

AQURON® Corporation International

Application Guidelines:

Concrete Waterproofing and Durability Treatments related to Spalling Concrete and Rusting Reinforcement.

Overview: AQURON® Internal Hydrogel Barriers.

On-going engineering evaluations of reinforced concrete structures at risk have determined the immediate need for improved maintenance and repair procedures. AQURON® catalyzed colloidal silica represents a technology that is extremely long term and fundamentally changes the substrate concrete instead of being a foreign material that is either injected or applied as a coating. Properly applied this all-internal application represents one of the most appropriate concrete repair procedures available.

Some procedures given to the repair of concrete structures is commonly applied to visible surfaces only. Whether elevated or on grade this requires specific engineered waterproofing and durability solutions not always addressing the real problem deeper within.

Concrete deterioration, commonly caused by corrosion of embedded reinforcement resulting in concrete delamination and spalling. Other common causes include freezing- and-thawing deterioration, chemical attack, ASR (Alkali-silica Reaction), DEF (Delayed Ettringite Formation), and other moisture/contaminant induced deterioration.

After proper evaluation of the deterioration, a developed plan should include clear objectives and specifications for the repair. Steps for repairs that include replacement of loose or deteriorated concrete, removals, and curing have included below as a field guide for use by AQURON® factory-trained applicators.

With the entire AQURON® 7000/AQURON®2000 system, you can treat and repair concrete structures at risk by depleting and purging internal chlorides, waterproof internally, and densify with an impermeable, hydrogel barrier. This unique hydrogel barrier system permanently surrounding embedded reinforcing steel from future threat of corrosion, is a momentous change in the future application of concrete durability enhancement and repair.

Accomplishing permanent densification and waterproofing of concrete from capillary reduction (porosity), introduced in the form of Aquaron insulating hydrogel paste (CSH) created by AQURON®7000/AQURON®2000 in repair applications is outlined in the steps below.

Preparing the repair area:

Regardless of the repair method, surface preparation is the same. Unsound concrete is removed, and exposed rebar are undercut, and surfaces are cleaned with high-pressure water (3000 psi minimum) and exposed bars are water/abrasive blasted to remove all visible rust. Follow the steps outlined below:

Surface preparation:

Step 1—Sound the concrete surfaces to locate delaminated areas. This may be done as described in ASTM D4580 - “Standard Practice for Measuring Delamination in Concrete Bridge Decks by Sounding.”

Step 2—Mark the perimeter of the repair area. Preferable layout will result in simple geometric shapes with as few reentrant, 90 degree-angled corners as possible.

Step 3—Sawcut the perimeter of the repair. To avoid damaging reinforcement, the sawcut should not be deeper than the cover over the reinforcement. If the delamination is caused by corrosion, but the area of corroded reinforcing is not certain, use chipping hammers to expose the reinforcement until areas of uncorroded bars are found. Then sawcut an area that encompasses the boundaries of corrosion that have been established.

Step 4— Concrete surfaces must be prepared by suitable mechanical means, abrasive blasting and/or high-pressure water at sufficient volume and pressure to remove all surface contaminants such as oil, grease, curing membranes, efflorescence, algae, moss, dirt, etc. All loose materials and any existing coatings must be removed to provide a clean, sound, dry, and absorbent surface prior to application of the. Reference *ICRI Technical Guidelines 310.2R-2013 – Selecting and Specifying Concrete Surface Preparation for Sealers, Coatings, Polymer Overlays and Concrete Repair*.

Step 5 - If exposed bars are corroded, concrete surrounding the bar should be fully removed to expose the corroded bar, regardless of how much of the bar corroded. Removals around the bar should allow the hand to pass under the bar. Clearance around the bar should be approximately 3/4 in. (20 mm). Perform initial concrete removal with 15-lb but not larger than 30-lb air-assisted, chipping-hammers. Chipping hammers larger than 30 lb. may cause damage to reinforcement, reinforcement bond to surrounding concrete, and remaining concrete. Use 15-lb chipping hammers for final removal and detailing around the reinforcing steel.

NOTE: *If corroded bars are found and the bars have loss of cross section, a structural engineer should be consulted.*

Step 6—After all bad material is removed and repair area is cleaned, the application of AQURON® 7000 can begin. Apply AQURON® 7000 at a total minimum consumption rate of 175-200 sf/gallon/coat by low-pressure, airless paint sprayer in two cross-hatching coats. AQURON® 7000 is applied to a point of concrete saturation, in a wet-on-wet application.

DO NOT allow first application to dry; second application is applied to surface while still damp from the first application (SSD).

NOTE: Installation requires using an airless paint sprayer with a 3/8" ID fluid hose, with a .017"-.019" spray tip producing 1500 to 2000 psi outbound pressure.

Step 7— Begin the application of the AQURON® CPT 2000 immediately after the AQURON® 7000, undiluted, with the same airless paint sprayer. 2 applications minimum, depending on the porosity of the concrete substrate, back-to-back, in a cross-hatching pattern. Application of the AQURON® 2000 CPT will be applied at a consumption rate of 150-200 sf/gal per coat with a high-pressure, paint sprayer.

