

## How to Clean Air-Cooled Equipment and Filters

Reduce service calls and increase the efficiency of air-cooled condensers, permanent air filters, evaporator coils, window units and other finned cooling/heating coils or equipment by selecting one of Nu-Calgon's quality coil cleaners. Nu-Calgon's line-up of cleaners are based on nearly 60 years of experience and technical expertise in coil cleaning - there is a product for any challenge.

Greasy dirt and dust in the air can collect on air conditioning and refrigeration coils. If these finned heating or cooling coils are left uncleaned, heat transfer will be reduced. In turn, compressors will have to work much harder, operating costs go up and valuable equipment could break down when it is needed most. For example, for every 2°F rise in condensing temperature that is caused by dirty coils, efficiency is reduced by 1% while power consumption is increased by 1%... a staggering price to pay for dirty coils.

In addition, clogged and dirty permanent filters restrict air flow and do not filter air, allowing dirt to contaminate rooms and stain walls around air ducts. Lastly, dirty electronic air cleaners, fouled with pollen, nicotine and other pollutants prevent them from adequately cleaning the air.

Regular cleaning with Nu-Calgon products protects equipment and helps maintain peak operating efficiency.



CONDENSER COIL CLEANERS



EVAPORATOR COIL CLEANERS



SPECIALTY AEROSOLS



SPECIALTY CLEANERS

## A Look at the Products

### Nu-Brite®

The #1 coil cleaner in the HVACR market. It foams and brightens, and it is an equally effective yet safer alternative to acids. It produces a high volume of foam and cleans more effectively than acids. Consult 3-31.

1 gallon bottle	4291-08
2.5 gallon bottle	4291-05
55 gallon drum	4291-01
18 oz. aerosol	4291-18

### Foam-Brite®

Described as the ultimate foaming cleaner, Foam-Brite is the first in a new generation of condenser coil cleaners. It provides for excellent cleaning and brightening and at the same time provides for tremendous foaming to push dirt and grime out of the coil. Consult 3-32.

1 gallon bottle	4178-08
2.5 gallon bottle	4178-05
55 gallon drum	4178-01

### Alka-Brite® Plus

A non-acid, alkaline-based product for brightening and cleaning air cooled condensers. It quickly penetrates and removes greasy soils and oxidation. Its foaming helps lift greasy soils out of the coil. Consult 3-35.

1 gallon bottle	4120-08
55 gallon drum	4120-01

### Cal-Brite®

A low-pH product for cleaning evaporator coils, air-cooled condensers and other finned cooling and heating coils. It's user-friendly, based upon glycolic acid, and safe for use indoors as well as outdoors. Consult 3-34.

1 gallon bottle	4133-08
55 gallon drum	4133-01

### Tri-Pow'r® HD

An outstanding general purpose coil cleaner that provides detergency, degreasing and deodorizing capabilities. Its positive emulsion technology is very effective versus grease and grime. It is non-acid and non-toxic. Consult 3-83.

1 gallon bottle	4371-88
55 gallon drum	4371-81

### CalClean®

A heavy-duty liquid alkaline detergent for cleaning evaporator coils, air cooled condenser coils, metal filters, fan blades and other surfaces soiled with greasy dust and dirt. Consult Bulletin 3-33.

20 oz. aerosol	4081-75
1 gallon bottle	4135-08
2.5 gallon pail	4135-06
55 gallon drum	4135-01

### Special HD CalClean®

The best cleaner available. Specifically formulated to remove tobacco tars from electronic air cleaners as well as the most stubborn deposits from air-cooled condensers and evaporator coils. Consult Bulletin 3-60.

**1 gallon bottle** 4143-08  
**2.5 gallon pail** 4143-06  
**55 gallon drum** 4143-01

### TriClean 2x™

The new way to clean a condenser coil. Simply connect to hose, clean, and rinse. Metal-safe, designed for rapid emulsion of soils from the coil. Restores efficiency and is ideal for painted fin and microchannel coils. Consult 3-85.

**1 quart spray bottle** 4372-24

### Nu-Solve™ NR

Ready-to-use, non-rinse condenser coil cleaner for situations with limited water availability for rinsing. Nu-Solve NR is also for other applications where it is desirable to have less diluted cleaning solution on a commercial roof or when a solvent based aerosol approach is not practical. Nu-Solve NR effectively emulsifies dirt and grime and provides a benefit of leaving a protective treatment on the aluminum for added corrosion protection, making the next cleaning easier.

