



# THE COCKROACH SOLUTION GUIDE

BROUGHT TO YOU BY BAYER ENVIRONMENTAL SCIENCE

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# The Bayer Cockroach Solution

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## 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, sprays and dusts so you can custom-design IPM programs that work fast



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## The Bayer Cockroach Solution

- Baits
  - Maxforce FC Magnum
  - Maxforce Roach Bait Stations
  - Maxforce FC Large Roach Bait Stations
  - Maxforce Granular Insect Bait
- Residual Sprays
  - Tempo SC Ultra
  - Tempo Ultra WSP
  - Tempo Ultra WP
  - Suspend SC
  - Kicker
- Dusts
  - Tempo 1% Dust
  - Drione
  - DeltaDust
- Granules
  - DeltaGard Granules

**MAXFORCE**

**TEMPO**<sup>®</sup>  
ULTRA

**Suspend**<sup>®</sup> SC  
with DeltaGard

**DeltaGard**<sup>®</sup>

**Drione**<sup>®</sup>

**Kicker**<sup>®</sup>

**DeltaDust**<sup>®</sup>  
with DeltaGard

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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

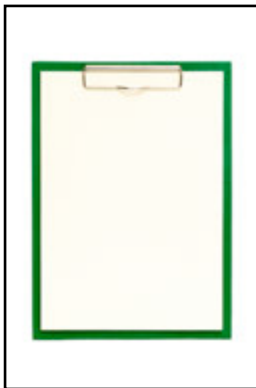
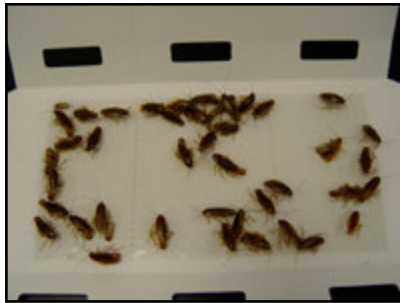




# Inspection

## 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

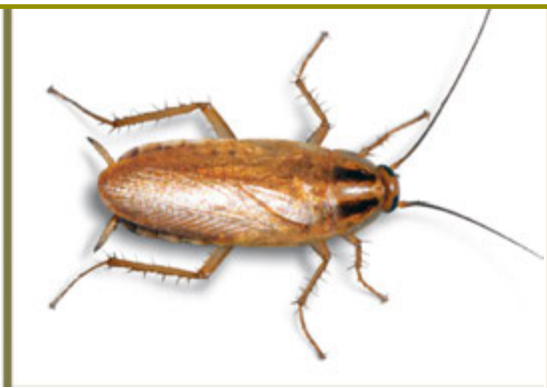
### German Cockroach



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





## 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





## Treatment

### Integrated Pest Management

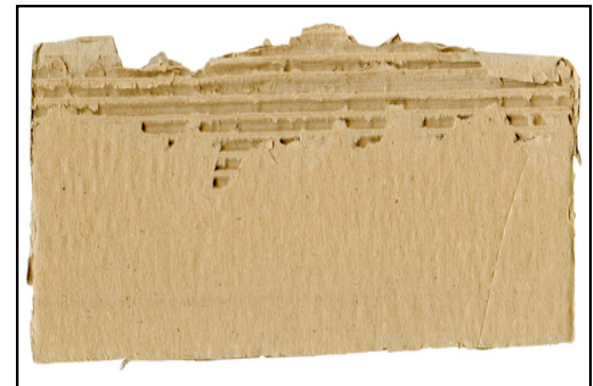
- Practice “Zone Management” for large accounts such as commercial kitchens
  - Divide the account into smaller zones
  - Address one zone at a time
  - Inspect and treat each zone accordingly



## 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





## 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

- The #1 choice for professionals
- Exclusive Domino Effect™ is a delayed action kill that allows cockroaches to take bait back to the colony
  - Roaches transfer the active ingredient to other roaches through vomitophagy (feeding on vomit), cross contact (with contaminated roaches), trampling effect (contact with secretions, cast skins, etc.) and cannibalism
- Less intrusive and more convenient for customers
- Residual lasts up to one year or until bait is consumed
- Ideal choice for sensitive environments



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# Cockroach Insecticides

## Maxforce FC Magnum Roach Killer Bait Gel

- Overall the most effective cockroach gel bait available
- Fastest control
- Works on bait-averse German cockroaches as well as large roach species
- Features innovative ContactX™ technology that kills roaches on contact
- Formula is Simply Irresistible™



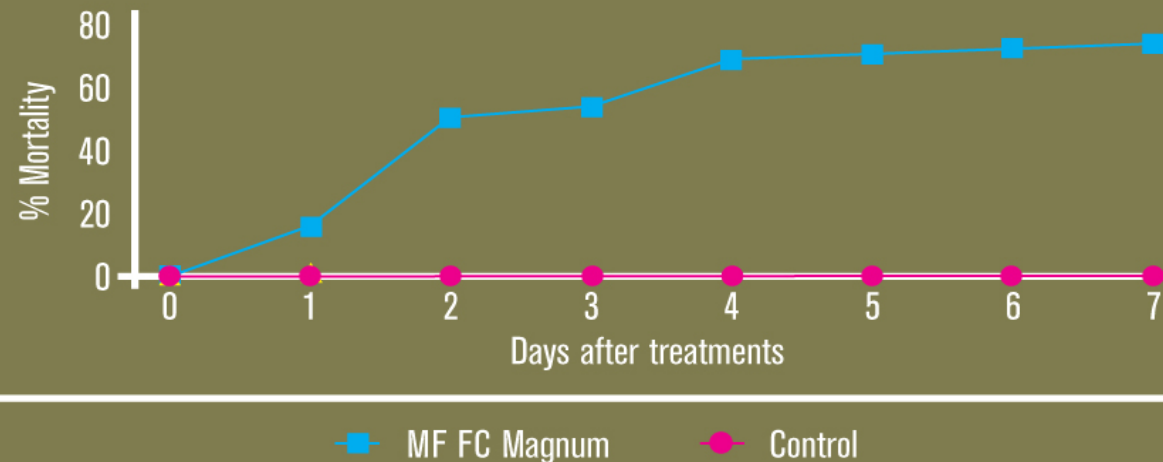


# Cockroach Insecticides

## Maxforce FC Magnum Roach Killer Bait Gel

### BETTER SECONDARY KILL VIA TRAMPLING EFFECT

#### COMPLEX ARENA – DEAD ROACHES & BAIT REMOVED



Data represents powerful secondary kill for cockroaches that never directly contacted the bait or contaminated cockroaches. The complex arena contained food, water, shelter and bait. All roaches died. Dead roaches and bait are removed, leaving only food, water, shelter and the debris in the harborage left behind by the previous population. New roaches are then introduced. The blue line indicates the excellent level of control due to secondary kill via trampling.

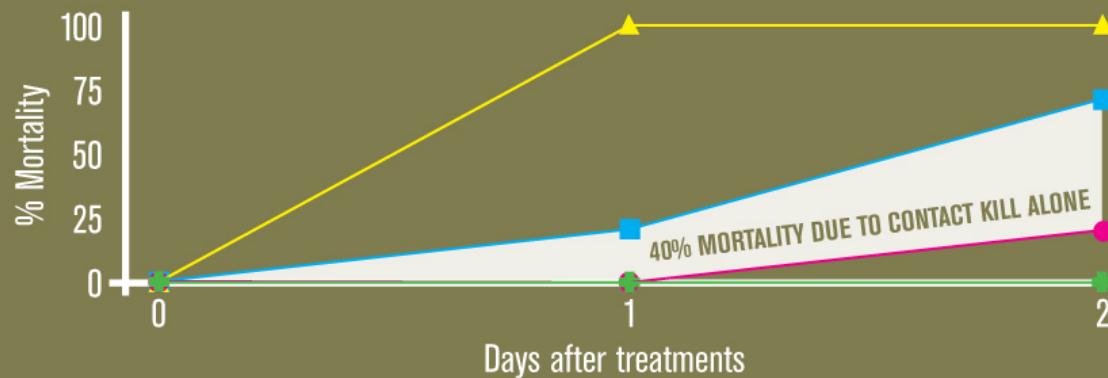


# Cockroach Insecticides

## Maxforce FC Magnum Roach Killer Bait Gel

### SUPERIOR CONTACT KILL WITH CONTACT X™

#### ABERRANT FEEDING CNC STRAIN OF B. GERMANICA



- Mouth Parts Sealed/Magnum
- ▲ Mouth Parts Unsealed/Magnum
- Mouth Parts Sealed/Untreated Control
- Mouth Parts Unsealed/Untreated Control

The shaded area represents the difference in control of roaches with and without sealed mouth parts. These are aberrant feeding roaches. Greater than 60% control was achieved by contact alone in only 2 days. Note the fast 100% elimination (one day) of male German cockroaches that did not have their mouth parts sealed closed.