Allow 30 – 60 minutes to dry and rinse any visible efflorescence (chlorides) purged to the surface of the repair area. Allow to dry 12-24 hours from initial application. Additional purge may continue to come to the surface especially when heavy salt or chloride content exist within the concrete substrate.

Continue to rinse away any visible efflorescence as needed. This may take several days on older concrete or concrete in coastal areas, but it will stop when the AQURON® treatments overcome the porosity of the substrate.

NOTE: Installation requires using an airless paint sprayer with a 3/8" ID fluid hose, with a .013" - 25-degree fan tip for steel troweled, smooth concrete surfaces. For more porous or weathered concrete surfaces, use a .015" - .019" - 25-degree spray tip.

Step 8 - Once substrate is properly prepared, begin installation of the AQURON® Steel Penetrating Primer to thoroughly cleaned/de-greased, rust intact, reinforcement. Completely encapsulate all exposed ferrous metals front and back (4mils total). Allow to dry 3 - 4 hours. Once dry, the cementitious repair can begin.

Step 9 - Pre-wet concrete substrate before placing repair materials. Concrete surfaces receiving repair materials should be saturated surface-dry (SSD).

Step 10 —Certain repair material mixture proportions and placement conditions may not require a separate bonding agent. If a manufactured (bagged) product is used, follow the manufacturer's instructions. Follow the procedures outlined in the preceding section of this document. This will ensure that the placement methods and materials will result in adequate bond. If ready mixed concrete is used for the larger scaled repairs, AQURON® 300 Mix Water Conditioner (MWC) is recommended. AQURON MWC 300 provides extraordinary filler benefits like silica fume, resulting in denser, more impermeable concrete with less susceptibility to corrosive pollutants, and freeze-thaw damage. Plus, the added benefit of protecting any embedded reinforcing re-bar from future corrosion.

Step 11—Place repair material into the prepared repair area by necessary means and method (bucket, wheelbarrow, concrete buggy, etc.)

Step 12—Consolidate the repair material into the cavity using either a vibrating screed or internal vibrator. Vibration allows the repair material to flow around the reinforcing steel and come into intimate contact with the existing concrete substrate. This will promote maximum bond between the new material and the substrate. Also, any entrapped air will also be removed in this step.

Step 13—Screed, float and finish repair materials by acceptable means as outlined by manufacturers.

Step 14—After the repair material has been placed and set, the entire substrate is treated with AQURON® SPT-1200 if, invisible surface repellency and breathable protection is acceptable. (Visible Repair).

This added invisible, waterproof, surface protection will allow excess moisture vapor to escape without allowing new moisture to penetrate.

If a surface coating is desired to hide repairs, treat the repair only, with two applications of AQURON® CPT-2000(TDS) and proceed with coating(s) once cured.

Repair material selection:

We decided what repair materials should be used, compressive strength of the cementitious materials should NOT be greater than the original concrete and should not be less than 4000 psi. Prepackaged materials specially designed for the repair of concrete surfaces can also be used. Selection should be based on meeting the specified properties outlined by the owner's representative. Refer to *ICRI Guidelines 110.1-216 – Guide Specifications for Structural Concrete Repair (030130)* for more information.

Equipment needed:

- Trowels and other concrete finish tools
- Buckets
- Saw cutting equipment and blades
- Chipping hammers
- Air compressor
- Water blasting equipment
- Concrete mixing and placing equipment
- Concrete finishing tools
- Airless spray equipment

Safety considerations:

- Eye protection is required for demolition and cleaning operations.

- Hearing protection must reduce sound levels reaching the inner ear to limits on these levels that are specified by OSHA.
- Respiratory protection is required when airborne dust or vapors are produced.
- Protective clothing and gloves should be worn to protect exposed skin against from chemicals and cement burns
- Safety Data Sheets (SDS) should be available for materials on the job site. It is the responsibility of the user of this document to establish health and safety practices appropriate to the specific circumstances involved with its use. The user must determine the applicability of all regulatory limitations before applying the document and must comply with all applicable laws and regulations including, but not limited to, United States Occupational Safety and Health Administration (OSHA) health and safety standards.

Preconstruction meeting:

Prior to proceeding with the repair, a preconstruction meeting is recommended. The meeting should include representatives from participating parties (owner, engineer, contractor, materials manufacturer), and specifically address the parameters, means, methods, and materials necessary to achieve the repair objectives.

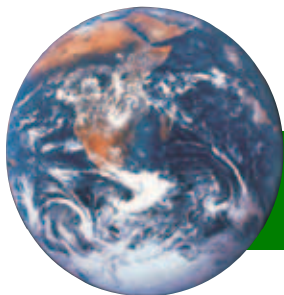
References:

ASTM D4580 - "Standard Practice for Measuring Delamination in Concrete Bridge Decks by Sounding."

ICRI, 1997, "Selecting and Specifying Concrete Surface Preparation for Coatings, Sealers, and Polymer Over-lays," ICRI Technical Guideline No. 310.2-1997

ICRI, 2008, "Guide for Surface Preparation for the Repair of Deteriorated Concrete Resulting from Reinforcing Steel Corrosion," ICRI Technical Guideline No. 310.1R-2008.

ICRI, 2009, "Guide for Selecting and Specifying Materials for Repair of Concrete Surfaces," ICRI Technical Guideline No. 320.2R-2009.