**1 gallon bottle** 4295-08

### Cal-Green™

A plant-based, natural condenser cleaner that is powerful enough to remove dirt, grease, and grime but environmentally safe for use around people, plants, animals, and aquatic life. This non-foaming, non-toxic concentrate is perfect for cleaning residential or commercial systems and restores their efficiency while being environmentally responsible. Meets OEM specifications for microchannel coil cleaning. Consult 3-89.

**1 gallon bottle** 4190-08  
**55 gallon drum** 4190-01

### Evap-Green™

A no rinse product is perfect for numerous heating and air conditioning applications such as evaporator coils, roof top units, window units, metal filters, fan blades, and more. By using Evap-Green, a natural plant based formulation, the coil is being cleaned with the most environmentally friendly product available. It is also safe to be used around people, plants, animals, and aquatic life. Meets OEM specifications for microchannel coil cleaning. Consult 3-90.

**1 gallon bottle** 4191-08  
**55 gallon drum** 4191-01

### Evap Pow'r-C®

A revolutionary "no-rinse" product formulated specifically for indoor cleaning of evaporator coils. It is metal safe and therefore ideal for "no-rinse" applications. Evap Pow'r-C is the concentrate. Use ratio is 3:1. Consult Bulletin 3-42.

**1 gallon bottle** 4168-08  
**2.5 gallon pail** 4168-05  
**55 gallon drum** 4168-01

### Evap-Fresh® Disinfectant Coil Cleaner

A ready-to-use, "no rinse" cleaner and disinfectant for evaporator coils. Effectively cleans as well as kills mold and bacteria. This one-step disinfectant cleaner is perfect for air conditioners, commercial air handling units, HVAC cooling coils, refrigeration equipment and evaporator coils. EPA registered specifically for use on HVAC equipment. Consult 3-38.

**1 gallon bottle** 4166-08  
**18 oz. aerosol** 4166-75

### Green Clean®

A pleasantly scented, all-purpose cleaner designed for the rapid removal of grease and other heavy soils. It can be used right out of the bottle or diluted for milder jobs. Consult 3-40.

**1 quart spray bottle** 4186-24  
**1 gallon bottle** 4186-08  
**55 gallon drum** 4186-01

### Evap Foam® No Rinse

A high performance detergent, specifically formulated into a foaming, non-rinse product. Evap Foam is ideal for use on cooling or evaporator coils, and it may be sprayed either right side up or upside down. Consult 3-2.

**18 oz. aerosol** 4171-75

### Blackhawk®

Blackhawk is an expanding foam coil cleaner. Formulated to deeply penetrate the coil, it liquefies to quickly remove grease, grime, or oily soils from deep within the coil. Blackhawk's formulation is safe and problem-free for cleaning evaporator or condenser coils in an occupied building; produces no objectional fumes. It is particularly effective on coils on refrigerators, coolers, and freezers located in restaurants and other commercial establishments. NSF registered.

**18 oz. aerosol** 4127-75

### Nu-Blast®

A "no rinse required" condenser coil cleaner in a convenient aerosol package. Double action of high pressure blast and solvent cleaning restores design efficiency of condenser coils. Pleasant odor, non-flammable and non-conductive. Consult 3-97.

**18 oz. aerosol** 4290-75

### Cal-Blast®

A no rinse condenser cleaner that will powerfully separate undesirable materials from the surface, offering maximum cleaning of finned coils. It's a high performance aerosol with excellent solvency and blasting spray. Consult 3-6.

**20 oz. aerosol** 4132-20

## Coil Protection



**Cal-Shield quart** 4148-32  
**Cal-Shield gallon** 4148-08  
**Nu-Shield 18 oz. aerosol** 4294-75

**Cal-Shield®** - A product formulated with DuPont Teflon® surface protector. It utilizes the recognized ability of Teflon to shield and protect finned cooling and heating coils. Traditional cleaning of the coil with a coil cleaner removes most to all deposits, restoring lost capacity as well as operating efficiencies. Unfortunately, the problem will return and cleaning will again be required. Use of Cal-Shield will allow the coil to operate longer periods between cleanings. Once Cal-Shield is applied to the cleaned coil, it forms a protective shield of Teflon that helps the coil resist the depositing of dirt and grime since moisture "beads up" and runs off. This enables the coil to perform more efficiently for a longer period of time. If a coil is in an aggressive environment, such as salt air and food coolers, the Teflon will extend the coil's service life in this corrosive environment. Consult Bulletin 3-36 for more details.

