REFUSE CONTAINERS & CONNECTED/ADJACENT GARBAGE CHUTES

AND NISUS PRODUCTS

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REFUSE CONTAINERS & CONNECTED/ ADJACENT GARBAGE CHUTES

Control of Cockroaches and Other Insect Pests in Commercial and Residential High-Rises

(ALWAYS READ, UNDERSTAND AND FOLLOW LABEL COMPLETELY BEFORE ANY APPLICATIONS.)

TOOLS

Adequate supply of preferred product(s):

Foam Fresh®

Nibor-D®

ProFoam® Platinum

Nisus DSV™

PPE

Safety glasses

Gloves

INSPECTION TOOLS AS NEEDED

Professional flashlight

Inspection mirror

APPLICATION EQUIPMENT AS APPROPRIATE FOR JOB

Measuring cup

Any sprayer with foaming capabilities

Insecticide duster

Knee pads

OTHER

Possess any required government credentials to perform work

Notebook or electronic tablet for notes and service record documentation

BACKGROUND

Refuse containers and connected/adjacent garbage chutes of commercial and residential buildings provide ideal breeding grounds for cockroaches and other pests. This protocol addresses these sites and describes proposed proper control methods using Nisus products.

Refuse chutes are typically tubes constructed of sheet metal. The square or rectangle chutes typically found in old buildings are much more likely to collect residue in corners. Round chutes (Figure 1) will still collect spilled items on walls but the main chute will not have corners to accumulate a buildup of debris. The constant use of round tubes will keep food materials moving down. While some claim that these are self-cleaning, that is not true from a pest management point of view, as even small amounts of food debris can support a large population of insect pests. In addition, the engineering and design characteristics of chute entry points contain many areas that collect refuse and residual food for insect pests. These areas are nearly impossible to clean on a regular basis due to inaccessibility as well as the many parts that can lead to harborage areas. Adequate food, water from refuse and harborage all combine to make chutes ideal locations for rapid population increase of cockroaches and other insect pests. In fact, it is common to find multiple species of cockroaches in garbage chutes and dumpsters; the most common cockroaches are American and German.

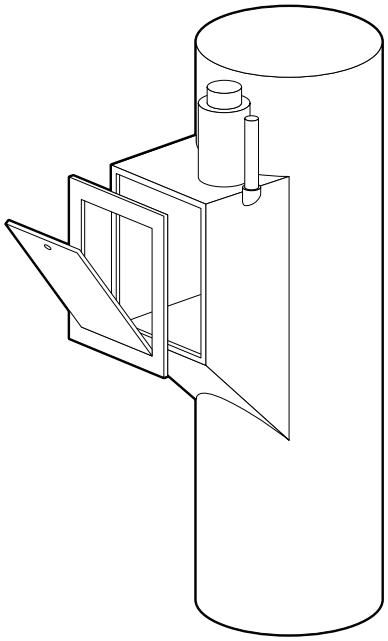

Figure 1. This round chute shows a typical square door system, which has many areas where food can collect and provide more than adequate food sources to sustain cockroaches and other insect pests. The round design works better than old Square chutes, but is still not totally self-cleaning.

NIBOR-D SERVICE PROTOCOL

Inspection: Always inspect areas to be treated to determine sources of food for pests, "hot spots" and best areas to treat. Be careful of electrical supply lines and do not treat near any electrical panels, switches or power supplies.

Garbage chutes leading to refuse containers should be considered part of the microenvironment and need to be handled in a similar manner. The majority of cockroach populations and other insect pests will harbor in and around garbage bins and associated garbage chutes.

Refuse containers and connected/adjacent garbage chutes may be treated with a sprayer using a liquid foam with the suggested solution (see Formulation Table). Nibor-D may also be applied as a dust in certain areas (see "Dusting Treatment") or as a liquid or liquid foamed into cracks and crevices and voids where food and cockroaches can be found. Treating these areas will allow the pests to ingest food sources treated with Nibor-D, leading to control.

