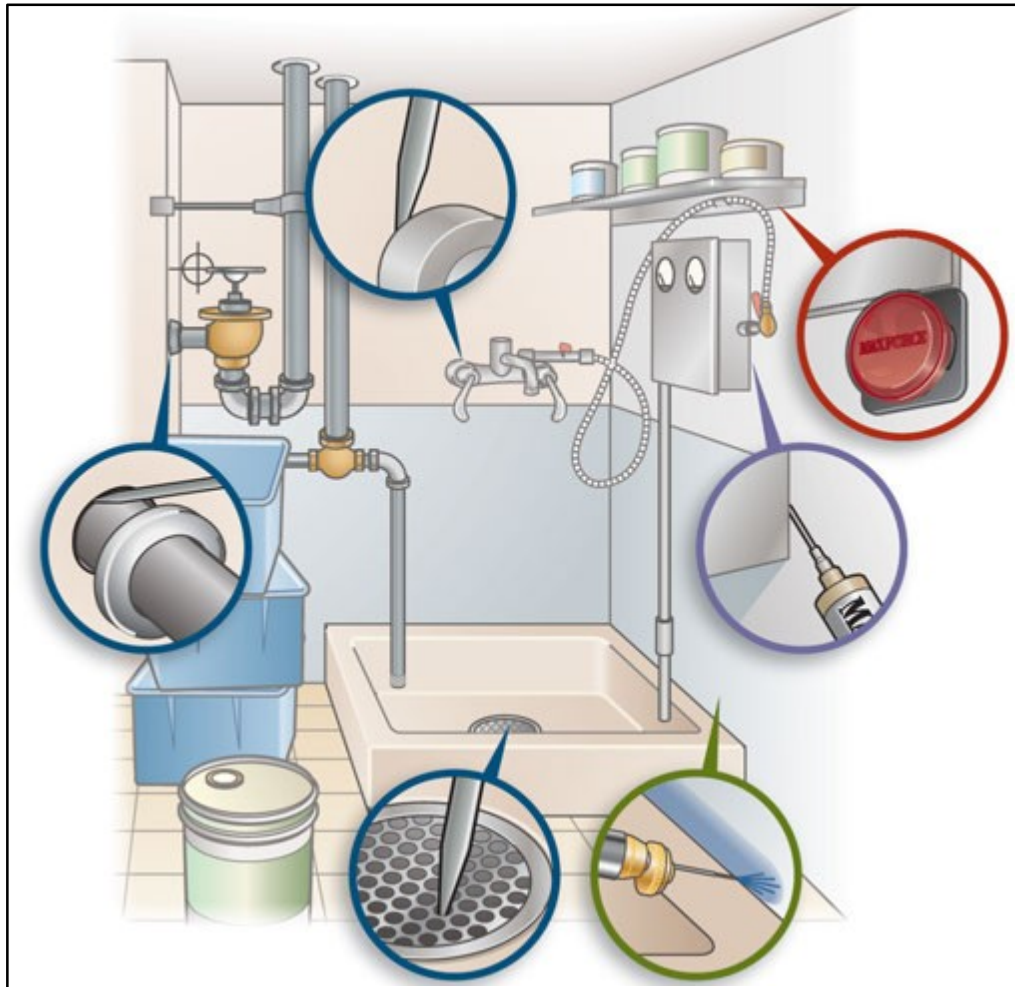
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Commercial Treatment Guide