**Nu-Shield®** - A specially formulated super-hydrophobic (water repelling) product in a convenient aerosol package for field service. The non-conductive formula has numerous applications in the management of water on non-food, non-potable water surfaces for the HVAC/R trade. Nu-Shield opportunities include provides added corrosion resistance to coils, coated steel components such as filter-driers, flow control components, low voltage circuit boards, and equipment coverings. Also, the self-cleaning properties of Nu-Shield slow grime formation on moisture laden components such as the barrel fan in mini-split evaporators. This product can be used in refrigeration applications to slow the development of ice formation on components because it has anti-icing properties since it reduces friction between the water droplet and the treated surface. Consult Bulletin 3-22 for more details.

## Select the Right Cleaner for the Cleaning Job



Products/Part Numbers	Nu-Brite®	Foam-Brite®	Alka-Brite® Plus	Cal-Brite®	Tri-Pow'r® HD	CalClean®	Special HD CalClean®	Tri-Clean 2x	Nu-Solve™ NR	Cal-Green™	Evap-Green™	Evap-Pow'r™-C	Evap-Fresh® No Rinse	Green Clean	Evap Foam® No Rinse	Blackhawk®	Nu-Blast®	Cal-Blast®
<b>EQUIPMENT USED ON</b>																		
Condenser Coils	•	•	•	•	•	•	•	•	•	•				•		•	•	•
Evaporator Coils				•	•	•	•				•	•	•	•	•	•		
Permanent Filters				•	•	•	•		•	•	•	•	•	•	•	•	•	•
Electronic Air Filters							•											
Small Condenser Coils	•	•	•	•	•	•	•	•	•	•				•		•	•	•
Small Evaporator Coils				•	•	•	•				•			•	•	•		
Fan Blades, Grilles, Etc.				•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Microchannel Coils					•	•	•	•	•	•	•	•	•	•	•	•	•	•
<b>FORMULATED TO REMOVE</b>																		
Greasy Dirt & Oil	•	•	•	•	•	•	•	•	•	•	•	•		•		•	•	•
Cooking Grease	•	•	•		•	•	•		•							•	•	•
Lint, Dust, Dirt & Grime	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tobacco Tars							•											
Oxide (Corrosion) Deposits	•	•	•	•														
Cottonwood/ Bugs	•	•	•	•			•											
<b>FEATURES &amp; BENEFITS</b>																		
Product Type	Alkaline Aerosol Liquid	Alkaline	Alkaline	Alkaline	Acidic	Alkaline	Alkaline Aerosol Liquid	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline	Alkaline Aerosol Liquid	Alkaline	Alkaline	Alkaline	Solvent
Foaming	•	•	•	•			•								•	•		
Brightening	•	•	•	•	•													
Degreasing	•	•	•	•	•	•	•	•	•	•				•		•	•	•
Disinfectant													•	•				
Non-Rinsing (Evaporators)					•	•	•				•	•	•	•	•	•		
Non-Rinsing (Condensers)								•									•	•
Biodegradable	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
USDA Authorized	•	•					•	•				•						
EPA Registered													•					
NSF Registered		•	•	•		•	•		•						•	•		

\* Dilution ratios for no rinse applications: Tri-Pow'r HD = 10:1, Special HD CalClean = 40:1, Liquid CalClean = 10:1 (Aerosol CalClean must be rinsed.)

## Select the Right Sprayer for the Cleaning Job

### Coil Gun®

A different approach to coil cleaning, a "hose-end" sprayer that features 5 different mix ratio settings designed for coil cleaners. Also incorporates a quick disconnect capability. Utilizes a 2 quart capacity bottle and includes a foam wand. **Coil Gun Probe (p/n: 4774-1)** available separately for cleaning using a 90 degree spray pattern on hard to reach locations.

**Part Number: 4774-0**

### No. 50P Poly Sprayer

The No. 50P Poly Sprayer is constructed of high density translucent polyethylene. The nozzle is adjustable and the flow rate is controlled by a thumb lever. It comes with a 7" polyethylene pump and has a half-gallon (3 pint) working capacity.

**Part Number: 4770-0**

### No. 100P Poly Sprayer

The Cal-Shield Poly Sprayer is constructed of high-density translucent polyethylene. It has a funnel top for easy addition of chemical as well as emptying and has a one gallon working capacity. It comes with a 10" polypropylene pump, brass handle and extension tube with adjustable nozzle, a wear-resistant hose and a pressure relief valve. It is highly recommended that this sprayer be dedicated to Cal-Shield applications.

**Part Number: 4770-2**

### No. 200P Water Pressurizing Sprayer

It is constructed of a high density translucent polyethylene. It has a funnel top for easy addition of chemical as well as emptying. It has a 2 gallon working capacity, and it comes equipped with a 14" brass wand, brass shut-off, adjustable brass nozzle and a "quick-connect" fitting for attaching water hose.

