

## Product Data and Test Information

# PROTECTOSIL® CHEM-TRETE® 40 VOC

## Water Repellent

### PRODUCT DESCRIPTION

**Protectosil® CHEM-TRETE® 40 VOC** is a clear, penetrating, breathable water repellent for use on exterior above-grade concrete, brick masonry, concrete masonry units and some natural stones. This product penetrates the surface to chemically bond to the substrate, resulting in a permanent attachment of the water repellent molecule.

**Protectosil® CHEM-TRETE® 40 VOC** is not a coating and as a result will not discolor or change the surface appearance in any way. By reducing the amount of water entering the substrate, **Protectosil® CHEM-TRETE® 40 VOC** reduces the intrusion of waterborne contaminants such as salt and dirt, and reduces the deteriorating effects of these contaminants, such as rebar corrosion, spalling, scaling, efflorescence, leaching and staining.

### APPROPRIATE APPLICATIONS

For use on concrete, to protect the reinforcing steel from corrosion due to the effects of water, deicing salts and other waterborne chemicals. For use on brick masonry, to protect against the ingress of wind-driven rain. For use on concrete pavement for highways, parking decks and airport runways, to reduce scaling due to deicer chemicals. Reduces the effects of mildew, efflorescence and stains on vertical concrete and masonry buildings. Imparts water repellency to a substrate for an extended time.

### ADVANTAGES

**Protectosil® CHEM-TRETE® 40 VOC** is an isobutyltrialkoxysilane in an alcohol carrier. The silane is designed to penetrate deep into the substrate and impart a high level of water and chloride ion screening. This provides the substrate with long-lasting protection. Due to the purity of **Protectosil® CHEM-TRETE® 40 VOC**, it will not leave a residue on nonporous substrates such as glass windows, metal frames and painted surfaces.

**Protectosil® CHEM-TRETE® 40 VOC** meets the volatile organic content regulations in numerous states. It does not contain exempt solvents (such as 1,1,1 trichloroethane) that may be hazardous. For the proper VOC regulations in your specific location, contact your Protectosil® representative.

The **Protectosil® CHEM-TRETE® 40 VOC** product line has an unprecedented track record in protecting concrete,

masonry and natural stone structures from deterioration due to water and waterborne contaminants. Structures treated in the 1970s are still protected, and these results are documented by state, federal and private agencies. By incorporating **Protectosil® CHEM-TRETE® 40 VOC** into your integrated design, you can earn vital Leadership in Energy & Environmental Design (LEED) credits for both new and existing construction projects.

The main benefits of the product are:

- High resistance to wind-driven rain
- Excellent resistance to chloride ion ingress
- 100% Moisture vapor transmission
- Reduced efflorescence
- Breathable system
- Deep penetration into substrate
- No change in surface appearance
- No masking of windows necessary
- High resistance to alkali attack
- Long service life
- Keeps substrates cleaner

### LIMITATIONS

Not intended for below-grade waterproofing. Should not be applied if the surface temperature is below 20°F (-7°C) or above 100°F (40°C), if rain is expected within 2 hours following application, or if high winds or other conditions prevent proper application. If rain has preceded the application, the surface should be allowed to dry for at least 24 hours. Caution should be taken with specialty coated glass, asphaltic materials and plastic windows. Check compatibility before application. Shrubbery and plant life should be protected from overspray.

### TECHNICAL DATA

**Protectosil® CHEM-TRETE® 40 VOC** is a clear, colorless liquid containing isobutyltrialkoxysilane in alcohol.

Color	water white
Active Substance	isobutyltrialkoxysilane
Active Content	>50% by weight
Solvent	denatured ethyl alcohol
Flash Point	54°F
Density	7.0 lb/gal
VOC	590 g/l