Equipment: Sprayer with foam capabilities

Products:

- Nibor-D in solution to be used per label
  - Borate-based insecticide powder
- ProFoam Platinum
  - Premium quality foaming agent
- Nisus DSV
  - Disinfectant-sanitizer-virucide; also kills small flies

FORMULATION TABLE		
Initial Treatment Formulation/ 1 gallon Liquid	**Tip**	**Foam Recommendation**
• 15% Nibor-D (three 8 oz. packets) • 2-1/2 oz. ProFoam Platinum • 2 oz. DSV	8004	Wet Foam: Expansion Ratio - 10/1
Secondary Treatment Formulation/ 1 gallon Liquid	**Tip**	**Foam Recommendation**
• 10% Nibor-D (two 8 oz. packets) • 2-1/2 oz. ProFoam Platinum • 2 oz. DSV	8004	Wet Foam: Expansion Ratio - 10/1
Maintenance Treatment Formulation/ 1 gallon Liquid	**Tip**	**Foam Recommendation**
• 5% Nibor-D (one 8 oz. packet) • 2-1/2 oz. ProFoam Platinum • 2 oz. DSV	8004	Wet Foam: Expansion Ratio - 10/1 or Liquid Spray

NOTE: When using sprayers to apply Nibor-D foam solutions, you will notice the larger 8004 tip will exhibit a higher flow rate. The proper amount of ProFoam Platinum recommended for use is between ~2.5 and 7.0 oz. to achieve the preferred wet foam consistency. Adjust amount of ProFoam as needed. An insect growth regulator (IGR) may be added to the liquid prior to foaming provided that the site is on the IGR label.

Initial Treatment: Refuse containers and connected/ adjacent garbage chutes should initially be treated thoroughly with a 15% Nibor-D liquid or liquid foamed in conjunction with an appropriate IGR and the correct amount of ProFoam Platinum to achieve a proper wet foam expansion ratio of ~10:1. Adjacent garbage chute walls should be treated in a similar manner.

Follow-Up Treatment(s): Use a 10% Nibor-D liquid or liquid foamed in conjunction with an appropriate IGR and the correct amount of ProFoam Platinum to achieve a proper wet foam consistency. Use this formulation mix until pest suppression is significantly evident. Weekly treatments may be necessary to achieve results.

Maintenance Treatment(s): Use a 5% Nibor-D liquid or liquid foamed in conjunction with an appropriate IGR if needed. If there are large volumes of spilled waste recurring, treatment intervals might have to be on a biweekly or monthly basis.

Dusting Treatment:
Refuse containers such as dumpsters in refuse rooms at the bottom of chutes may be dusted with Nibor-D throughout at a rate of 1.5 lbs. per 250 sq. feet. Use in conjunction with other insecticides including IGRs is optional. Always inspect under refuse containers to find sources of food and infestation.

Inspection: Conduct inspections on each visit prior to any treatment to evaluate the effectiveness of control measures.

FOAM FRESH SERVICE PROTOCOL

For a quick and convenient application, use Foam Fresh. Foam Fresh is a bio-remedial and odor eliminating foaming aerosol; it is *not* a pesticide. Through the use of beneficial microbes, Foam Fresh is designed to break down and prevent the buildup of organic matter that is the cause of bio-sanitation issues. It encapsulates odor molecules and actually consumes organic matter.

Treat at the end of the day if possible to allow sufficient time for establishment of microbe colonies. Also, do not use antimicrobial cleaners in areas where bio-sanitation applications like Foam Fresh have been conducted. To use in garbage chutes and receptacles, first remove any excessive filth, dirt and grime. Apply a liberal coating of Foam Fresh to the edges and undersides of container lids, as well as to the inside of chute openings, making sure to coat seams and corners as well as surfaces, and down the sides of garbage chutes as far as possible. Spray bottoms of refuse containers immediately after they are emptied. These applications help break down residual organic residue.

Foam Fresh works best when the treatment is conducted at least quarterly. Foam Fresh can also be sold to customers to use as needed in between scheduled maintenance visits.

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