**Part Number: 4771-2**



### Multi-Purpose Hand Sprayer

Twenty-four fluid ounce, transparent bottle with positive action spray head. Ideal for small jobs, such as window units, water coolers, etc. Bottle is calibrated in ounces and milliliters. Also, calibrated for various use dilutions.

**Part Number: 4768-W3**

### No. 220CP Poly Sprayer

This sprayer is constructed of high density translucent polyethylene, incorporating a molded funnel top, a 2 gallon working capacity, reinforced 3 foot hose, Buna seals, and chemical-resistant wand. Utilizes a 10" polypropylene pump and an adjustable nozzle.

**Part Number: 4771-3**

### No. 300P Poly Sprayer

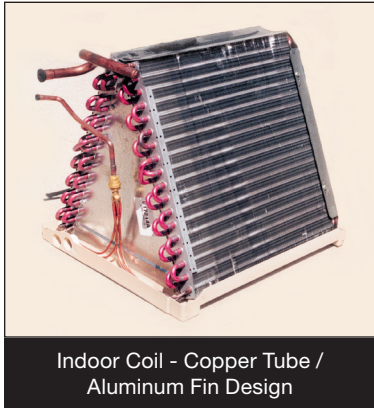
The No. 300P is constructed of high density translucent polyethylene. It has a funnel-top for easy addition of chemical as well as emptying, and it has a 3.5 gallon capacity (3 gallon working capacity). It comes with a 10" polypropylene pump, extension tube with adjustable nozzle and five feet of vinyl hose.

**Part Number: 4772-0**

## A Look at the Equipment



Outdoor Coil



Indoor Coil - Copper Tube /  
Aluminum Fin Design



Indoor Coil - Microchannel  
(All Aluminum) Construction

### Air Cooled Condenser (or Outdoor) Coils

The primary goal in cleaning air-cooled condensers is to emulsify the greasy dirt and grime so that it can be flushed away by rinsing. This restores designed heat transfer and air flow. A good alkaline cleaner like CalClean is a solid choice. The selection of Special HD CalClean would be recommended if the soil or grime is particularly stubborn.

If foam during cleaning along with brightened aluminum fins after cleaning are desired, select any one of the Nu-Calgon "Brite" products (Nu-Brite, Alka-Brite Plus, Foam-Brite or Cal-Brite). They will provide the cleaning of the CalClean products with the added features of foam and brightening. If hydrofluoric acid based products were previously used, select Nu-Brite, Alka-Brite Plus or Foam-Brite. They are formulated to out-foam, out-brighten and out-clean the HF-based products. For small condenser coils, or where rinsing is not possible, use Aerosol Nu-Blast or Cal-Blast.

**For all aluminum coils - microchannel or all aluminum tube/fin, consider OEM approved Cal-Green. However, Tri-Pow'r HD, TriClean 2x, CalClean, Special HD CalClean and Green Clean could be used on these coils.**

### Evaporator (or Indoor) Coils

The desired goal is the same as in cleaning air-cooled condensers; removal of greasy dirt and grime and designed capacities. If an acid based product is desired, where some brightening and foaming is wanted, use Cal-Brite followed by a thorough rinsing. If rinsing is not possible or not desirable, a product that combines "metal-safeness" without rinsing is suggested so long as suitable humidity-condensation is anticipated. Use Evap Pow'r-C or Evap-Green in this application. Or, select the convenient aerosol, Evap-Foam No Rinse or Evap-Fresh. CalClean, Tri Pow'r HD can be diluted 10:1 and can also be used for evaporators as a "no-rinse" option.

**For all aluminum coils - microchannel or all aluminum tube/fin, consider OEM approved Evap-Green. However, Evap Pow'r-C, CalClean, Evap-Fresh, and Tri-Pow'r HD could be safely used.**

### Electronic Air Filters

When electronic air filters become coated with tobacco tars, gummy dust particles and other stubborn deposits, they are difficult to clean. More importantly they lose their ability to adequately remove these types of objectionable items from the air. Typically, wherever electronic air filters are installed the quality of the air is paramount.

Most alkaline cleaners are not effective on tobacco tars and similar deposits. Special HD CalClean is specifically formulated to handle such a cleaning requirement. It contains a special blend of surface-active agents in an alkaline based cleaner, designed especially for cleaning electronic air filters. Special HD CalClean easily out performs ordinary detergents.

### General Cleaning Jobs

CalClean, Tri-Pow'r and Green Clean can be used effectively in many instances where there is a buildup of greasy dirt and grime or other heavy soils. These include permanent filters as well as other soiled, dirty or greasy surfaces. Follow product instructions.