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## TEST DATA

NCHRP #244 (@200 ft <sup>2</sup> /gal)	
Series II	86% reduction in water absorption
Series II	87% reduction in chloride absorption
Series IV	99% reduction in chloride absorption
ASTM C 672 "Deicer Scaling"	
100 cycles	(non-air-entrained concrete) 0 rating
ASTM E 303 "Skid Resistance"	
Dry Surface	No change
Wet Surface	No change
Alberta DOT Penetrating Sealers Type 1b	
Initial water repellency	84.3%
After abrasion	85.1%
ASTM E 514 "Water Permeance of Masonry"	
Untreated leakage	5.5 l/hr (1.5 gal/hr)
Treated leakage	0.0 l/hr (0.0 gal/hr)
Reduction in leakage	100%
ASTM C 642 "Water Absorption of Concrete"	
24 hours	98% effective
5 days	91% effective
ASTM D 1653 Water Vapor Transmission	
75.8 g/ft <sup>2</sup> /24 hours	100% breathable

## INSTALLATION

Concrete must be allowed to cure for a minimum of 28 days. All repointing must be completed and allowed to cure for at least 3 days. Concrete repair and replacement must be completed prior to application of **Protectosil® CHEM-TRETE® 40 VOC**. Patching materials, caulking, sealing materials and traffic paint must be fully cured before applying **Protectosil® CHEM-TRETE® 40 VOC**. All surfaces must be cleaned to remove all traces of dirt, dust, efflorescence, mold, salt, grease, oil, asphalt, laitance, curing compounds, paint, coatings and other foreign materials. Acceptable surface cleaning methods include shotblasting, sandblasting, waterblasting, and using chemical cleaners. Check with your **Protectosil®** representative to verify

that surface preparation is adequate.

**Protectosil® CHEM-TRETE® 40 VOC** should be applied using low-pressure (15 to 25 psi) pumping equipment with a wet fan type spray nozzle. Alternate methods include using either a power roller with a 1" nap or a brush. Do not alter or dilute the material. Do not apply to a wet or damp substrate. A test patch should be applied to the substrate by a **Protectosil®** representative to verify coverage rate and application conditions.

On vertical surfaces, apply **Protectosil® CHEM-TRETE® 40 VOC** in a flooding application from the bottom up, so the material runs down 6 to 8 inches below the spray pattern. On horizontal surfaces, the liquid material should pond on the surface for at least 5 seconds before being absorbed. Coverage rates on horizontal concrete surfaces are typically between 150 and 250 ft<sup>2</sup>/gal. Coverage rates on vertical surfaces depend on the type of material to be treated. Your **Protectosil®** representative can give an exact coverage rate for your particular project. Please refer to the "**Protectosil® CHEM-TRETE® 40 VOC** Application Instructions" for more detailed information.

Precautions: **Protectosil® CHEM-TRETE® 40 VOC** is a flammable liquid and should be kept away from heat, sparks, open flame and other sources of ignition. **Protectosil® CHEM-TRETE® 40 VOC** containers should be kept closed when not in use and should be stored at temperatures between 0°F and 120°F (-18°C and 50°C), away from rain and standing water. When working in an enclosed area, an air respirator should be used. Please refer to the material safety data sheet for more detailed information.

## AVAILABILITY

**Protectosil® CHEM-TRETE® 40 VOC** is available in 5-gallon pails and 55-gallon drums. Shipped F.O.B. throughout the United States and Canada. Contact your local **Protectosil®** representative or your regional manager for specific cost information. You can obtain their contact information on our website, [www.protectosil.com](http://www.protectosil.com), or by calling us at 1 (800) 828-0919.

## TECHNICAL SERVICE

Technical service engineers and scientists are available to answer questions about product performance, application methods and compatibility with other building materials. You can speak to one of our engineers or scientists directly by calling our toll-free number, 1 (800) 828-0919, and selecting option 1.

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## MANUFACTURER

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**PROTECTOSIL® PRODUCTS ARE MANUFACTURED AT THE EVONIK CORPORATION THEODORE, ALABAMA, PLANT UNDER A QUALITY SYSTEM CERTIFIED TO ISO-9001 AND ISO-14001 REQUIREMENTS.**

**For more information, SDS and the most updated product information, and to find your local representative, go to [silanes.evonik.com/en](https://silanes.evonik.com/en)**

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