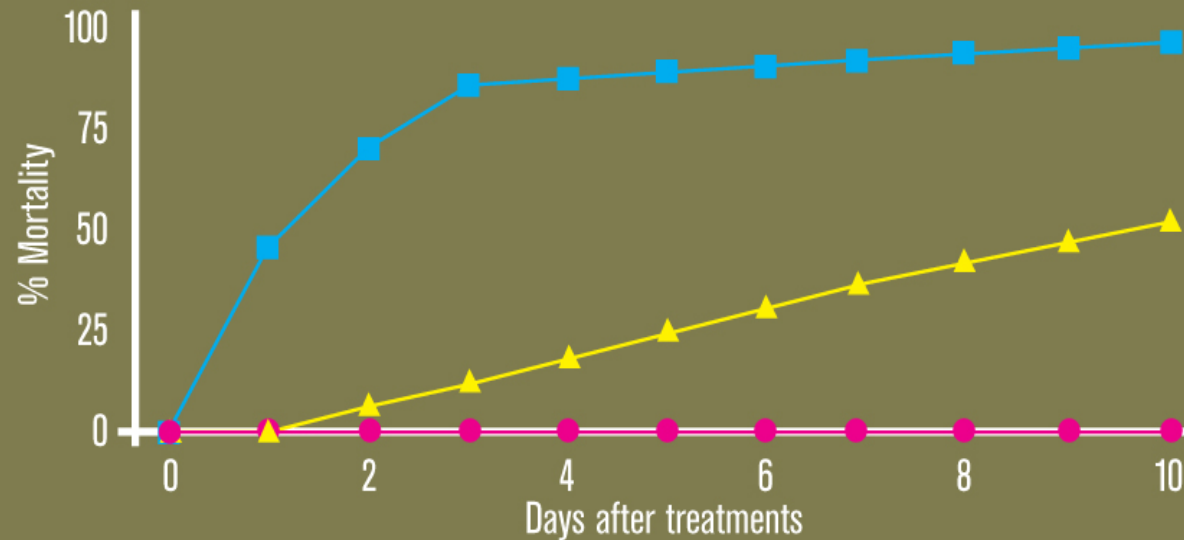




# Cockroach Insecticides

## Maxforce FC Magnum Roach Killer Bait Gel

### MAGNUM'S USE ON AMERICAN COCKROACHES



MF FC Magnum Advion Control

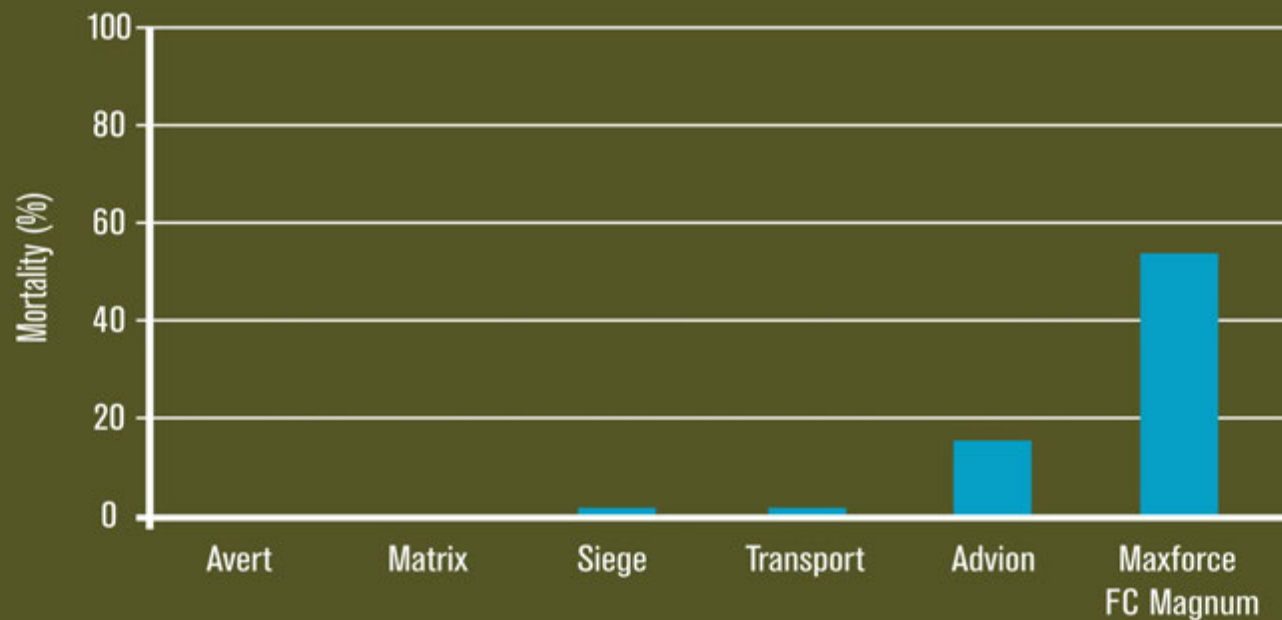


# Cockroach Insecticides

## Maxforce FC Magnum Roach Killer Bait Gel

### COCKROACH GEL BAIT PERFORMANCE – 1 DAY AFTER TREATMENT

PERFORMANCE OF COCKROACH GELS AGAINST BAIT-AVERSE KA STRAIN GERMAN COCKROACH





# Cockroach Insecticides

## Maxforce Roach Bait Stations

- Available with fipronil or hydramethylnon
- Station design is child-resistant
- Peel-and-stick adhesive allows for easy application
- Transparent red lid allows for easy monitoring of bait consumption
- Packaged individually in a re-sealable bag



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# Contact Insecticides

## Maxforce FC Large Roach Bait Stations

- Available with the active ingredient fipronil
- Child resistant station
- Labeled for indoor and outdoor use
- Specially designed to control large cockroaches
- Each station contains 2.75 grams of bait





# Contact Insecticides

## Maxforce Granular Insect Bait

- Broad-spectrum granular bait
- Controls cockroaches, ants, crickets and other pests
- Can be used
  - Over large outdoor areas
  - As a perimeter treatment
  - Indoor crack and crevice treatment
  - As broadcast in inaccessible attics and crawlspaces





# Cockroach Insecticides

## Residual Contact Sprays

- Economical, fast-acting and easy to apply
- Can be used as
  - Crack and crevice treatment
  - Spot or broadcast applications
  - Indoors and around the outside of structures



**Drione<sup>®</sup>**  
**Suspend<sup>®</sup> SC**  
with DeltaGard

**DeltaGard<sup>®</sup>**

**Kicker<sup>®</sup>**

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# Cockroach Insecticides

## Tempo Ultra

- Offers broad spectrum control of more than 100 indoor and outdoor pests
- Available in suspension concentrate and wettable powder formulations
- Effective on porous and nonporous surfaces
- Coverage includes more than 130,000 Beta-crystals per square inch
  - 14 times more coverage than microencapsulated products



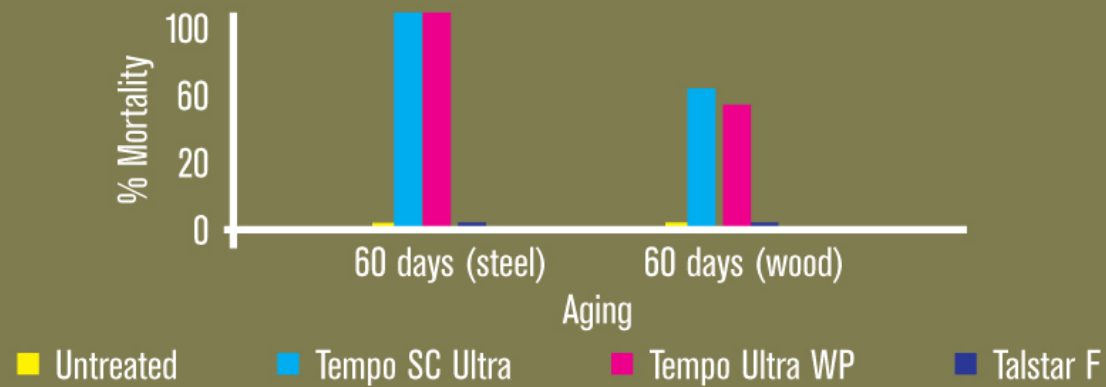


# Cockroach Insecticides

## Tempo Ultra

### COMPARISON OF RESIDUAL ACTIVITY OF TEMPO ULTRA

#### TEMPO SC ULTRA AGAINST GERMAN COCKROACHES ON NON-POROUS & POROUS SURFACES



Reference: USA03A074-TEM03A04



# Cockroach Insecticides

## Suspend SC

- Provides fast knockdown and long-term control
- Can be used
  - Indoors and outdoors
  - As a perimeter application
  - On turf grass and landscape ornamentals
  - On upholstery, mattresses and carpet



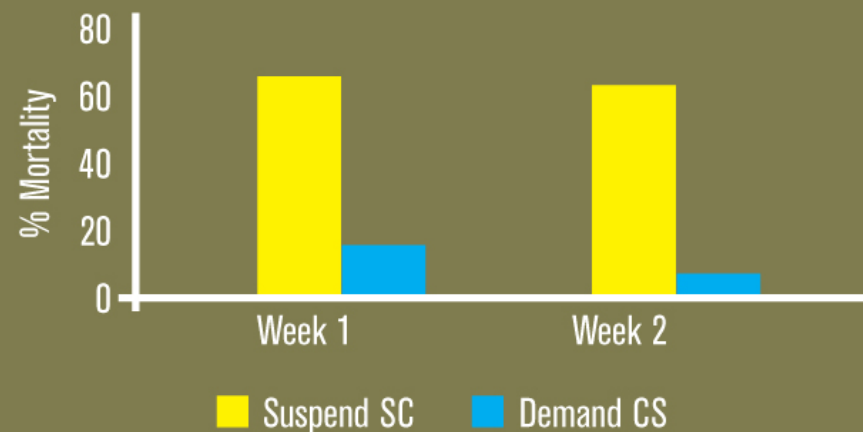


# Cockroach Insecticides

## Suspend SC

### EFFICACY OF SUSPEND SC AGAINST GERMAN COCKROACHES

#### POPULATION REDUCTIONS IN LOW-INCOME HOUSING



Reference: EH99-015, A. Appel (Auburn Univ.)