Mop Room



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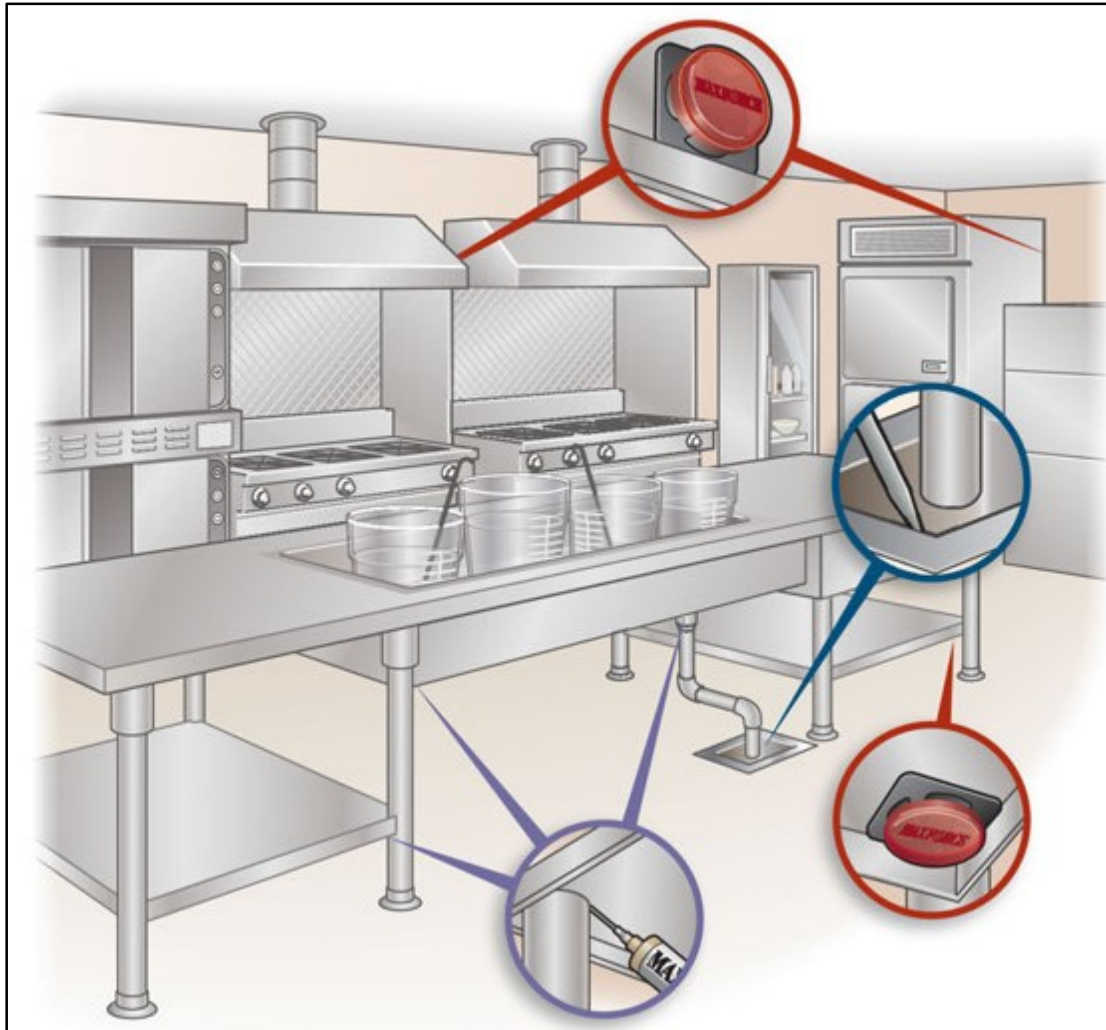


