

# 346

## DESCALER & CHEMICAL CLEANER

### Description

Chesterton® 346 Descaler & Chemical Cleaner is a concentrated, acid-based liquid cleaner formulated with a metal protecting inhibitor. It is specifically designed for removing inorganic soils and coatings such as hard water deposits and rusts in a wide range of applications.

Simply by changing the dilution, the product can be used in areas ranging from the boiler room to the warehouse floor and on surfaces from concrete to metal.

At dilutions of 4 to 1, 346 Descaler & Chemical Cleaner can efficiently etch concrete surfaces to provide maximum adhesion of Chesterton® 411 Urethane Enamel or other paints. Similar dilutions will quickly clean rust or algae stained concrete buildings, pavements, patios, structures etc. The product quickly removes cement build-up from construction equipment, trucks, pouring forms, structural steel, and tools.

In closed systems, the 346 can be used to remove hard water build-up, lime, scale and corrosion. Used in steam boiler tubes, the product brings boilers back to top efficiency and saves expensive fuels. Just a small amount of deposit build-up (2,8 mm/.11 inch) in a boiler can cause as much as a 16% loss in fuel consumption when that boiler operates, according to the U.S. Bureau of Mines. That kind of fuel loss can be eliminated by using 346 Descaler & Chemical Cleaner.

Unlike other acid-based cleaners, the product will not aggressively attack base concrete or metal surfaces nor any adjacent metalwork. Rather, its high quality formulation contains a selective metal protecting acid inhibitor, so it protects these surfaces from attack. \*

\* Up to 20 times less attack than with hydrochloric acid alone.

### Typical Physical Properties

Form	Liquid
Color	Light Amber
Base	Hydrochloric Acid
pH	0.5
Solubility in water	Complete
Specific Gravity	1.15
Flash Point	None
Density	1,15 kg/l (9.5 lbs/gal)

### Composition

Chesterton 346 Descaler & Chemical Cleaner utilizes hydrochloric acid, one of the stronger acids amongst those commonly used in acid-based cleaners.

The acid quickly attacks alkaline substances such as lime, scale and oxides of metals, and etches concrete surfaces removing stains from the surface.

Because Chesterton 346 Descaler & Chemical Cleaner is so powerful, special inhibitors are added to prevent any possible attack on base metal surfaces. This means that 346 properly diluted, will remove oxides from copper and brass, and rust from ferrous metals but will not go further and attack the base metal.

Special wetting agents are added to dramatically lower the surface tension and allow the cleaner to rapidly penetrate and creep under surface deposits. Detergents keep particles suspended so they are easily washed away with water.

Because the product is concentrated, it can be diluted up to 4 to 1 and truly be used as the only acid based cleaner needed in most industrial plants.

### Applications

Etches concrete before priming and painting walls and floors; cleans stains, rust and algae from concrete buildings and walks; removes cement build-up from concrete forms, trucks, tools and other construction equipment; dissolves hard water build-up, lime, scale and corrosion in boilers, air conditioner and refrigeration units, condensers, and circulating systems; cleans scale from cloth finishing rollers and similar equipment in textile mills.

### Features

- Concentrated, fast acting
- Dilutable up to 4 to 1
- Proprietary inhibitor package prevents attack on metals\*
- Nonflammable
- Biodegradable
- Detergents and wetting agents enhance cleaning action
- NSF A3 - Registration number 133962

### Benefits

- Cost effective and versatile
- Lowers product inventory costs
- Saves labor, maintenance costs
- Stop losses due to chemically damaged metals
- Save power, greater fuel efficiency

## **Directions**

Mix Chesterton® 346 Descaler & Chemical Cleaner in earthenware or plastic containers. Always add cleaner slowly to the water. NOTE: Do NOT use on aluminum, painted enamel, stainless steel or decorative metals.

ETCHING: Mix 4 (water) to 1. Dip parts or apply to surface. Cleaner should begin to react in a few minutes. If there is no reaction as noted by the formation of bubbles, increase the concentration of the Cleaner. Rinse thoroughly with clean water. Apply corrosion protection to prevent corrosion from reoccurring on metal objects.

CLEANING MASONRY BUILDINGS: Mix 4 (water) to 1. Apply to structure with brush. Apply liberally and scrub with a stiff brush. Rinse. Avoid excessive exposure to metal trim windows and doors - rinse immediately to avoid attack.

CONDENSER SYSTEMS: If the system can be shut-down, shovel and hose-out dirt and scale. Where system cannot be shut-down, clean during operation. Use

2 1/2 gallons (9,5 liters) of Cleaner for each 100 gallons (378,5 liters) of water. Add Cleaner to water to recirculate through system. Let system run 2 hours. Check pH. If pH is above 1, add more Cleaner to reach pH of 1. Run another 2 hours. Repeat if necessary. Drain and flush twice with clean water or bleed-off change water until pH goes to normal.

REMOVING CEMENT: Soak or spray parts until clean. Rinse with water. For heavy deposits, use Cleaner full strength. For lighter deposits, dilute Cleaner with 1 part of water. To remove rust from cement, dilute with 4 parts of water.

DESCALING BOILERS: Mechanically clean any solidly blocked water tubes before using Cleaner. Raise water level to cover tubes. Add cleaner equal to 1/5th water capacity of system. Heat water to NOT OVER 160°F (70°C). Maintain mixture in system for 2 hours. Drain system and flush 3 times with clean water. Repeat if needed.

## **Safety**

Before using this product, please review the Material Safety Data Sheet (MSDS) or appropriate safety sheet for your area.

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