## Cockroach Insecticides

### Kicker

- Contains 6% natural pyrethrum
- Provides very fast knockdown
- Provides improved control of pyrethroid resistant strains
- Excellent flushing agent
- Ideal for customers who do not want residual insecticides
- For residual control and flushing action mix with Tempo Ultra or Suspend SC





# 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





# Cockroach Insecticides

## DeltaDust

- The only 100% waterproof dust, making it an effective way to treat cockroaches in wet areas
- Has up to an eight month residual
- Labeled for application directly into drains that lead to sewers





# 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





# Cockroach Insecticides

## Tempo 1% Dust

- Contains 1% cyfluthrin
- Is ready-to-use
- Low odor and non-staining





# Cockroach Insecticides

## Granules

- Broad spectrum granules are an effective solution for wide open spaces outdoors
- Also can be used in hard-to-reach areas at the base of thick ground cover

### Bait



### Contact





# Cockroach Insecticides

## DeltaGard G

- Features small particles that fall through mulch, leaf litter and vegetative cover to treat hard-to-reach places
- Is labeled for perimeter and entire lawn treatments
- Offers quick and long residual control
- Water helps the product disperse and penetrate deeper







# Cockroach Treatment Guide

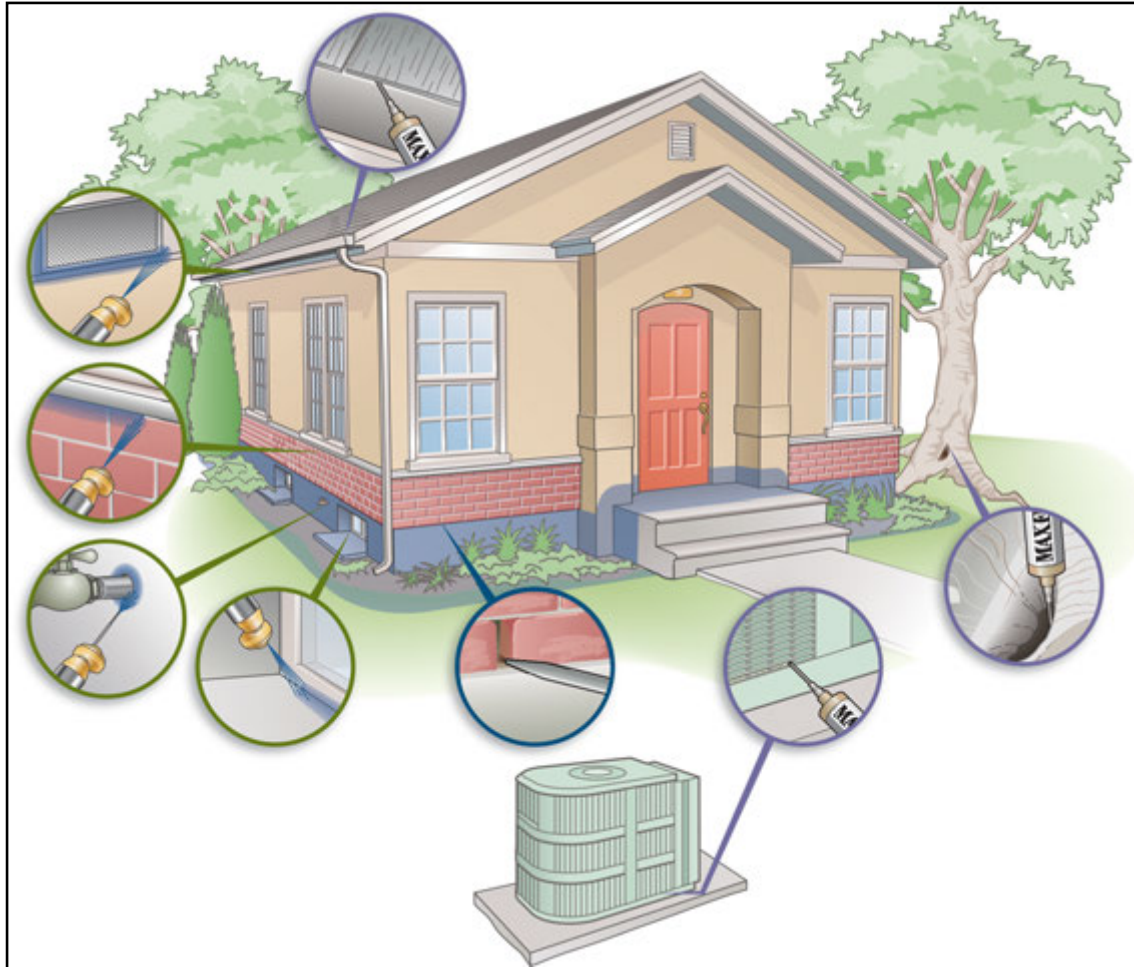
## Overview

- Refer to the following treatment guide for residential and commercial accounts
- Most of the formulations are interchangeable
- Depending on the environment you can choose the most effective application



# Residential Treatment Guide

## Perimeter Cockroach Control

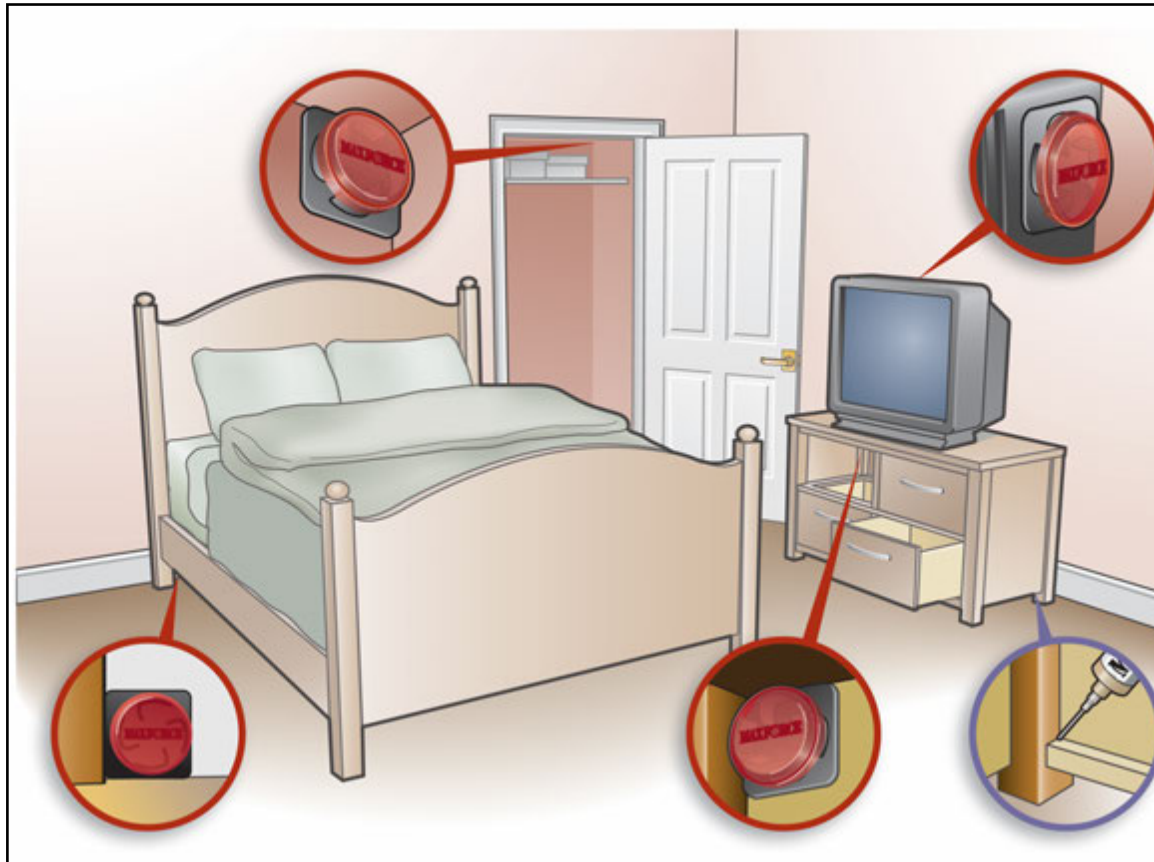


- Apply Tempo SC Ultra or Suspend SC as a perimeter treatment around the structure and place Maxforce Granular Insect Bait just beyond the perimeter spray.