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Commercial Treatment Guide

Food Prep Area



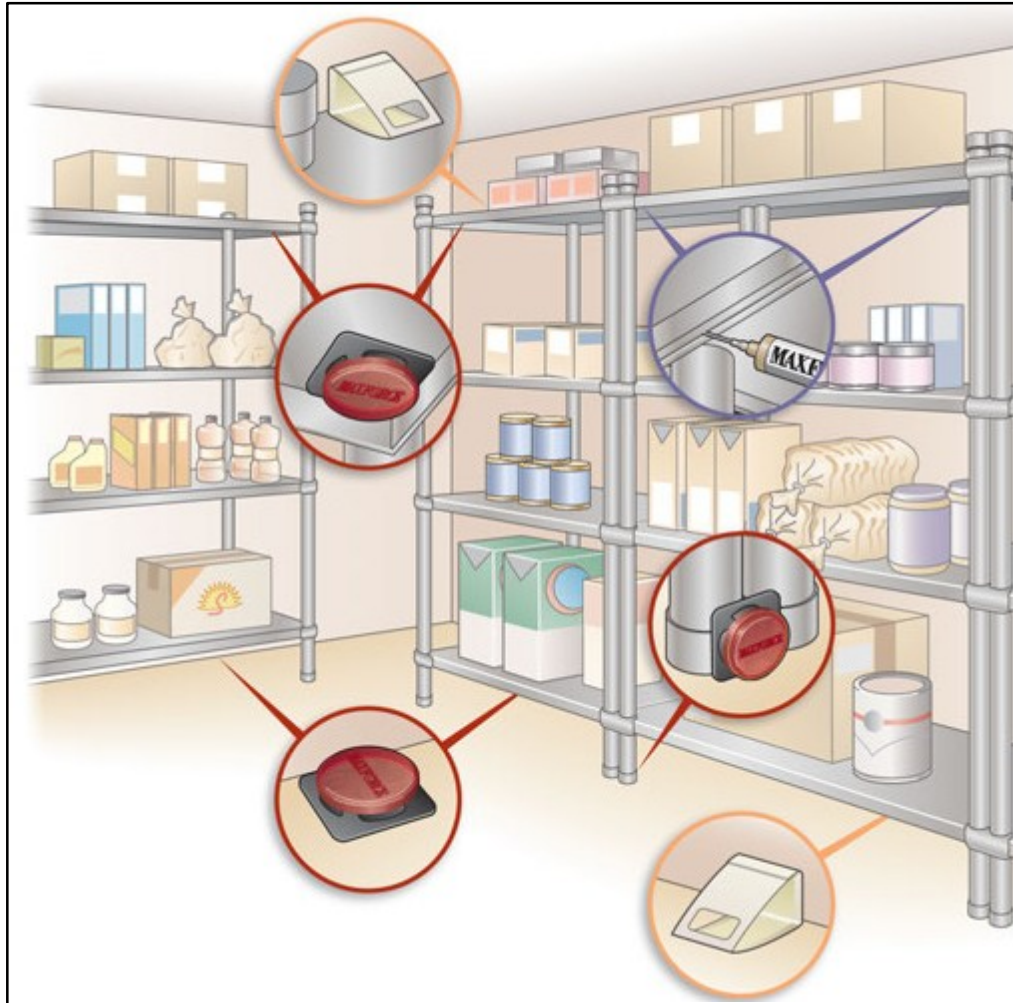
- Maxforce gels are ideal for use in food prep areas.

Maxforce Roach Stations are not available in Canada.
Refer to label to see where bait placements can be substituted



Commercial Treatment Guide

Food Storage Area



- Cockroaches are normally brought into an account through incoming goods. In food storage areas, place bait stations under storage racks and to the underside of shelves.

