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U.S. General Services Administration

# Removing Mildew Stains From Concrete

**Procedure code:**

371028S

**Source:**

Hstrc Concrete: Investigation & Rpr/Pre-Conf Training - 1989

**Division:**

Concrete

**Section:**

Concrete Cleaning

**Last Modified:**

02/21/2017

## PART 1---GENERAL

**PREFACE: The cleaning or removal of stains from concrete may involve the use of liquids, detergents or solvents which may run off on adjacent material, discolor the concrete or drive the stains deeper into porous concrete. Use the products and techniques described here only for the combinations of dirt/stain and concrete specified.**

### 1.01 SUMMARY

- A. This procedure includes guidance on removing mildew stains from concrete using chemical solvents.
- B. Safety Precautions:
  - 1. DO NOT save unused portions of stain-removal materials.
  - 2. DO NOT store any chemicals in unmarked containers.
  - 3. EXCELLENT VENTILATION MUST BE PROVIDED WHEREVER ANY SOLVENT IS USED. USE RESPIRATORS WITH SOLVENT FILTERS.
  - 4. No use of organic solvents indoors should be allowed without substantial air movement. Use only spark-proof fans near operations involving flammable liquids.
  - 5. Provide adequate clothing and protective gear where the chemicals are indicated to be dangerous.
  - 6. Have available antidote and accident treatment chemicals where noted.
- C. See "General Project Guidelines" for general project guidelines to be reviewed along with this procedure. These guidelines cover the following sections:
  - 1. Safety Precautions
  - 2. Historic Structures Precautions
  - 3. Submittals
  - 4. Quality Assurance
  - 5. Delivery, Storage and Handling

6. Project/Site Conditions
7. Sequencing and Scheduling
8. General Protection (Surface and Surrounding)

These guidelines should be reviewed prior to performing this procedure and should be followed, when applicable, along with recommendations from the Regional Historic Preservation Officer (RHPO).

## **PART 2---PRODUCTS**

### **2.01 MATERIALS**

NOTE: Chemical products are sometimes sold under a common name. This usually means that the substance is not as pure as the same chemical sold under its chemical name. The grade of purity of common name substances, however, is usually adequate for stain removal work, and these products should be purchased when available, as they tend to be less expensive. Common names are indicated below by an asterisk (\*).

#### **A. Sodium Hypochlorite (NaOCl):**

1. An unstable salt produced usually in aqueous solution and used as a bleaching and disinfecting agent.
2. Other chemical or common names include Bleaching solution\*; Household bleach\*; Laundry bleach\*; Solution of chlorinated soda\*.
3. Potential Hazards: CAUSTIC TO FLESH; DO NOT MIX WITH AMMONIA AS CHLORINE GAS WILL BE CREATED; FLAMMABLE IN CONTACT WITH DRY ORGANIC MATERIAL.
4. Available from chemical supply house, grocery store or supermarket, hardware store or janitorial supply distributor.

#### **B. Sodium Orthophosphate:**

1. Other chemical or common names include Tribasic sodium phosphate; Trisodium orthophosphate; Trisodium phosphate; TSP\*; Phosphate of soda\*.
2. Potential Hazards: CORROSIVE TO FLESH.
3. Available from chemical supply distributor, supermarket, grocery, or hardware store.

#### **C. Laundry detergent**

#### **D. Clean, potable water**

#### **E. Accessible source of water, soap and towels for washing and rinsing in case of emergencies associated with the use of chemicals**

### **2.02 EQUIPMENT**

#### **A. Stiff bristle brushes (non-metallic)**

## **PART 3---EXECUTION**

### **3.01 PREPARATION**

#### **A. Protection:**

1. Provide adequate wash solutions (i.e. water, soap and towels) before starting the job.
2. Whenever acid is used, the surface should be thoroughly rinsed with water as soon as its action has been adequate. Otherwise it will continue etching the concrete even though the stain is gone.

### **3.02 ERECTION, INSTALLATION, APPLICATION**

**NOTE: DO NOT TRY MORE THAN ONE TREATMENT ON A GIVEN AREA UNLESS THE CHEMICALS USED FROM PRIOR**

**TREATMENT HAVE BEEN WASHED AWAY.**

- A. Mix together 1 ounce by weight of powdered laundry detergent, 1 ounce by weight of sodium orthophosphate, 1 quart of commercial sodium hypochlorite solution (which contains about 5% sodium hypochlorite) and 3 quarts of water.
- B. Brush apply the solution to the stained area, and allow to sit for a few days.
- C. Thoroughly rinse the surface with clean, clear water while scrubbing with a stiff bristle brush.
- D. CAUTION: SODIUM HYPOCHLORITE SOLUTION BLEACHES COLOR CLOTHING AND MAY CORRODE METALS.

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Last Reviewed: 2018-10-25