AQURON® 7000™

Proven Since 1985

Concrete Soluble Chloride Reducer CONCRETE PROTECTION AND WATERPROOFING

MANUFACTURER

AQURON® Corporation International
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Rockwall, Texas 75087 U.S.A
972-722-5444 Phone
972-722-6412 Fax
800-342-4649 Toll Free
888-412-1543 Toll Free Fax
E-Mail: info@aquoron.com
Website: www.aquoron.com

PRODUCT DESCRIPTION

AQURON® 7000™ is an odorless, clear to green, non-toxic, non-petroleum, water borne solution that is environmentally safe and user friendly.

BASIC USE

AQURON® 7000™ readily penetrates/permeates Portland cement concrete when applied to its surface, reducing or eliminating soluble chloride as it does so (only soluble chlorides are relevant to embedded steel corrosion), without affecting the insoluble chloride content or reducing cement paste pH value, to depths of at least 3"-5"/75mm-100mm or more, depending on porosity/permeability of concrete being treated. AQURON® 7000™ has the unique ability to arrest and/or prevent oxidation-reduction reaction (corrosion) on embedded steel. AQURON® 7000™ achieves this by implementing hydrochloric acid neutralization, oxide coat de-aeration, oxygen deprivation, and an increase in valence value of the embedded steel's protective coating whether corroding or not. Used as a preventive, AQURON® 7000™ reduces or eliminates soluble chlorides left clinging to pore space walls in newly placed concrete installations, effectively removing the potential of these soluble chlorides eventually migrating to the embedded steel of floors, slabs, etc. AQURON® 7000™ will not alter the surface appearance or physical characteristics of the concrete, nor will it impair surface traction quality. An application of AQURON® 7000™ will enhance surface bonding quality, making it an excellent primer for surfaces that are to be coated, if applicable.

AQURON® 7000™ is non-destructive, eliminating the need to remove the concrete portion to get closer to or expose the embedded steel, and is environmentally safe and user friendly. Concrete surface may be wet or dry, but must be free of standing water. Treated area needs only to be closed to traffic during actual application and can be opened to traffic immediately following application. AQURON® 7000™ is not a sodium silicate product.

PHYSICAL PROPERTIES

Physical	liquid
Color	clear/green (due to unique ingredients color may vary)
Odor	slight
Specific gravity	1.09 to 1.10
Flash point	none
pH	12±
Toxicity	none
Boiling point	230°F/110°C
Freeze temperature	32°F/0°C
Hazardous vapors	none
Weight per gallon	9.15lbs/4.15kg
Environmentally	neutral
User	friendly
Shelf life	indefinite
Freeze harm.	none (allow to thaw completely)
Surface bond quality	excellent
Flammability	none
VOC/VOS content	none

SURFACE PREPARATION

Concrete surfaces should be structurally sound and clean of any contaminants or previous coatings that would adversely affect the penetration of AQURON® 7000™. Surface may be either dry or damp, but must be free of all standing water. Do not apply to frozen substrate, or if freeze is expected during the next 12 hours. Areas to be patched or surfaced should be treated after loose unbonded matter has been evacuated and before actual patching or surfacing!

1. Remove all carpeting, vinyl, tile, asphalt, etc., from areas to be treated.
2. Remove all loose, spalling or unsound concrete.
3. Use a track blasting or sandblasting process to remove any previous treatments, adhesives, etc.

Note: When track blasting the spalled areas, the operator should take care to remove all oxidation from exposed steel reinforcing, especially from the bottom exposures. Immediately following the blasting operation, coat all the clean exposed steel with a quality rust inhibitor.

USAGE

To estimate volume of product needed, 175-200 sq ft per U.S. gallon/4.2m² - 4.9m² per Liter on normal porosity/permeability concrete is suggested, however actual quantities required may vary.

INSTALLATION

- Installation requires using an airless paint sprayer with a 3/8" I.D. fluid hose, with a .017 - .019 spray tip producing 1500 to 2000 p.s.i. outbound pressure.
- **AQURON® 7000™** is applied to point of concrete saturation twice, which is a point where runoff is about to occur, in back to back applications. To achieve this it is recommended that area to be treated should begin at a specific start point and treated to a specific finishing point.
- Then, without repositioning equipment and after the treated area has absorbed the **AQURON® 7000™** treatment (lost surface sheen), treat same area with second application before moving to next area to be treated. (Do not allow first application to dry; second application is applied to surface while still damp from first application.)
- Application is to begin at lowest point. Walls or steep slopes are to be applied from the bottom up. Fan spray patterns overlapped 25 to 30% to prevent holidays in coverage.
- If surface coating is planned, it is necessary to wait at least 12 hours after application then flush surface thoroughly with water and allow to completely dry before coating.
- Always prepare surface to coating manufacturer's specifications.
- Apply **AQURON® CPT-2000™** to the **AQURON® 7000™** treated area while surface is still damp from **AQURON® 7000™** treatment (do not allow surface to dry before applying **AQURON® CPT-2000™**). Apply **AQURON® CPT-2000™** according to **AQURON® CPT-2000™** specified application procedure.