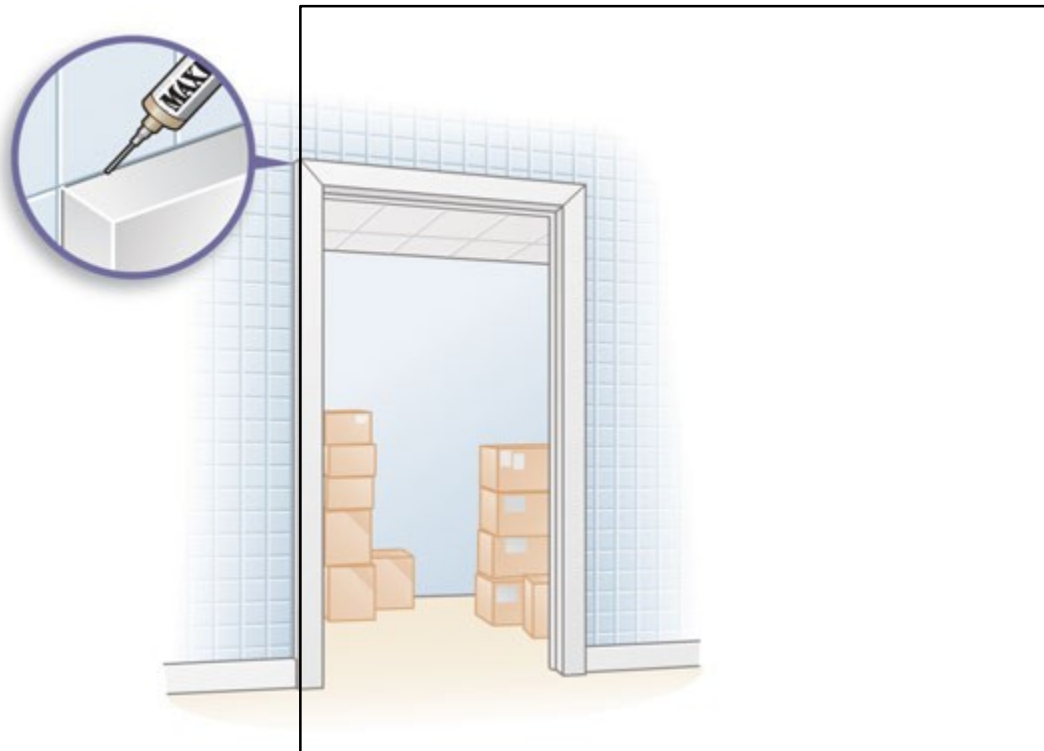
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Commercial Treatment Guide

Storage Areas



Doorways

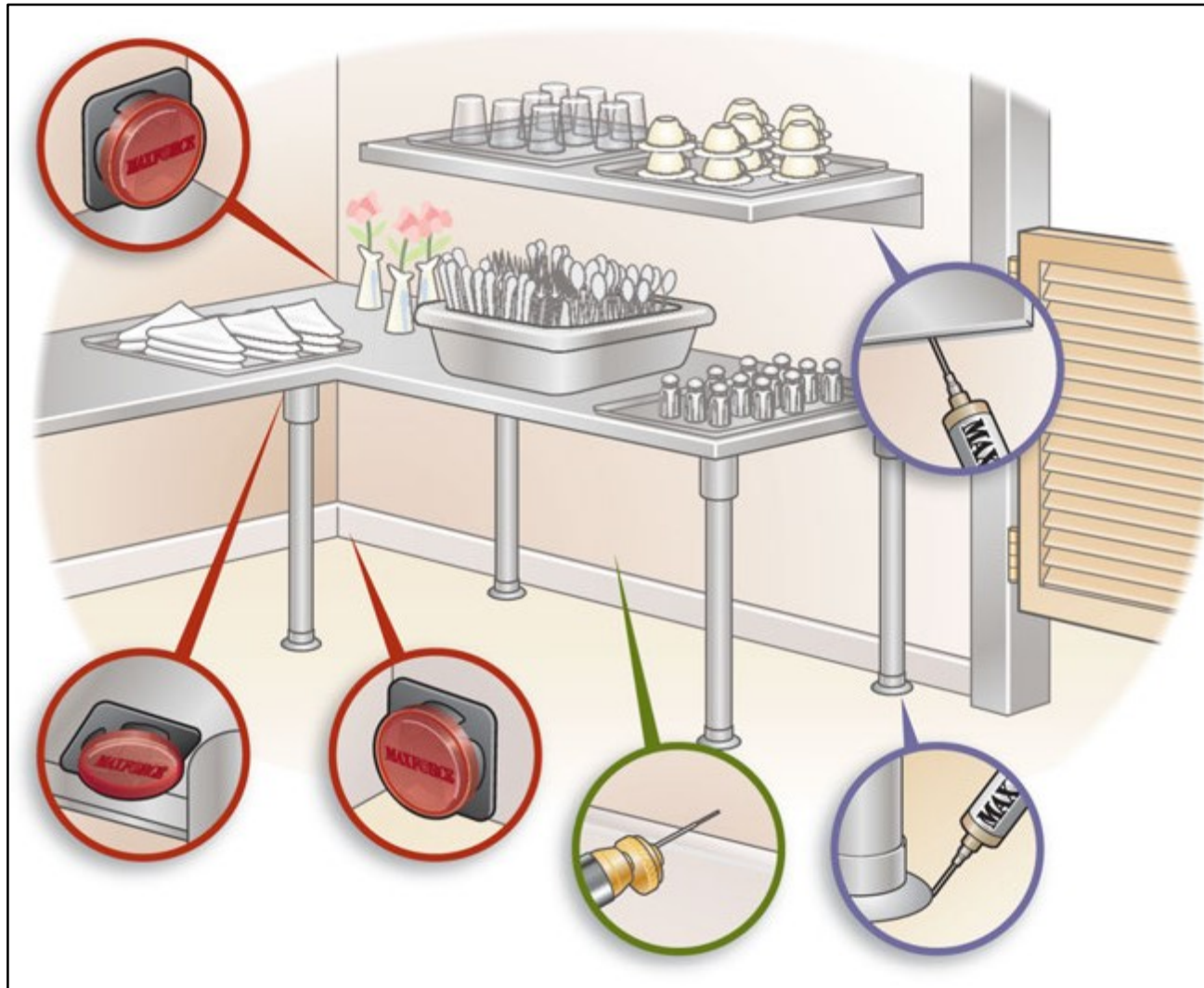
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Commercial Treatment Guide