# 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.

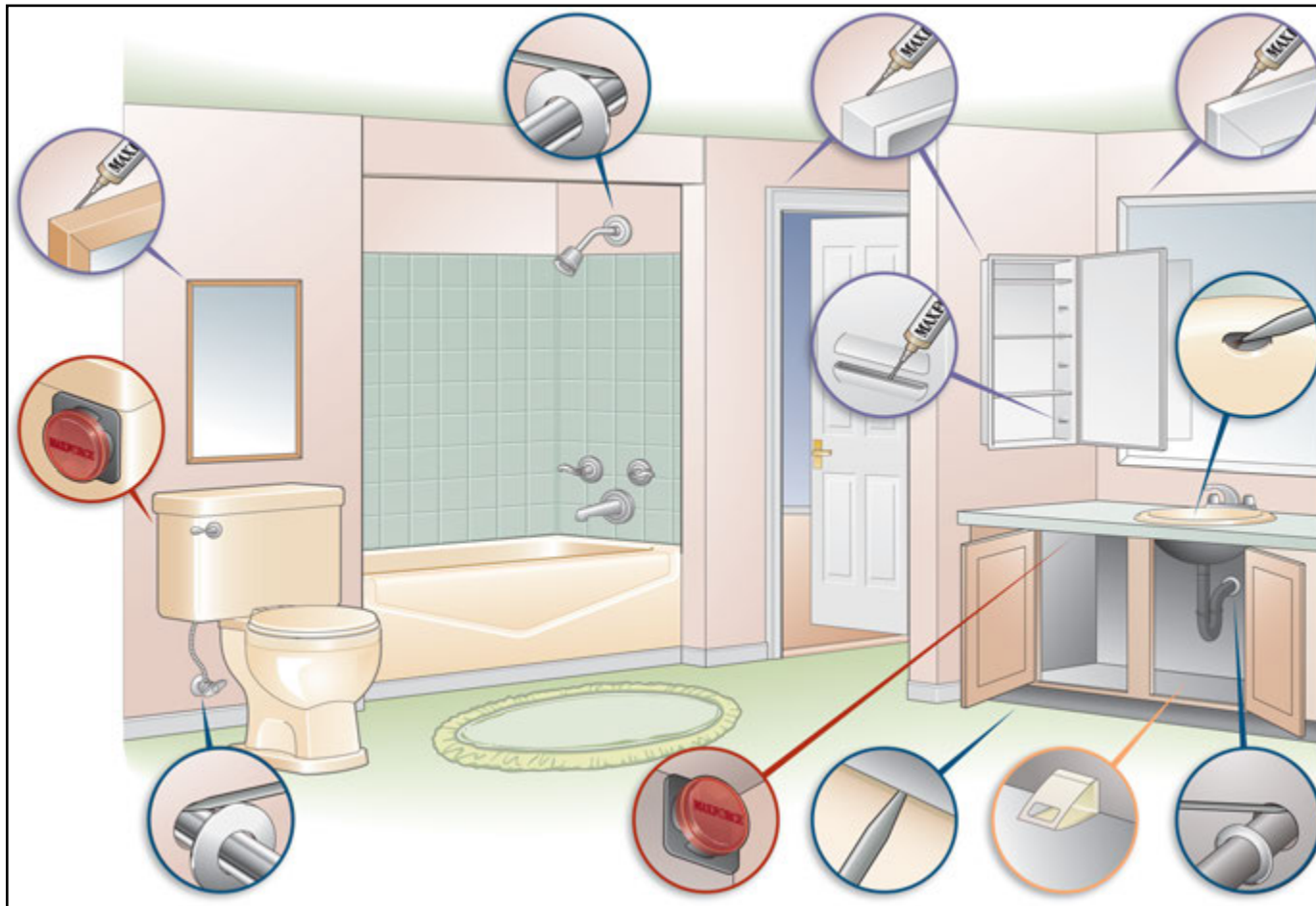


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# Residential Treatment Guide

## Indoor Cockroach Control



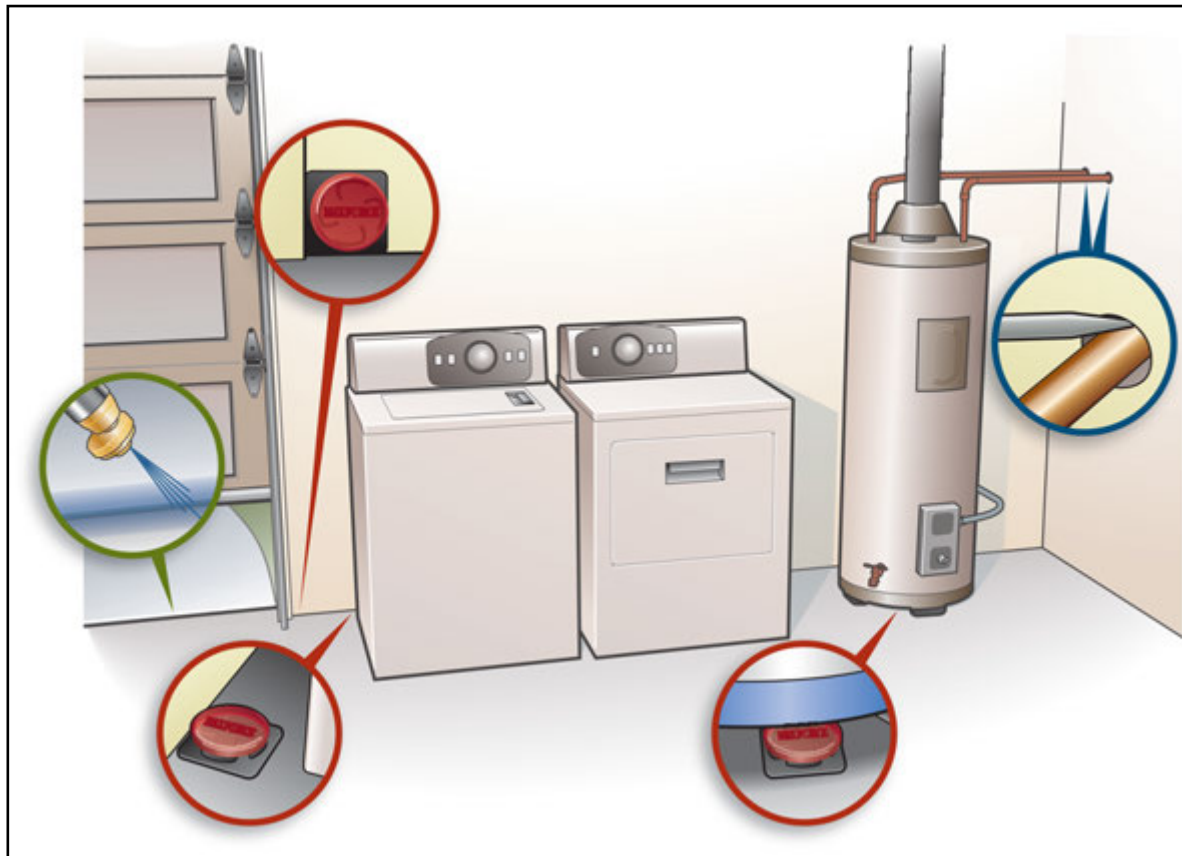
•Use DeltaDust in wet areas like sinks and drains for control of cockroaches.





# Residential Treatment Guide

## Indoor Cockroach Control

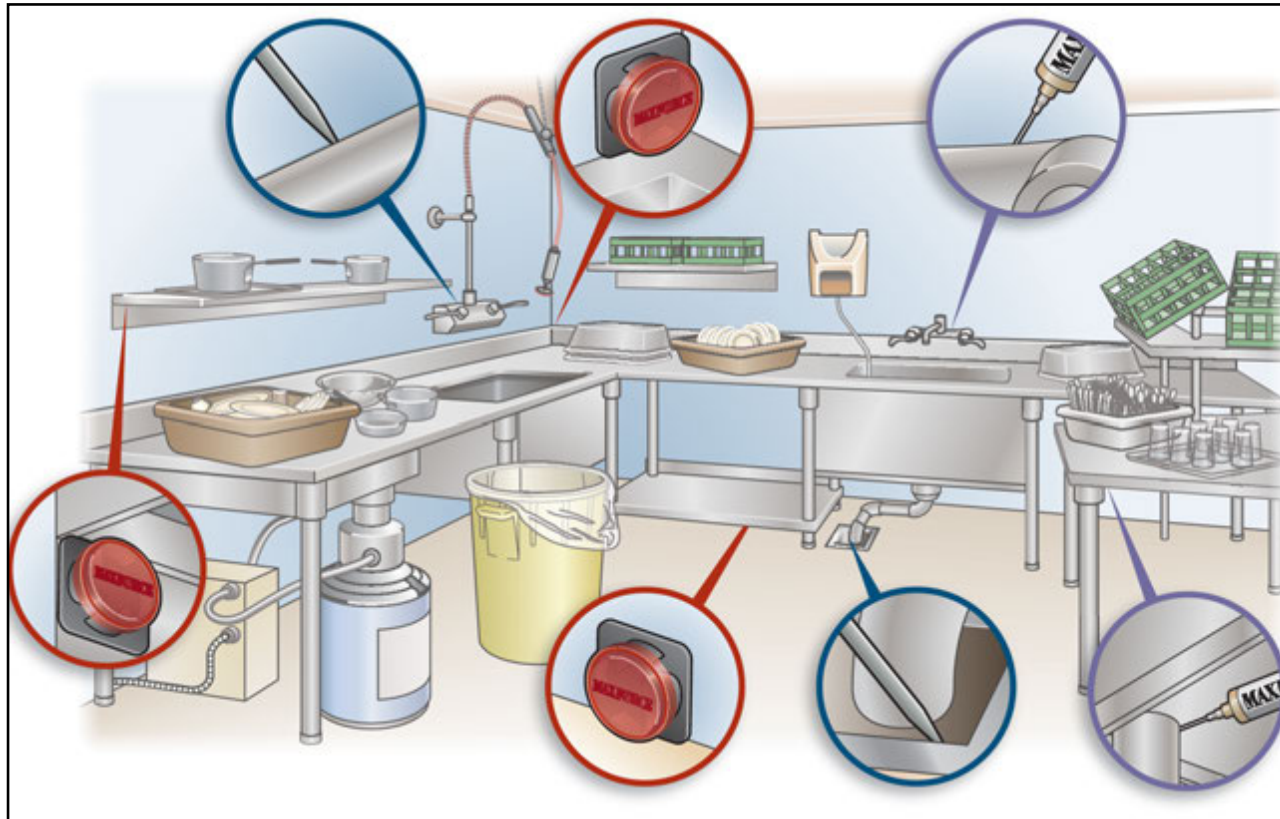


- Use bait stations beneath appliances for control of cockroaches in hard-to-reach areas.



