

# APPLICATION GUIDE Version 4.0

# PAVERPREP®

**PAVE CHEM®**  
SEALERS, CLEANERS and ADHESIVES

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*PAVERPREP* is an inorganic acid blended with wetting agents, detergents and corrosion inhibitors, designed specifically for removing efflorescence from concrete and clay pavers without worry of surface or color damage when applied properly. It was developed “in-the-field” by PAVE TECH to provide the best cleaning results. *PAVERPREP* should be used before pavers are to be sealed for the first time even if efflorescence is not readily apparent. In addition to removing efflorescence, it will also thoroughly clean the pavers providing a better surface for bonding and penetration of sealers.

### **PAVERPREP Instructions**

#### **CAUTION!**

Before using *PAVERPREP*, be sure to read this entire application guide and take proper precautions when handling and applying. Avoid contact with eyes, skin and clothing. **Always wear protective eye glasses, rubber boots, gloves and coat when using.** Make sure to check tightness of lids before transport or handling. Do not allow *PAVERPREP* to be stored or come into contact with metals or strong oxidizers. Keep out of reach of children. Thoroughly rinse empty containers with water and dispose of according to federal, state and local regulations. PAVE CHEM’s strong acids are colored for identification purposes in the event of a missing label. *PAVERPREP* is blue; *PAVERDE-STAINER* is red.

As with all cleaners containing acids, a test for surface and color reaction should be conducted in an inconspicuous place before using.

#### **Preparation:**

1. Inspect the area to be cleaned. Repair any settled areas and replace damaged pavers.
2. Trim back any grass around the pavement, trim or tie back any plantings close to the pavement and clean out any weeds in the joints. Also make sure that pavement is free of any major dirt or debris, especially in the joints.
3. Spot clean oil, grease and other stains with *PAVERDETERGENT*. Spot clean rust, fertilizer and chemical stains with *PAVERDE-STAINER*. Separate Application Guides for these chemicals are available through your dealer or from PAVE TECH. For a downloadable version, visit [www.pavetech.com](http://www.pavetech.com).

#### **Coverage:**

*PAVERPREP* is a concentrate and **MUST** be diluted with water before use. Coverage of *PAVERPREP*, when using a low pressure sprayer, is approximately 130 sq ft per **DILUTED** gallon. Recommended starting dilution is 6 parts water to 1 part *PAVERPREP* (dilution ratio of water to *PAVERPREP* may need to be adjusted up or down). If using a dilution ratio of 6:1, 1 gallon of concentrated *PAVERPREP* will produce 7 diluted gallons, enough to cover approximately 900 sq ft. The approximate coverage of 130 sq ft per **diluted** gallon remains the same regardless of the dilution ratio.

[pavetech.com](http://pavetech.com)

### Dilution Ratio Adjustment:

1. The *PAVERPREP* diluted solution should only be strong enough to work properly. Adjustments to the dilution ratio, either up or down, may be necessary. The factors which will affect how strong or weak the *PAVERPREP* needs to be, include the hardness of the water mixed with *PAVERPREP*, the density/hardness of the paver and the severity of efflorescence. After following and completing the Preparation instructions, follow Application instructions Step 1 & 2 for the test area. On every job, test the diluted solution in a small area first to confirm effectiveness before cleaning the entire project.
2. Mix a small batch at the dilution of 6:1 and pour into the tank sprayer, making sure to **pre-wet the test area**, and make a couple of even, overlapping passes. The diluted *PAVERPREP* solution should foam evenly on top of the pavers. If the *PaverPREP* is diluted properly, there should be streaks of light-brown or grayish scum seen floating on top of the foam less than 1 minute after application. When this occurs, wait roughly 5 minutes before cleaning off the area with water. Allow the test area to dry; confirming the efflorescence has been removed and that the pavers have not been overly etched. If everything is satisfactory, start at Application Step 1 and clean the entire pavement. Otherwise, proceed with Dilution Ratio Adjustment Step 3.
3. If the foaming starts to subside before any scum surfaces, then the solution is not strong enough. Clean off the test area with water and move to a different area. Repeat the process again with a stronger dilution of 5 parts water to 1 part *PAVERPREP*. Do NOT conduct multiple dilution ratio tests on the same pavers.
4. If there is scum floating on top of all the foam, the solution is too strong and could overly etch the surface. Clean off the test area with water and move to a different area. Repeat the process again with a weaker dilution of 7 parts water to 1 part *PAVERPREP*.
5. Again, you only want the *PAVERPREP* solution strong enough to properly clean the pavers. If proper cleaning takes place with a dilution of 9:1, that is fine. If proper cleaning of the pavers takes place at a dilution of 3:1, that is fine too, but never dilute stronger than 3:1. If desired cleaning still has not taken place with a dilution of 3:1, clean off the area with water and stop. Contact PAVE TECH for recommendations **before** proceeding.

### Application:

1. Before, after and during the cleaning of pavers, always hose down with water any buildings, retaining walls, shrubs, grass and plantings, etc. close to the pavement. Do this in case of drifting of the acid spray in the wind or from accidental overspray. Make sure to completely saturate the ground around the pavers to be cleaned. This is done to ensure further dilution of the *PAVERPREP* in case of run off and during rinsing. This will reduce damage to vegetation from the acid.
2. While wearing protective equipment, mix water and *PAVERPREP* in a plastic container, such as a bucket, to the properly selected dilution ratio (no physical mixing required). Then carefully pour into the sprayer tank. The low pressure sprayer used must be approved for use with acids. This includes the tank, seals, wand and tip. Most **plastic** tanks and wands are fine.
3. Starting at the lowest elevation of the pavement, pre-wet the area to be cleaned (600 – 1,000 sq ft at a time). **Do not apply *PAVERPREP* to dry pavers**. Pre-wetting the pavers prevents the acid from soaking into the pavers and causing internal softening. Pre-wetting the pavers also helps to achieve an even burn of the acid.