Note: If concrete replacement is required in the repair work, apply **AQURON® CPT-2000™** after the placement of concrete repair, if specifications allow. Both fresh concrete and adjacent cured concrete shall be wet, i.e. saturated surface dry (SSD), before applying **AQURON® CPT-2000™**.

PRECAUTIONS

Remove spills or spray mist in contact with glass or glazed surface immediately as distortion of surface may occur. Do not allow product to dry, remove by flushing with water. Shiny aluminum may be dulled if contacted, metal is otherwise unaffected. Do not apply to frozen substrate, or if freeze may occur during next 12 hours following application.

CLEAN-UP & SAFETY

No special clothing, breathing apparatus, goggles and gloves are necessary but in enclosed areas it is advisable to wear an organic vapor respirator to avoid possible irritation to breathing. Attention should be made to watches, eyeglasses etc., as **AQURON® 7000™** and **AQURON® CPT-2000™** can etch glass or discolor aluminum if allowed to dry. Clean all equipment using water and mild soap. Never store spray equipment without cleaning and following manufacturer's recommendations for storage between usage.

SHELF LIFE

Shelf life is indefinite provided containers are kept tightly sealed when not in use.

PACKAGING

AQURON® CPT-2000™ and **AQURON® 7000™** are available in 5 gallon/18.9 liters and 55 gallon/208.2 liters drum size.

AQURON® CPT-2000™ and **AQURON® 7000™** are also available in bulk containers.

MAINTENANCE

Special maintenance of treated area is not required.

TECHNICAL SERVICES

Technical information and assistance may be obtained from your local dealer, or by calling the technical department of the AQURON Corporation at (972) 722-5444, (800) 342-4649 Office, or (972) 722-6412 FAX or toll free FAX (888) 412-1543. E-mail welcome – info@aquron.com

Warranties and Limitations of Liability

Aquron Corporation ("Seller") warrants that if any goods supplied prove defective in workmanship or materials, that Seller shall replace them or refund their purchase price for the affected area. Aquron Corporation offers a performance warranty for this **Aquron®** product. The warranty for the performance of this **Aquron®** product must be requested from the Aquron Corporation and initiated prior to applying this **Aquron®** product. Failure to initiate warranty of performance prior to application, holds harmless Aquron Corporation of any liability arising from its use, and user assumes all risk and liabilities whatsoever in connection therewith. The terms of this paragraph may not be orally modified. There are no warranties express or implied which extend beyond the face herewith.

Local Area Representative

AQURON® 7000

Concrete Soluble Chloride Reduction Solution

MANUFACTURER

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Rockwall, TX 75087 E-mail info@aquron.com

SECTION 1: PRODUCT IDENTIFICATION

Product Name: Aquron® 7000 Concrete Soluble Chloride Reduction Solution

Formula: Proprietary Mixture

Hazard Rating:

Health 1
Fire 0
Reactivity 0
Special 0

Hazard Rating Scale:

Minimal 0
Slight 1
Moderate 2
Serious 3
Severe 4

SECTION 2: HAZARDOUS INGREDIENTS

Hazardous component(s): None

SECTION 3: PHYSICAL PROPERTIES

Physical description clear to green liquid
Boiling point near 230°F±
pH 12±
Water solubility near 100%
Specific gravity 1.09±

SECTION 4: FIRST AID MEASURES

Inhalation: The subject product is applied using a non-atomizing spray apparatus. Spray inhalation should be kept minimal through normal ventilation. Since this product is non-toxic its spray mist is not hazardous to breathe, however, some breathing discomfort may be experienced in extremely closed in areas due to normal air components becoming temporarily disproportional in air involving spray mist.

Skin: Flood with water first, then wash with soap and water.

Eyes: Flush liberally with fresh water for 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention if irritation develops.

Internal: Drink plenty of water followed by citrus juice. Seek medical attention if nausea or vomiting develops.

SECTION 5: HEALTH HAZARD INFORMATION

Primary routes of exposure. Eye and skin contact, and ingestion.

Signs/Symptoms: Irritation and/or redness of mucous membrane in area around eyes.

SECTION 6: TOXICITY DATA

Toxicity: This product was tested for toxicity and was found to be non-toxic, but is NOT recommended for ingestion.

Threshold Limit Values: Not established.

MATERIAL SAFETY DATA SHEET

FOR PROFESSIONAL USE ONLY-KEEP OUT OF CHILDREN'S REACH

SECTION 7: PERSONAL PROTECTION

Protection Clothing: None Required

Other protection measures: Eyewash facility should be nearby and ready for use.

SECTION 8: FIRE & EXPLOSIVE INFORMATION

Flash point: None

Method Used: Not applicable.

Extinguishing media: Product is not combustible or flammable. Use appropriate extinguishing media for surrounding fire.

SECTION 9: HAZARDOUS REACTIVITY

Stability: Stable

Conditions to avoid: Strong acids

Incompatibility: Strong acids.

Hazardous decomposition products: None

SECTION 10: DISPOSAL PROCEDURES

Spills or leaks: Dilute and flush away with water (O.K. for sewer). Properly dispose of containers.

SECTION 11: SPECIAL PRECAUTIONS

Storage: Store inside or outside properly situated away from incompatible materials, i.e., strong acids. Other special precautions not required.