# Commercial Treatment Guide

## Dishwashing Station



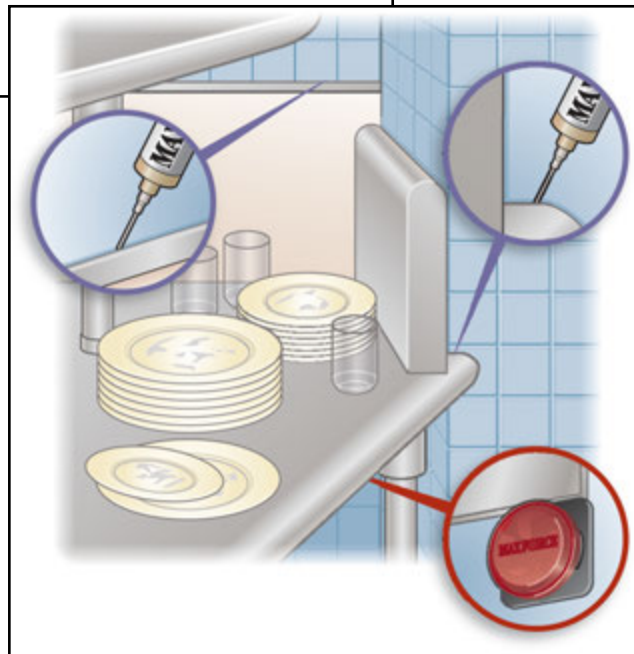
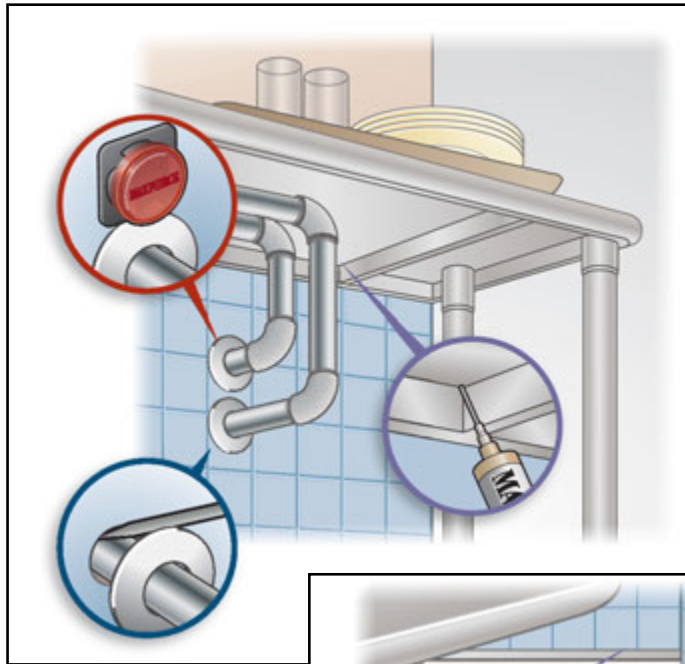
- Record and report sanitation issues and report ongoing progress to the correct person.





# Commercial Treatment Guide

## Dishwashing Station

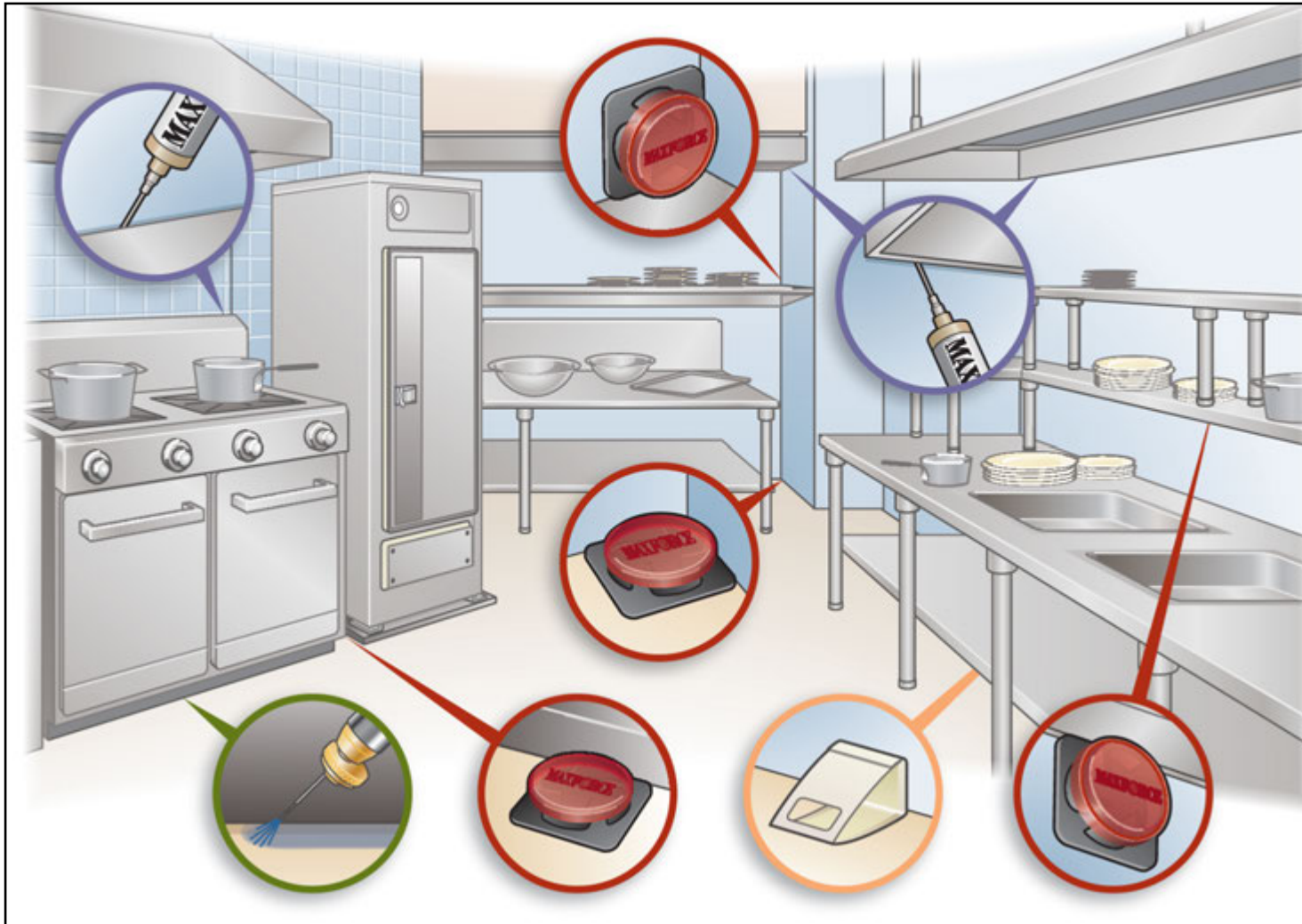


- Bait stations don't adhere well to greasy, dirty or rough surfaces. Clean surfaces so stations will stick or apply with a small spot of caulk or Hercules Putty™ to help hold stations in place.



