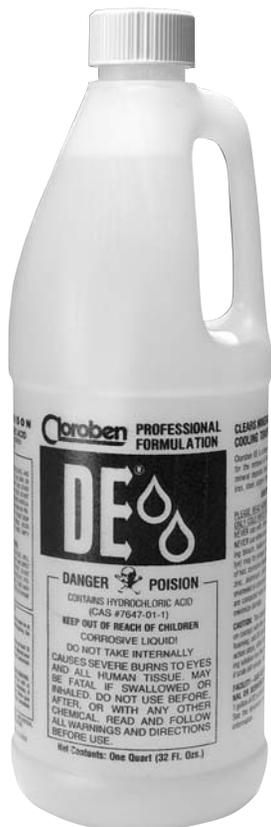




DE[®]

Drain Opener



**FOR PROFESSIONAL USE ONLY
NOT FOR SALE TO OR USE BY CONSUMERS**

DESCRIPTION

A professional strength concentrated hydrochloric acid. Formulated to remove urinary salts, rust, scale, concrete, plaster, lime and hard mineral deposits from plumbing, heating and cooling equipment, supply side and drainage piping and sprinkler systems. Can be used in new or old systems to remove concrete, grout or plaster obstructions from fixtures and lines. Use in a preventive maintenance program to minimize costly equipment breakdown due to scale or mineral build-up. Corrosion inhibitors help protect plumbing and equipment when used as directed.

SIZES AND PACKING

STOCK NO.	SIZE	PACKING	WEIGHT/CASE
192001	1 qt.	12	32 lbs.
192003	1 gal.	4	41 lbs.

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Spec Sheet #S00204

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APPROVALS AND LISTINGS

Not applicable.

SPECIFIC USES

Use **Cloroben DE** to disintegrate deposits of carbonates, sulfates, phosphates, oxides, urinary salts, plaster and other inorganic materials.

SPECIFIC APPLICATIONS*

Cloroben DE works on mineral deposits in heating, cooling, drainage and potable water systems.

PHYSICAL PROPERTIES

Boiling Point:	182°F
Melting Point:	Liquid to -63°F
Solubility in Water:	Complete
Odor:	Sharp, pungent, suffocating odor
Appearance and color:	Yellow Liquid

WARNINGS OR CAUTIONS

- Do NOT use or mix **Cloroben DE** with any other chemicals especially before, during or after products containing chlorine bleach, caustic or lye.
- Read all cautions and directions carefully before using this product.
- Use only in a ventilated area and avoid breathing fumes.
- Protect skin and eyes from liquid or vapor.
- Use goggles, face shield and acid resistant rubber gloves to prevent burns.
- Generates profuse foaming when removing lime or scale. Add slowly to minimize foam and fuming.
- Cloroben DE** should not be used to remove organic stoppages; to clean out septic tanks or grease traps; to clear root blockages.
- Cloroben DE** is **FOR PROFESSIONAL USE ONLY**. Not for sale to or use by non-professionals.
- Store in a cool, dry, well ventilated area.
- Do NOT store near foodstuffs.
- Store away from other chemicals and away from copper or chrome plated objects.
- Keep container closed and tightly capped.
- Use original container only-do not transfer. When container is completely empty, rinse carefully with cold water before discarding to prevent accidental burns.
- Do NOT use on aluminum or magnesium. These metals, as well as tin, nickel, zinc, chrome, galvanized, and enameled surfaces, nylon, concrete, marble and terrazzo are attacked by this product. In case of contact wipe clean and flush with cold water.
- Prevent spillage onto skin, clothing, floors, lawns, or any other surfaces attacked by acid.
- The dissolving action of **DE** may open up holes which had been plugged with rust and scale, particularly on old equipment. If this occurs, leakage should be immediately diluted with cold water and flushed away or mopped up while observing all necessary personal precautions. After spent solution of **DE** has been discharged into drains or sewer lines, these lines should be flushed with plenty of cold water to further dilute the product.
- Also safe for use in plastic and rubber plumbing. Pumps used to circulate **DE** through a system must be acid resistant. **DE** will damage nylon components occasionally used in centrifugal pumps.