SECTION 12: ECOLOGICAL INFORMATION

This material is ecologically friendly and doesn't pose any threat to the environment that is known.

SECTION 13: DISCLAIMER

This MSDS should not be construed as product sales literature. Aquron Corporation disclaims all express or implied warranties, merchantability and fitness for a particular purpose with respect to the information provided herein.

SECTION 14: NOTICE

All information appearing here is based upon data generated by Aquron Corporation from recognized technical sources and is believed to be accurate. This product's conditions of use are beyond Aquron Corporation's control, and therefore, users are responsible for verifying this data under their own operating conditions to determine whether this product is suitable for their particular purposes. They assume all risks of use, handling and disposal of the product, or from the publication or use of, or reliance upon information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

Revised May 2011



Proven since 1985

AQURON® CPT-2000™

Concrete Preservation Treatment

MANUFACTURER

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PRODUCT DESCRIPTION

AQURON® CPT-2000™ offers a proven solution to water migration in concrete. It is an effective treatment that is aqueous-borne, deep penetrating, sub-surface densifying, and molecular bonding.

BASIC USE

AQURON® CPT-2000™ is a permanent, clear treatment/preservative/sealant solution for new or existing pneumatically applied or cast in place concrete. **AQURON®** CPT-2000™ will seal the matrix and significantly preserve its embedded steel.

AQURON® CPT-2000™ has a highly reactive catalytic agent that reacts with free alkali and/or alkaline hydrates to internally produce a silica hydrogel that fills the pore spaces and the voids around aggregate. Furthermore, alkali is converted to a neutral compound structure, reducing the potential for internal chemical reactions. More density is added; additional bonding strength is provided; and the concrete is permanently, hydrostatically sealed from within.

AQURON® CPT-2000™ is an ideal product for concrete or other masonry surfaces that are to be painted or coated since it enhances the bonding quality of the surface. **AQURON®** CPT-2000™ prevents peeling, cracking and loss of bond caused by capillary moisture or internal chemical reactions.

AQURON® CPT-2000™ will not alter the appearance of the surface or physical characteristics and will enhance surface traction quality, making it ideal for use on all new or existing concrete installations including bridges, decks, streets, airport runways, basements, parking garage decks, sidewalks, driveways, slabs, etc.

The use of **AQURON®** CPT-2000™ will diminish the effects of freeze-thaw cycles. **AQURON®** CPT-2000™ neutralizes existing internal corrosives such as acids and chlorides preventing internal chemical reactions. Also, **AQURON®** CPT-2000™ severely retards the rusting or corroding of embedded steel. In projects where there are higher levels of chlorides as determined by appropriate testing, use the **AQURON® 7000™** System. **AQURON®** CPT-2000™ will arrest or at least severely retard concrete being deteriorated by alkali-aggregate or alkali silicate reactivity. In addition, by treating concrete not yet affected, the potential will be significantly reduced.

BENEFITS

- Permanently, integrally seals concrete
- Penetrates walls and floors 3"-6"
- Allows necessary vapor transmission
- Preserves matrix integrity
- Increases surface abrasion resistance
- Excellent pre-treatment for coating systems
- Adds density
- significant resistance to salt/chloride ion intrusion

- Improves thermal resistance
- Increases strength
- Improves post carbonation effects
- Zero VOC/VOS content
- Prevents internal water migration
- Makes ice removal/cleaning easier
- Improves acid/chemical resistance
- Lowers internal chemical reaction potential
- Lowers creep potential
- Lowers electrostatic discharge potential
- Significantly enhances the cure

APPLICABLE STANDARDS

AQURON® CPT-2000™ meets or exceeds applicable standards.

- AASHTO T259 Ion Content
- AASHTO T260 Chloride ion penetration
- ASTM C114 Sealing from water soluble chlorides
- ASTM C156 Water retention
- DIN 1048 German and International standard for water penetration, freeze-thaw, absorption/suction, dusting resistance, efflorescence, resistance to salt attack (cross reference ASTM 672)
- ASTM CD4541 Pull up adhesion test
- ASTM C672 Resistance to scaling and salt exposure
- ASTM 666 Rapid freeze-thaw
- ASTM C192 Strengthens concrete upon curing
- ASTM C30991 Type 2, Class A, curing compound
- CRD C4873 Permeability testing

COMPOSITION

AQURON® CPT-2000™ has a highly reactive catalytic agent in a waterborne proprietary colloidal silica base that produces a silica hydrogel below the surface and inside the concrete matrix.

AQURON® CPT-2000™ cannot function if there are:

- (1) Other sealers on the concrete surface
- (2) Polymers in the mix

PRECAUTIONS

- Cover all GLASS. **AQURON®** CPT-2000™ will etch glass.
- Cover everything not intended for product. Incidental damage may occur on unintended surfaces.
- Spills or spray droplets in contact with glass should be removed immediately by flushing with water.
- Some discoloration of aluminum can occur.
- Do not proceed with application of **AQURON®** CPT 2000™ when ambient temperature and/or substrate temperatures are less than 40°F/4.5°C or forecasted to drop below 40°F/4.5°C during the next 6 hours.