# Commercial Treatment Guide

## Pot & Pan Storage



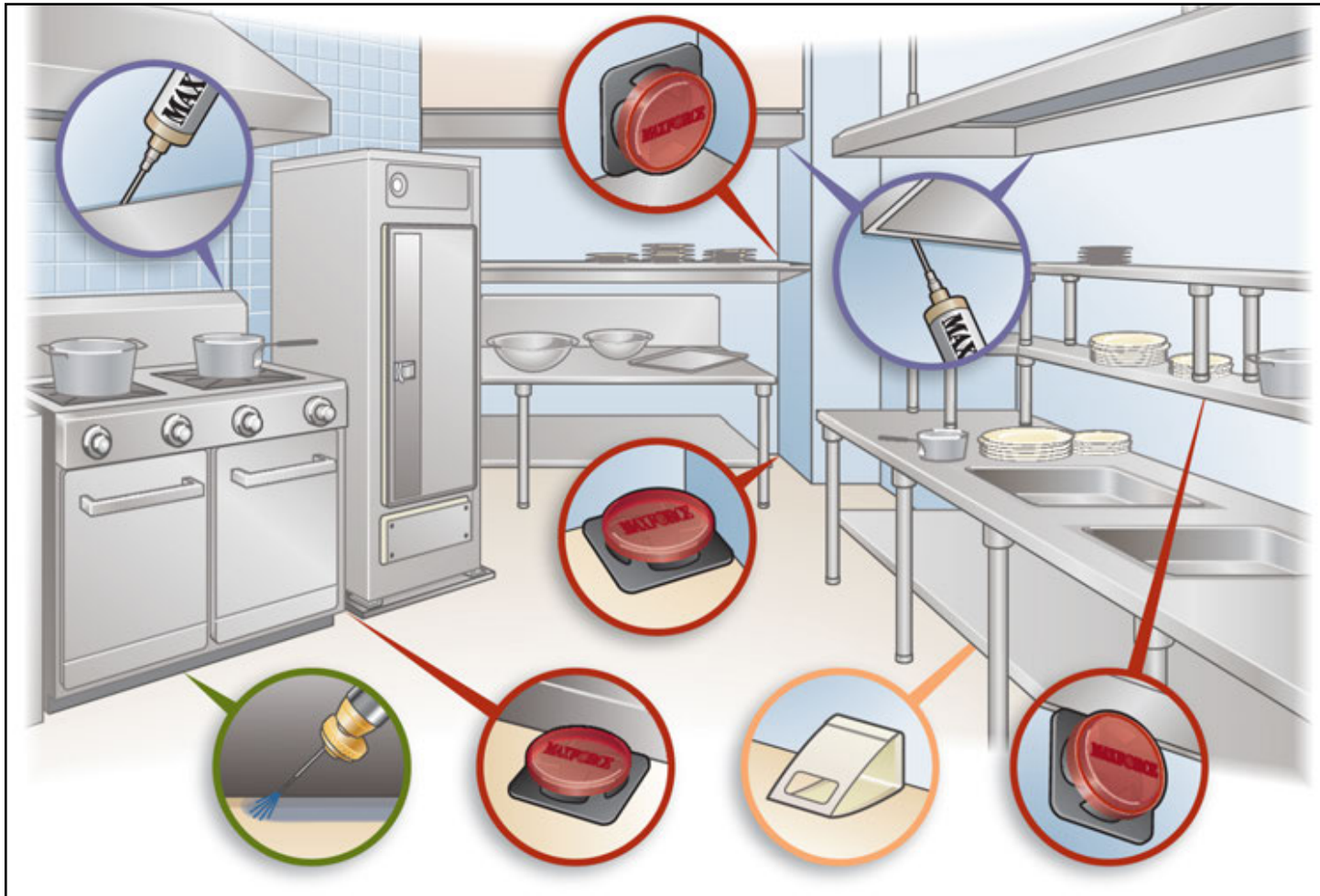
[illegible]

- DeltaDust is ideal for high-moisture environments and may be applied directly into drains that lead to sewers.



# Commercial Treatment Guide

## Food Prep Area

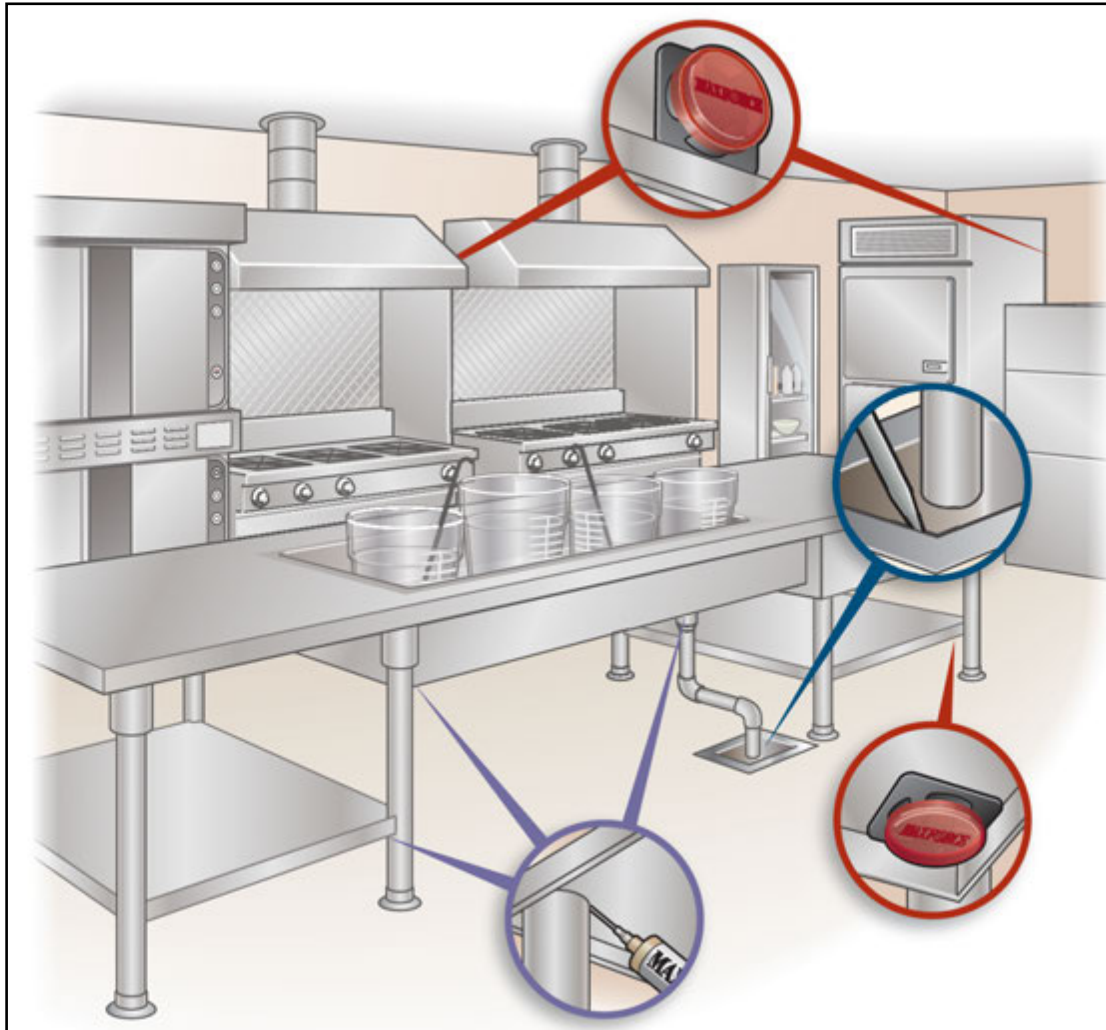






# Commercial Treatment Guide

## Food Prep Area

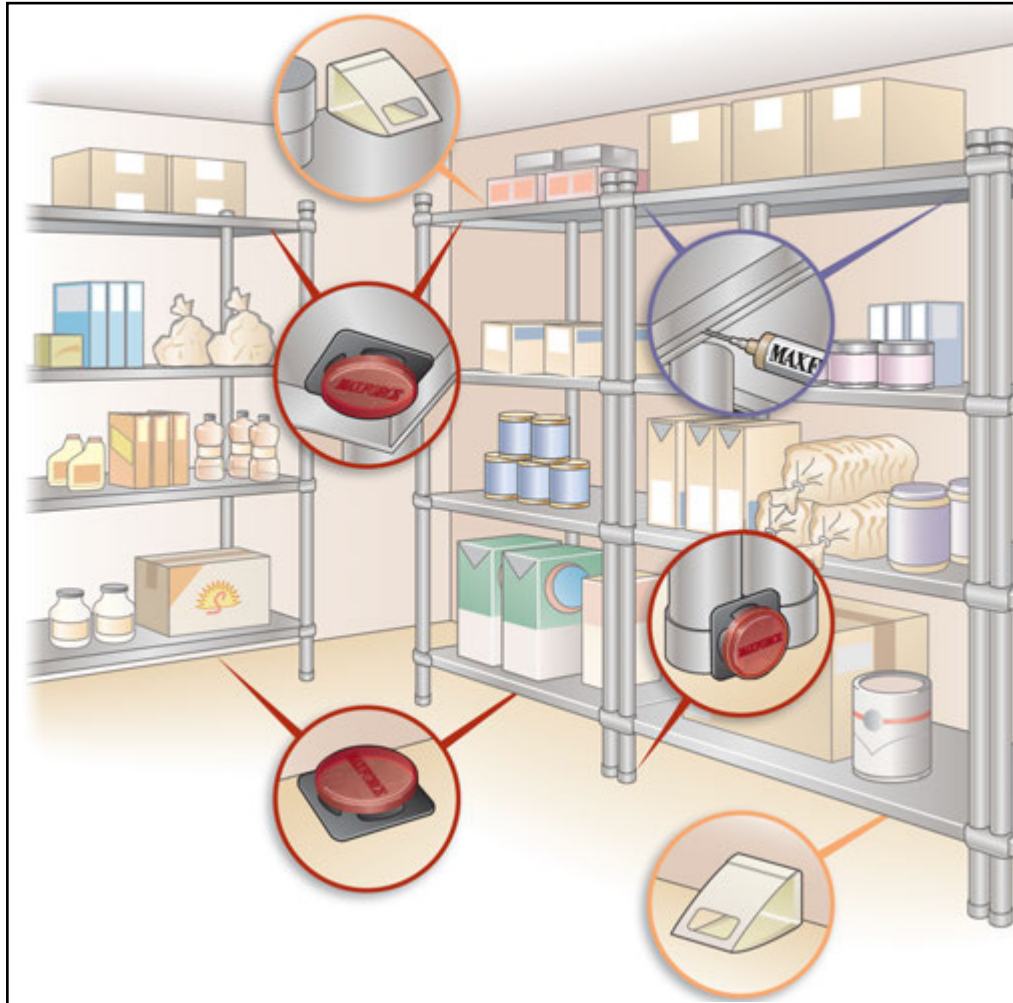


- Maxforce gels and bait stations are ideal for use in food prep areas.