Table Items Area



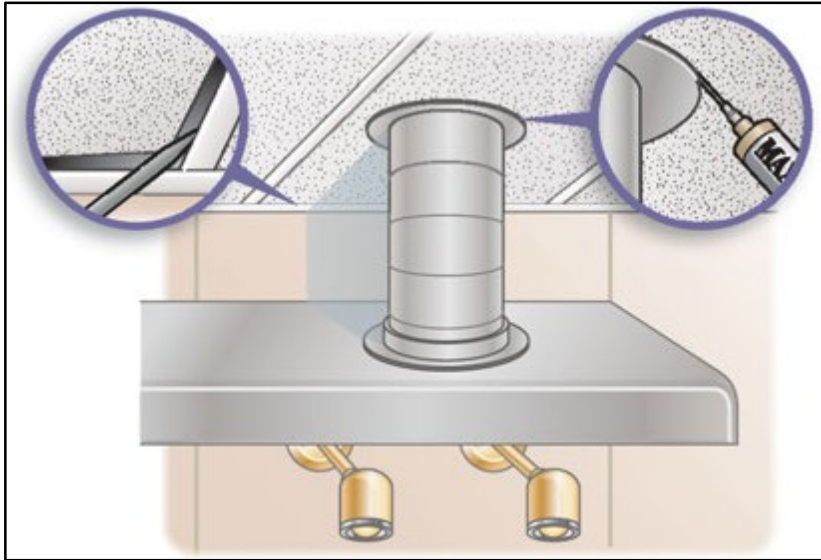
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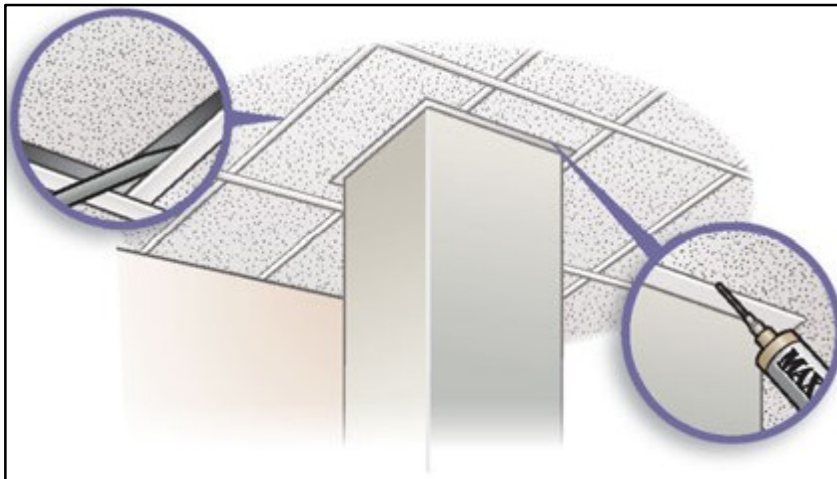