PHYSICAL PROPERTIES

Physical	Liquid
Color	Clear
Odor	None
Specific gravity	1.11±
Flash point	None
pH	12±
Toxicity	None
Boiling point	212°F/100°C
Freeze temperature	32°F/0°C
Hazardous vapors	None
Weight per gallon.	9.18lbs/4.16kg
Environmental impact	Neutral

PHYSICAL PROPERTIES (CONTINUED)

User-friendly	Yes
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Shelf life	Indefinite
Freeze harm	None (allow to thaw completely)
Surface bond quality	Excellent
Flammability	None
VOC/VOS content	None
Resistance to UV	Excellent
Paintable	Yes
Pollutants	None
Waste disposal methods	Non-hazardous
Resistance to abrasion	Excellent
Polymerization	nil
Solids before applied	nil
Solids after applied	100%
Recommended coverage	150-200 sq. ft. per US gallon/3.5 m ² – 4.9 m ² per

INSTALLATION Job Conditions

1. **Low Temperatures:** Do not proceed with application of **AQURON® CPT-2000™** when ambient temperature and/or substrate temperatures are less than 40°F/4.5°C or forecasted to drop below 40°F/4.5°C during the next 6 hours.
2. **High Temperatures:** Should **ambient or substrate** temperature be 95°F or higher, cool surface with sufficient water so that the surface stays damp. Disperse puddled water.
3. **Wind:** Caution should be taken in windy conditions. Do not allow product to contact surfaces not intended for CPT-2000 application.
4. **Dry:** If allowed to dry, **AQURON® CPT-2000™** can etch glass or dull shiny aluminum. If contact is made with glass or aluminum, rinse surface immediately with water before **AQURON® CPT-2000™** dries on surface.
5. **Penetration:** As a waterborne product, **AQURON® CPT-2000™** **must have access to the surface**. Any previous coatings or heavy buildup of oil or grease must be removed.
6. **Strength:** Do not dilute. Use as supplied.
7. **Applying impervious coatings, coverings, etc.:** Once **AQURON® CPT-2000™** is applied, **wait 28 days on new concrete and wait 72 hours on existing concrete** before applying impervious coatings, coverings, etc.
8. **Fractures:** **AQURON® CPT-2000™** only seals the concrete itself, not fractures.

APPLICATION PROCEDURE FOR ESTABLISHED CURED CONCRETE:

1. **AQURON® CPT-2000™** must be applied with a high pressure airless sprayer with spray tip size as follows:
 - 013" 25 degree fan tip for steel troweled smooth concrete
 - 015" - .019 25 fan tip for porous or weathered concrete
2. Application of the material with the airless sprayer shall be at a 90 degree angle to the surface of the wall or floor.
3. Pre-wet area of application with water to cool concrete that is extremely hot (95°F/35 °C or higher). **Pooled and puddle areas must be dispersed.** Continue to keep damp until **AQURON® CPT-2000™** has been applied.
4. Apply **AQURON® CPT-2000™** at a rate not less than 1 liter to 5 m²/150 sq. ft. per U.S. gallon. Two applications of **AQURON® CPT-2000™** will be required, using a crosshatch pattern, to achieve this rate. The first application should be sprayed in an East-West

direction. Spray the second application as soon as the surface sheen from the first application has dissipated (normally 5-10 minutes. Do not allow drying). The second application should be sprayed in a North-South direction. Apply wet on wet. For best results apply to maximum tolerance. This is accomplished when the sheen takes 5-10 minutes to dissipate.

5. Start application holding spray tip approximately 8"-10"/200-300mm from concrete surface, make application using **overlapping spray pattern with a fanning motion at the end of each pass.**
6. Entire area being treated is to be saturated, but do not allow **AQURON® CPT-2000™** to puddle. Disperse puddled areas with a broom 5-10 minutes after application is completed. Do not allow puddles of **AQURON® CPT-2000™** to dry.
7. Always start application at lowest possible area and proceed to higher elevations. For vertical walls, begin at the bottom with East-West, overlapping spray patterns. Work your way from the bottom to the top. Then, immediately go back over the same area just treated using a North-South overlapping spray pattern.
8. Check whether **AQURON® CPT-2000™** has purged to the surface of concrete any oil, gas, greases and salts, etc. **These must be thoroughly washed or abraded away before adhesives or coatings are applied.**
9. When treatment is to weeping hydrostatic concrete, repeat step number 4 until weeping stops.
10. Important caution when applying coatings: following the application of **AQURON® CPT-2000™** we recommend that the surface be thoroughly cleaned prior to coating to remove any potentially bond-breaking contaminants that may have been purged to the surface.

CLEAN-UP AND SAFETY

- Caution must be taken, as treated surfaces may be slippery until completely cured.
- No special clothing, breathing apparatus, goggles or gloves are necessary, but in enclosed areas it is advisable to wear an appropriate respirator to avoid possible irritation to breathing.
- Attention should be made to watches, eyeglasses, etc., as **AQURON® CPT-2000™** can etch glass or discolor aluminum if allowed to dry.
- Clean equipment using water and mild soap. Never store spray equipment without cleaning and following manufacture's recommendations for storage between uses.

SHELF LIFE

Shelf life is indefinite provided **AQURON® CPT-2000™** is kept tightly sealed in original containers when not in use.