4. Using a low pressure sprayer, start applying *PAVERPREP*. Make sure to cover the entire area. The *PAVERPREP* should foam completely over the entire sprayed surface.
5. Let the solution stand for 5 - 10 minutes, then dilute by spraying enough water to stop the chemical reaction. *PAVERPREP* is a fast acting cleaner that does NOT require scrubbing, and unlike some acids, will NOT over etch the paver surface when used as directed.
6. When spraying water over the pavement to dilute and stop the reaction, also rinse off buildings, retaining walls, shrubs, grass and plantings close to the pavement. Then move to the next pavement section (of 600 – 1,000 sq ft) and repeat. Continue this process until 3,000 sq ft has been treated and diluted, or until the entire pavement is done, whichever comes first. Then conduct a final rinse. When to conduct a final rinse will vary from project to project, depending on the size, grade and layout, especially on larger pavements and/or those that have greater grade changes in different areas. Try to work in sections, up to 3,000 sq ft, that will allow final rinses to be done without pushing run off over lower sections that have already received a final rinse. This may mean working in smaller sections.
7. Use of a high pressure water sprayer (3,000 – 4,000 psi pressure with 3 – 5 gal/min volume) is highly recommended for the final rinsing after cleaning. Watch for silt residue collecting in low spots of the pavement and in the joints of the pavers. If this silt is not completely rinsed off the surface, a grayish cast will appear. This grayish cast will be magnified after sealing. Also, make sure to keep the high pressure sprayer wand moving back and forth across the pavers. Do not concentrate the water in one area or in the joints. This will help minimize joint sand loss. Start the final rinse with the pressure sprayer at the highest elevation, working your way down the pavement. If possible, try to rinse off the pavement in a way that will wash off the surface in the shortest distance. For example, if cleaning a driveway that is 20 ft wide by 70 ft long, rinse the pavement off working side to side. If you work straight down the driveway, there will be greater silt accumulation on the surface and in the joints toward the end. This will make it harder to rinse, requiring more time spent pressure washing.
8. After the final rinse is done, the cleaning process is complete. If the pavers are to be sealed following the cleaning, block off the area and keep all traffic off until after sealing. Now is the time to re-sand joints if necessary (more than ½" of sand loss below the bottom of the chamfer). Once the pavement is completely dry use only clean, bagged sand. After sweeping off excess sand, use a leaf blower for final cleaning of the area. Application of a sealer requires the surface, and the joints, to be completely dry. Depending on temperature and humidity, this may take 24-48 hours.

**Clean-up:**

1. While still wearing protective equipment, make sure to thoroughly rinse out all empty *PAVERPREP* containers with water. Also, wash off the outside of both empty and partially used containers. This is done to prevent acid from coming into contact with anyone or anything later that is not protected.
2. Don't forget to clean your sprayer. To clean the inside of the hose and wand, fill the tank with a ½ gallon of clean water and shake the tank briefly to wash off any acid elsewhere inside the tank. Then pump the sprayer up and discharge the contents into a half empty bucket of water. After complete discharge, any remaining acid in the bucket should be fully diluted and no longer reactive. It is safe to pour the bucket down the storm drain. After this is done, remove the plunger from the tank and rinse out the inside of the tank and dump the water out.

Also, rinse off the outside of the tank, plunger, hose and the wand. Leave the plunger out of the tank and allow everything to dry (lay the tank on its side for faster drying). Once the inside of the tank is dry, put the plunger back in the tank to keep dirt out.

## WHAT IS EFFLORESCENCE?

PAVE TECH, INC. recommends waiting at least 3 months before cleaning and sealing a new installation. If efflorescence is severe upon installation of the pavers, they can be cleaned with *PAVERPREP* to improve the appearance, but the pavers should be cleaned again with *PAVERPREP* just before the first sealing even if no further efflorescence is apparent. The reason for waiting to clean and seal is efflorescence and secondary efflorescence.

Efflorescence is a natural byproduct of all curing concrete and occasionally appears in clay products. It is the white haze or “chalky” substance on top of the pavers. Commonly, efflorescence shows more on darker colored pavers, especially a charcoal color. Efflorescence is mainly a cosmetic issue; it does not affect the structural integrity of the paver. It is brought to the surface by the slow evaporation of water through the paver. As water enters the microscopic capillaries in the pavers, it reacts with the calcium oxide and forms calcium hydroxide. This is raised to the surface during a slow evaporation and forms the white haze. When the supply of calcium oxide is exhausted, efflorescence will stop. Over time, it will usually wear off the pavers naturally.

Because efflorescence will only surface during slow evaporation, the process will take longer in dry conditions. The process can be sped up by watering the pavement in the evening every 2 or 3 days, but this could also cause other problems from hard water or rust in the water.

Another concern is possible secondary efflorescence caused by the material under the pavers, including the bedding sand, base material and even the soil below the base material. Water can react with any calcium oxide in these materials and surface on top of the pavers. This will take longer to occur. If the pavers are sealed without removing the efflorescence first, it will still be visible after the sealer has dried. It will now be trapped by the sealer and can not be removed. *PAVERPREP* is only used before the first time pavers are sealed. It has little or no effect on the sealed pavers before future applications.

Separate Application Guides and MSDS Sheets are available for *PAVERGUARD*, *PAVERECOGUARD*, *SILOXAGUARD*, *PAVERDETERGENT* and *PAVERDE-STAINER*. Contact your dealer or PAVE TECH for a copy. They are also available for downloading at [www.pavetech.com](http://www.pavetech.com).

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