# Commercial Treatment Guide

## Food Storage Area

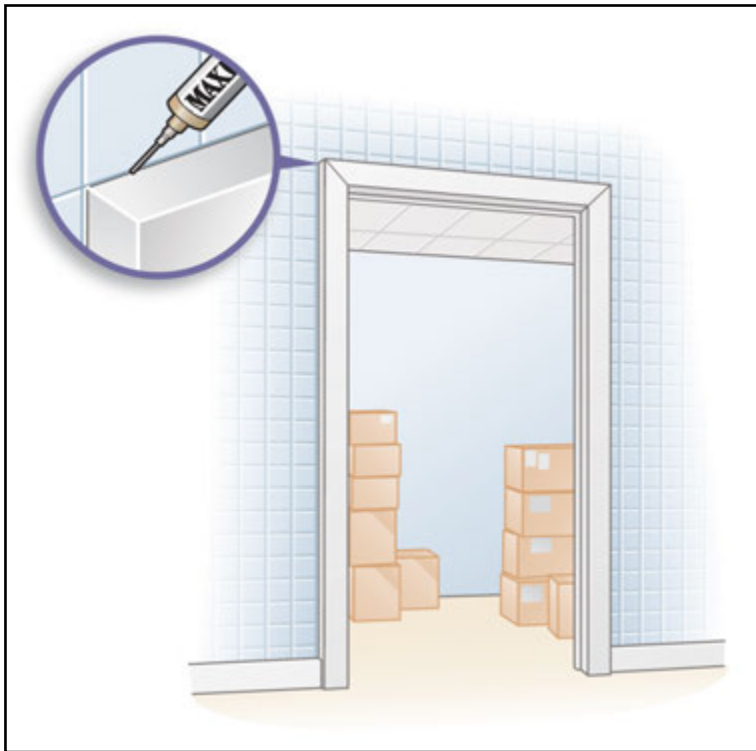


- Cockroaches are normally brought into an account through incoming goods. In food storage areas, place bait stations under storage racks and to the underside of shelves.