PACKAGING

AQURON® CPT-2000™ is available in 5 gallon/18.9 liters and 55 gallon/208.2 liters drum size. **AQURON® CPT-2000™** is also available in bulk containers.

MAINTENANCE

Special maintenance of treated area is not required.

TECHNICAL SERVICES

Technical information and assistance may be obtained from your local dealer, or by calling the technical department of the **AQURON HEADQUARTERS** at (800) 342-4649. Email: Info@aquron.com

LIMITED WARRANTIES

AQURON products effectively address problems caused by moisture intrusion when properly applied by Aquron Trained Key Applicators. Aquron will warrant the Aquron CPT 2000 against water migration through sound concrete for a warranty period of one-year. Extended warranties are available and an application must be filled out prior to applying the product. THE FOLLOWING LIMITATIONS APPLY TO THE AQURON PRODUCT WARRANTIES:

- ALL PRODUCTS SHALL BE APPLIED BY AQURON TRAINED KEY APPLICATORS IN ACCORDANCE WITH MANUFACTURER SPECIFICATIONS FOR THE WARRANTY TO BE EFFECTIVE.
- ALL WARRANTY REMEDIES ARE LIMITED TO REFUND OF THE PURCHASE PRICE FOR THE AMOUNT OF PRODUCT COVERING THE AFFECTED AREA
- MECHANICALLY RELATED MOISTURE MIGRATION IS SPECIFICALLY EXCLUDED FROM ANY AQURON WARRANTY
- ALL OTHER WARRANTIES, INCLUDING BUT NOT LIMITED TO WARRANTIES FOR FITNESS FOR USE OR FITNESS FOR A PARTICULAR PURPOSE, ARE HEREBY DISCLAIMED, EXCLUDED AND WAIVED TO THE FULLEST EXTENT ALLOWED BY LAW.

For all Limited Warranty questions or for warranty service, contact Aquron Headquarters at the numbers below.

AQURON CORPORATION P.O. BOX 758 ROCKWALL, TEXAS 75087 972.722-5444 OR 800.342.4649 (TOLL FREE USA) www.aquron.com

AQURON[®] CPT 2000[™] Concrete Preservation Treatment
Safety Data Sheet

According to the Hazard Communication Standard (CFR 29 1910 1200) Hazcom 2012 Date of issue: Oct 21, 2015

Version 1

Section 1: Identification of the Substance/mixture of the company/undertaking

(a) Product Name used on the label: **CPT 2000[™] Concrete Preservation Treatment**

Product Code: Not available

(c) Relevant identified uses of the substance or mixture and uses advised against

Use of the substance/mixture Concrete treatment

(d) Details of the supplier of the safety data sheet

AQURON Corporation

P.O. Box 758

Rockwall, TX 75087 USA

Telephone: (800) 342-4649

(e) Emergency Number: Chemtrec 1-800-424-9300

Section 2. Hazard(s) identification

(a) Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS-US Classification: Not classified

(b) Labeling elements

No labeling applicable

(c) Other hazards

No additional information available

(d) Unknown acute toxicity (GHS US)

None

Section 3. Composition/information on ingredients

Except as provided for in paragraph (i) of §1910.1200 on trade secrets:

(a) For Substances

Not applicable

(b) For Mixtures

This mixture does not contain any substances to be mentioned according to Hazard Communication Standard (CFR29 1910.1200) HazCom2012.

Section 4. First-aid measures

(a) Description of first aid measures

First-aid measures after inhalation:

Move the affected person away from the contaminated area and into the fresh air.

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First-aid measures after skin contact

In case of contact, immediately flush skin with plenty of water. Remove contaminated clothing and shoes. Wash clothing before reuse. Call a physician if irritation develops and persists.

First-aid measures after eye contact

In case of contact, immediately flush eyes with plenty of water. If easy to do, remove contact lenses, if worn.

First-aid measures after ingestion

If swallowed, do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical advice/attention.

(b) Most important symptoms and effects, both acute and delayed.

Symptoms/injuries after inhalation Symptoms

Not a normal route of exposure.

Injuries after skin contact Symptoms

May cause skin irritation.

Injuries after eye contact

May cause eye irritation.

Symptoms/Injuries after ingestion

Not a normal route of exposure.

(c) Indication of any immediate medical attention and special treatment needed.

Symptoms may not appear immediately. In case of accident or if you feel unwell, seek medical advice immediately (show the label or SDS where possible).

<h3>Section 5. Fire-fighting measures</h3>

(a) Extinguishing Media

Suitable extinguishing media: Powder, water spray, foam, and carbon dioxide.

Unsuitable extinguishing media: None Known

(b) Special hazards arising from the substance or mixture

Fire hazard: Products of combustion may include, and are not limited to: oxides of carbon.

(c) Advice for firefighters

Keep upwind of fire. Wear full fire fighting turn-out gear (full Bunker gear) and respiratory protection (SCBA).

AQURON[®] CPT 2000[™] Concrete Preservation Treatment

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According to the Hazard Communication Standard (CFR 29 1910 1200) Hazcom 2012 Date of issue: Oct 21, 2015

Version 1

Section 6. Accidental release measures

(a) Personal precautions, protective equipment, and emergency procedures.

General measures: Use personal protection recommended in Section 8. Keep unnecessary personnel away from the release.