DIRECTIONS FOR USE

Wear goggles or face shield and acid resistant gloves. Hold product at arm's length. Use only COLD water when diluting **DE**. The sizzling action of **DE** may often be used as a guide to determine when the line is clear or when the solution is spent. The sizzling action occurs with carbonate deposits. It does not occur when deposits consist of sulfate, phosphate, and other insoluble salts. For all applications, test pH as appropriate.

GAS HOT WATER HEATERS: 1) Turn off heat source. 2) Drain all hot water and run until water is cold. 3) Shut off water supply to heater. 4) Break unions of inlet and outlet water lines and drain tank. 5) For a 30-gallon tank, add 4 gallons of cold water then 1 gallon of **DE**. Allow solution to work 1 to 2 hours. 6) Flush out **DE** solution to a drain, not to the floor. 7) Keep draincock open, connect up cold water line and flush thoroughly. 8) Close draincock, fill tank with cold water then drain. Repeat twice more. 9) Reconnect hot water side, fill tank and turn on heat source.

HOT WATER COILS: 1) Close the cold water feed valve to the tank or coil. 2) Break the nearest union on the cold water feed line to the unit. 3) Connect a standpipe into the cold water feed line to unit. Inlet must be at least 6" higher than hot

water outlet line. 4) Break nearest union on hot water outlet line. 5) Make a solution of 1-quart **DE** and 2 parts water. 6) After putting a suitable container under hot water outlet, add solution to standpipe until solution runs out of hot water outlet. Hot water outlet should be at least 1" higher than coils. 7) Leave solution in unit until foaming stops. Unit is clean if adding more **DE** solution does not produce more foaming. 8) Thoroughly back flush coil to remove residue and remaining acid solution for at least 5 minutes after all foam or residue is removed.

COOLING TOWERS, EVAPORATIVE CONDENSERS and HEAT EXCHANGERS: 1) Drain sump, flush out or remove all loose sludge and dirt to reduce **Cloroben DE** consumption. 2) Close bleed line and refill sump with clean water and start circulating pump. 3) Add 1 gallon **DE** every 5 minutes up to 1 gallon for each 15 gallons of system capacity. 4) Circulate solution through equipment. Check pH every 10 minutes with a meter or test paper. Add **DE** as necessary to maintain pH between 4 and 6 or lower for faster cleaning. Do not add more than 2 additional gallons of **DE** per 15 gallons of system capacity without draining and flushing. 5) After checking with test kit, cleaning is complete when little or no

increase in pH occurs between measurements. 6) Drain, thoroughly flush twice and recheck pH before returning to service.

UNIT HEATERS: Fill steam/water coils with a solution of 2 parts water and 1 part **DE**. If a recirculating unit is used, use 5 parts water to 1 part **DE**. Allow solution to work until foaming stops then flush.

BOILERS: Depending on scale build-up apply 10 to 15 parts of COLD water to 1 part **DE**. After at least 12 hours, flush boiler thoroughly.

TOILETS/URINALS: 1) Flush to remove any other cleaning chemicals which might be present. 2) Add 1 to 1½ pints **Cloroben DE** for urinals and tankless toilets, add 2 quarts for bowl flush tanks. 3) Cover urinals to minimize fumes. Allow **DE** to work 15 to 30 minutes. 4) Brush and flush.

CONCRETE, GROUT OR PLASTER BLOCKAGES IN LINES OR DRAINS: Remove as much standing water as possible. Add **DE** full strength. When sizzling stops or solution is spent, check to see if blockage is cleared. If blockage is cleared, flush thoroughly with COLD water. Repeat treatment if necessary.

MATERIAL SAFETY INFORMATION

FOR MORE INFORMATION ON THIS PRODUCT, REQUEST MATERIAL SAFETY DATA SHEET (MSDS) #204

For Delivery by Fax	Call 1-800-942-4636
Internet	See MSDS section of www.cloroben.com
Mail	Contact Cloroben at address below or any Cloroben representative

HMIS Hazard warning 3-0-1-H

INGREDIENTS

CAS#

Hydrochloric Acid

7647-01-0

* For special applications which may not be covered on this or other Cloroben literature, please contact Cloroben Technical Services Department by phone at 1-800-221-9330 or send a fax to 1-800-333-3456.



CLOROBEN PRODUCTS
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