Commercial Treatment Guide

Ceiling Fixtures



- Tilt drop ceiling and apply dust in a very thin layer; thick piles or clumps will repel cockroaches.

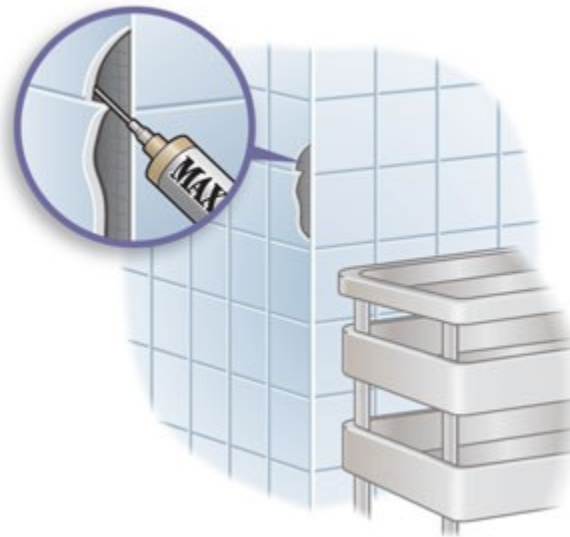


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Commercial Treatment Guide

Miscellaneous Areas

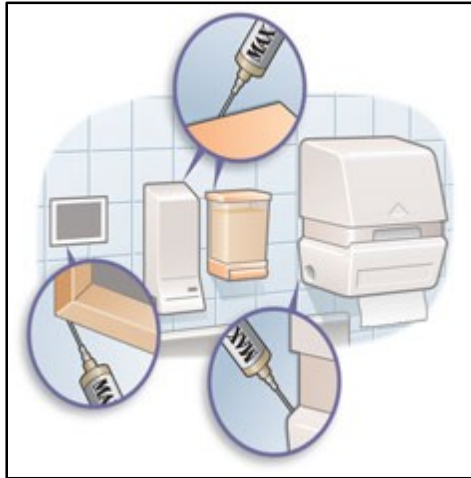


Cracked Tile

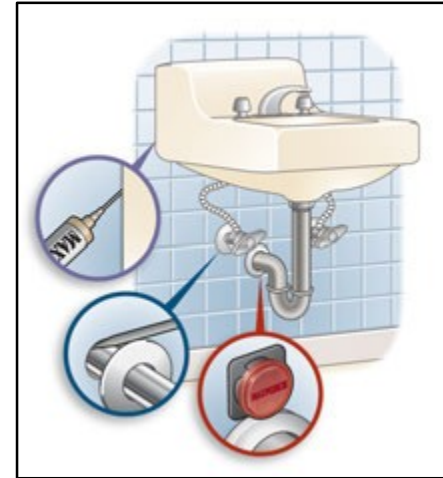


Commercial Treatment Guide

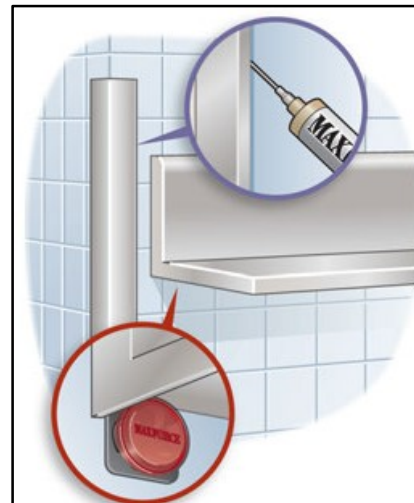
Miscellaneous Areas



Wall Fixtures



Free-Standing Sink



Steel Corners

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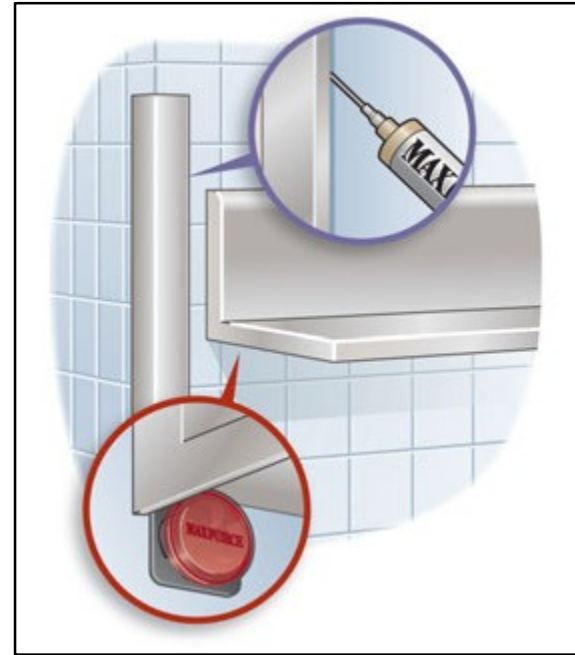


Commercial Treatment Guide

Miscellaneous Areas



Bulletin Boards



Steel Corners

Maxforce Roach Stations are not available in Canada.
Refer to label to see where bait placements can be substituted

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Cockroach Treatment Tips

Baiting Tips

- Maxforce gels provide fast control
- Don't spray on top of bait placements and do not place baits on top of freshly sprayed surfaces
- Smaller, more frequent bait placements work better than fewer larger bait placements
- The Maxforce Sharpshooter extension attaches to Maxforce bait reservoirs for treating hard-to-reach areas



Cockroach Treatment Tips

Spraying Tips

- Don't flush cockroaches in commercial accounts while they are in operation if you don't want customers to see them
- Don't flush cockroaches if a customer has asthma
- Use a crack and crevice tip to better control crack and crevice applications



Cockroach Treatment Tips

Dusting Tips

- Apply dust in very thin layers to avoid repelling cockroaches
 - “If it’s white, it isn’t right”
- Fill dust applicator about halfway so there is “head space” in the applicator