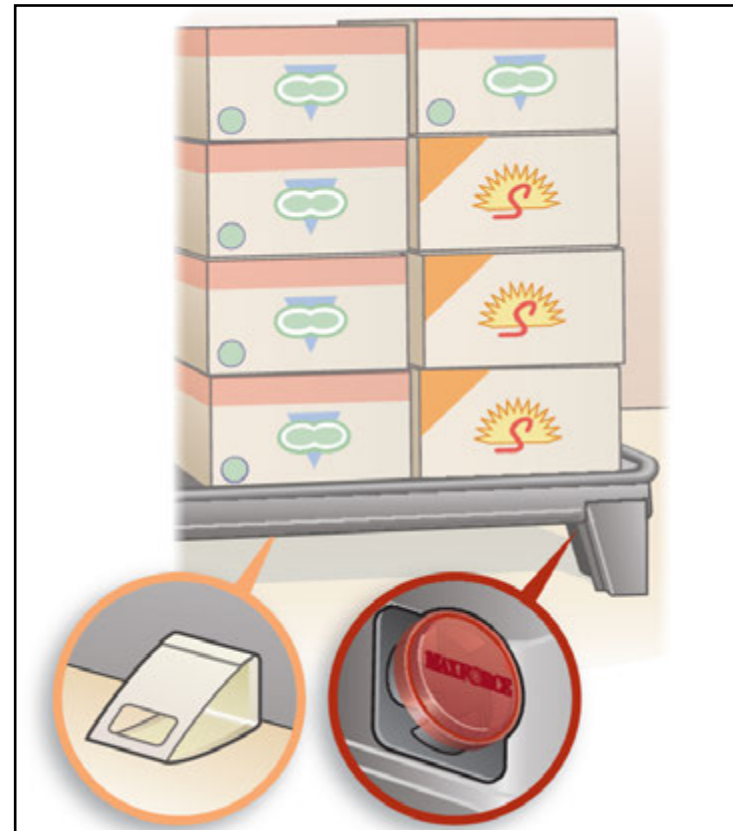


# Commercial Treatment Guide

## Storage Areas



Doorways



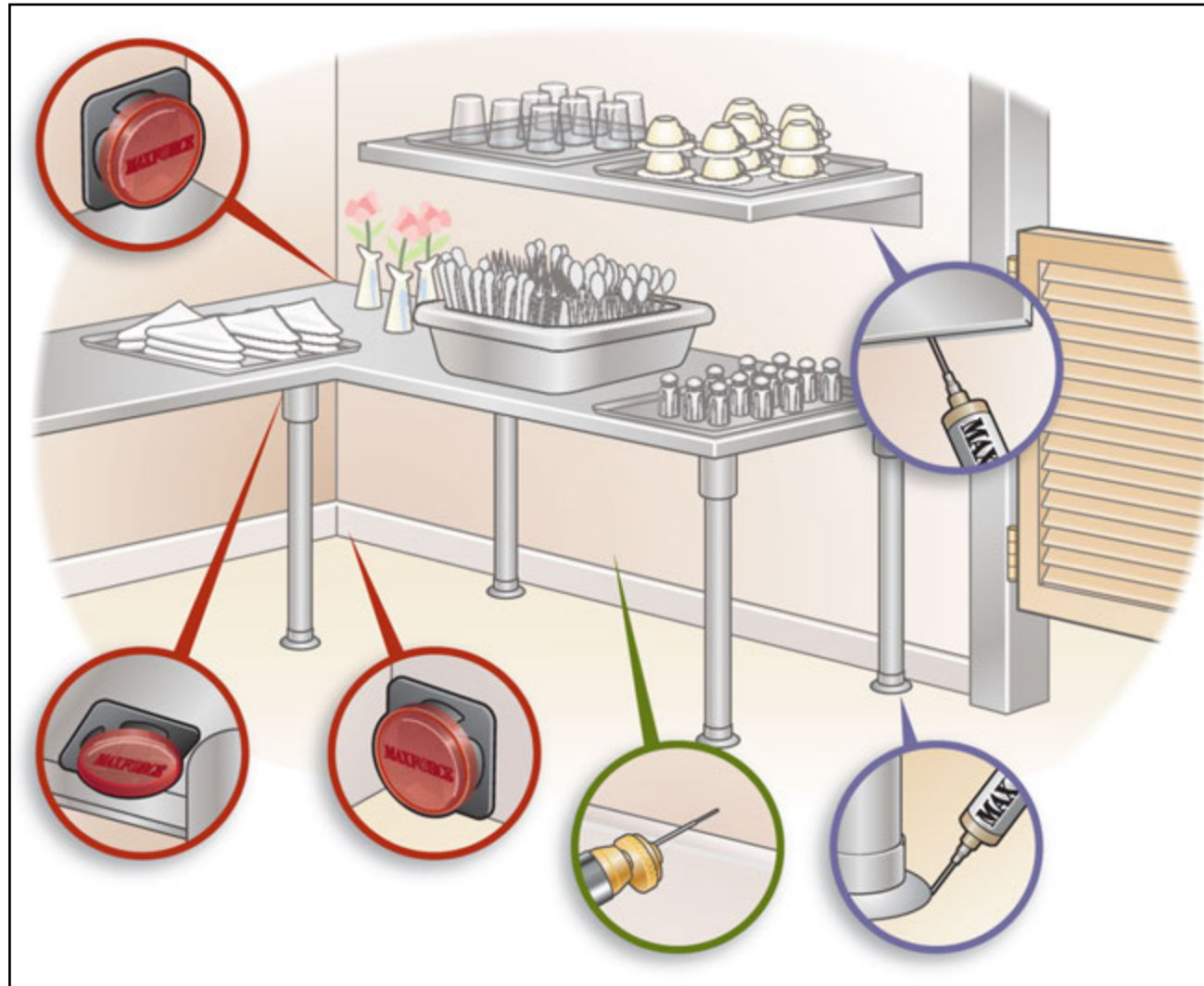
Stationary Pallets





# Commercial Treatment Guide

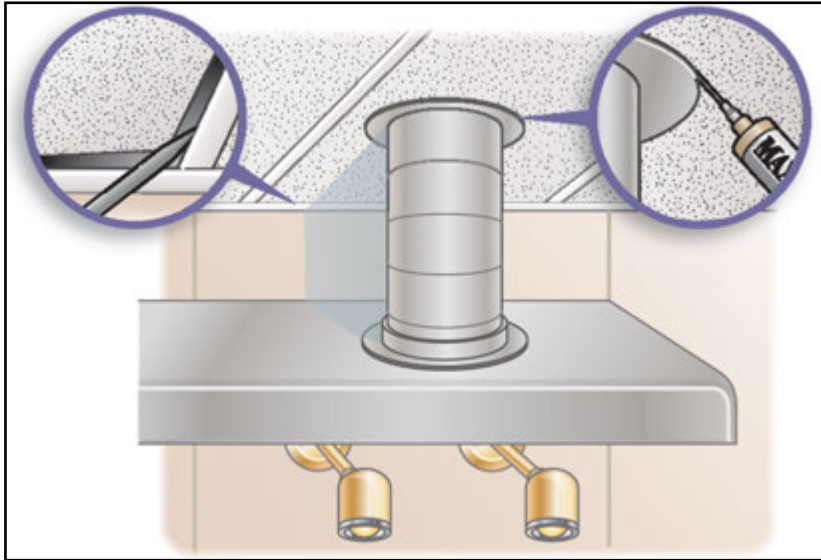
## Table Items Area



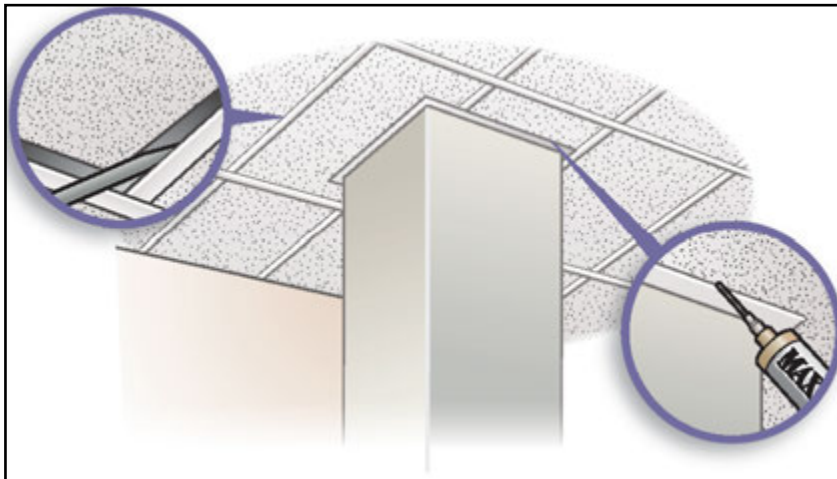


# Commercial Treatment Guide

## Ceiling Fixtures



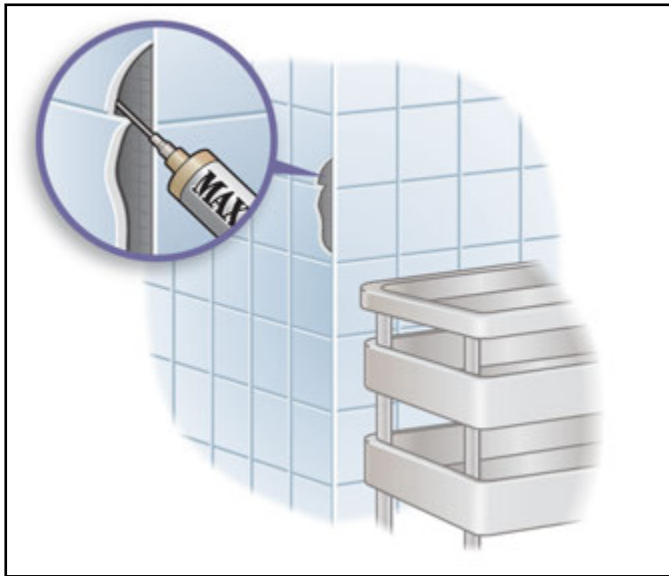
- Tilt drop ceiling and apply dust in a very thin layer; thick piles or clumps will repel cockroaches.



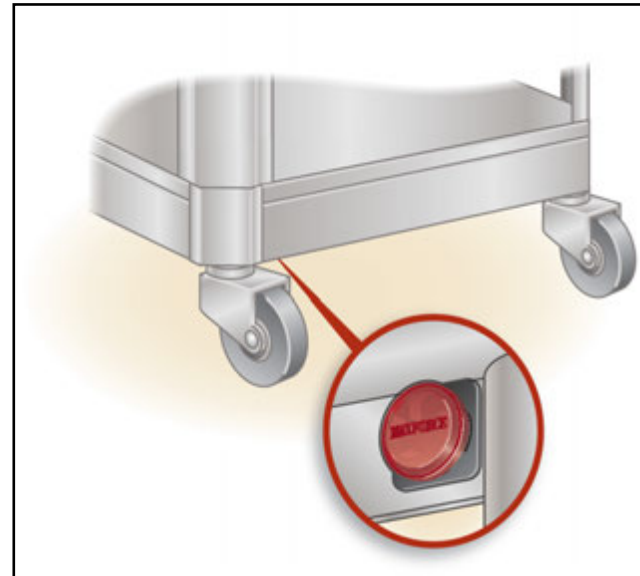


# Commercial Treatment Guide

## Miscellaneous Areas



Cracked Tile

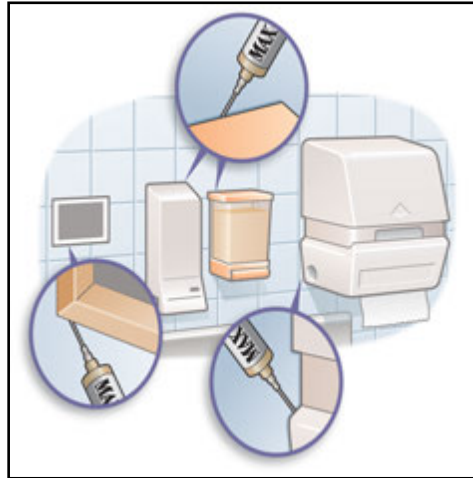


Rolling Carts

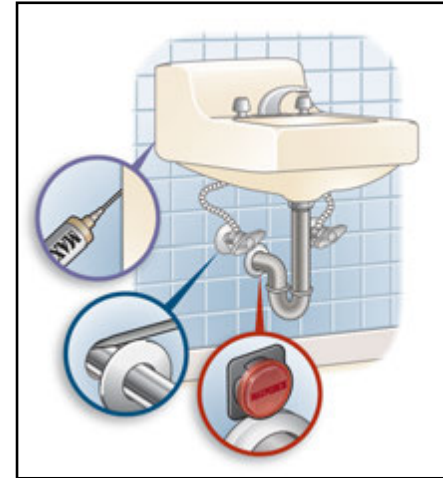


# Commercial Treatment Guide

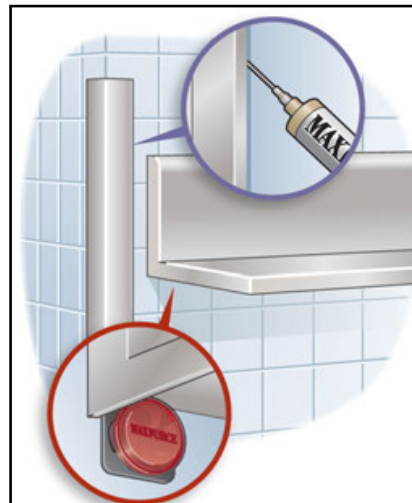
## Miscellaneous Areas



Wall Fixtures



Free-Standing Sink



Steel Corners

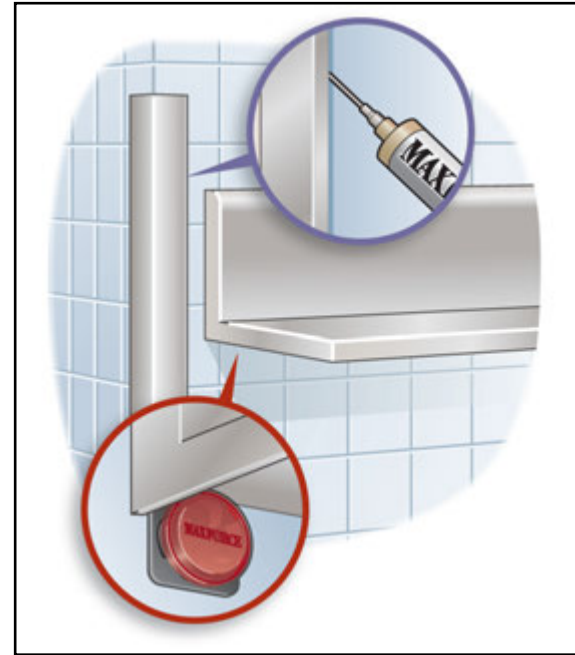


# Commercial Treatment Guide

## Miscellaneous Areas



Bulletin Boards



Steel Corners



## Cockroach Treatment Tips

### Baiting Tips

- Maxforce gels provide faster control than stations
- Use Maxforce stations to sustain long-term 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

## Granular Tips

- Use granules near porches, driveways, flower gardens and sidewalks
- Use granules around air conditioning units, garbage receptacles, trees and wood piles





# 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.



# Backed by Bayer

## Our Promise

Our commitment to you can be reflected in three words no other manufacturer can use:  
Backed by Bayer.™

- [\*] The Industry's Best Products
- [\*] Unprecedented Training & Support
- [\*] Superior Customer Service



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