- Store dusts at moderate temperatures and avoid cold/damp conditions
- Save time by dusting voids and then sealing them up



Cockroach Treatment Tips

General Tips

- [*] Dress sharp, keep your equipment clean and be professional.
- [*] Record and report sanitation issues and ongoing progress to the correct person.
- [*] Drilling holes into walls and voids will make it easier to apply pesticides directly into cockroach harborages.
- [*] Maintain a monitoring program. Learn how to read a sticky trap/monitor. For example, if a roach is caught on the right side of a trap, chances are it came from a hiding spot to the right of the trap. (Ask your Bayer representative for a copy of the Need to Know document entitled Reading Roach Traps...)
- [*] Understand how cockroaches react to repellent insecticides such as Drione Dust. Use this avoidance behavior to keep roaches away from critical sighting areas and corral them into other areas where they are easier to control.
- [*] Educate your customer on what type of results they can expect.
- [*] Sealing cracks and crevices will help eliminate harborage areas and save time on future visits.
- [*] Large peridomestic cockroaches normally live outdoors but may enter and infest structures. When these cockroaches are a concern, the insecticide formulations discussed in this guide can be used to stop cockroaches outside, before they enter the structure.



Cockroach Control Tips

Field recommendation:

- Vacuum to “crash” populations before treating
- Refocus on floor level sanitation
- **Remove of old bait**
- Seal cracks and crevices

◆ Use Bayer Solutions as part of an integrated approach

◆ Rotate Maxforce baits every 90-120d





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