(b) Methods and materials for containment and cleaning up.

For containment: Stop leak, if possible without risk.

Methods for cleaning up: Dilute spill directly with plenty of water and drain to sewer.

(c) Reference to other sections

See section 8 for further information on protective clothing and equipment and section 13 for advice on waste disposal.

Section 7. Handling and storage

(a) Precautions for safe handling.

Precautions for safe handling:

Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

Hygiene measures:

Wash hands before eating, drinking, or smoking.

(b) Conditions for safe storage, including any incompatibilities.

Storage conditions: Keep out of the reach of children. Keep container tightly closed. Protect from sunlight. Do not freeze. Store at temperatures between 5°C (40°F) and 38°C (100 °F).

(c) Specific end use(s)

Not available

Section 8. Exposure controls/personal protection

(a) Control parameters

No additional information available

AQURON[®] CPT 2000[™] Concrete Preservation Treatment

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According to the Hazard Communication Standard (CFR 29 1910 1200) Hazcom 2012 Date of issue: Oct 21, 2015

Version 1

(b) Exposure controls

Appropriate engineering controls	Use ventilation adequate to keep exposures (airborne levels of dust, fume, vapor, etc.) below recommended exposure limits.
Personal protective equipment	Avoid all unnecessary exposure.
Hand protection	None necessary under normal conditions of use. Wear gloves if handling large quantities.
Eye protection	Wear eye protection.
Skin and body protection	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.
Environmental exposure controls	Maintain levels below Community environmental protection thresholds.
Other information	Handle according to established industrial hygiene and safety practices.

Section 9. Physical and chemical properties

(a) Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Translucent
Color	Green
Odor	Odorless
Odor threshold	No data available
pH	11.2-11.5
Melting point	No data available
Freezing point	0°C (32°F)
Boiling point	100°C (212°F)
Flash point	No data available
Relative evaporation rate (butyl acetate=1)	No data available
Flammability (solid gas)	Not flammable
Explosive limits	No data available
Explosive properties	No data available
Oxidizing properties	No data available
Vapor pressure	No data available
Relative density	1.10
Relative vapor density at 20°C	No data available
Solubility	No data available
Partition coefficient: n-octanol/water	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
Viscosity	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	26 cP @ 25 °C (77°F)

AQURON[®] CPT 2000[™] Concrete Preservation Treatment

Safety Data Sheet

According to the Hazard Communication Standard (CFR 29 1910 1200) Hazcom 2012 Date of issue: Oct 21, 2015

Version 1

(b) Other information

No additional information available

Section 10. Stability and reactivity

- (a) Reactivity;
No dangerous reaction known under conditions of normal use.
- (b) Chemical stability;
Stable under normal storage conditions.
- (c) Possibility of hazardous reactions;
No dangerous reaction known under conditions of normal use.
- (d) Conditions to avoid (e.g., static discharge, shock, or vibration);
Heat: Incompatible materials
- (e) Incompatible materials;
Acids
- (f) Hazardous decomposition products.
May include, and are not limited to: oxides of carbon.

Section 11. Toxicological information

- (a) Information on toxicological (health) effects and the available data used to identify those effects
Acute toxicity: Not classified

LD50 oral rat	No data available
LD50 dermal rabbit	No data available
LC50 inhalation rat	No data available
Skin corrosion/irritation	Based on available data, the classification criteria are not met.
Serious eye damage/irritation	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization	Based on available data, the classification criteria are not met.
Germ cell mutagenicity	Based on available data, the classification criteria are not met.
Carcinogenicity	Based on available data, the classification criteria are not met.
Reproductive toxicity	Based on available data, the classification criteria are not met.
Specific target organ toxicity (single exposure)	Based on available data, the classification criteria are not met.
Specific target organ toxicity (repeated exposure)	Based on available data, the classification criteria are not met.
Aspiration hazard	Based on available data, the classification criteria are not met.
Symptoms/injuries after inhalation	Not a normal route of exposure
Symptoms/injuries after skin contact	May cause skin irritation
Symptoms/injuries after eye contact	May cause eye irritation
Symptoms/injuries after ingestion	Not a normal route of exposure

AQURON® CPT 2000™ Concrete Preservation Treatment
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Version 1

Section 12. Ecological information (Non-mandatory)

(a) Toxicity

Ecology - general No known significant effects or critical hazards.

(b) Persistence and degradability;

Persistence and degradability not established

(c) Bioaccumulative potential;

Bioaccumulative potential not established

(d) Mobility in soil;

No additional information available

(e) Other adverse effects (such as hazardous to the ozone layer).

No additional information available

Section 13. Disposal considerations (Non-mandatory)

(a) Waste Treatment methods

Waste disposal recommendations: This material must be disposed of in accordance with all local, state, provincial, and federal regulations.

Section 14. Transport information (Non-mandatory)

(a) Department of Transportation (DOT)

In accordance with DOT, not regulated for transport.

(b) Additional information

Other information No supplementary information available

Special transport precautions Do not handle until all safety precautions have been read
And understood.

Section 15. Regulatory information (Non-mandatory)

(a) US Federal regulations

All components of this product are listed, or excluded from listing, on the United States Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory.

(b) US State regulations

State or local regulations This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

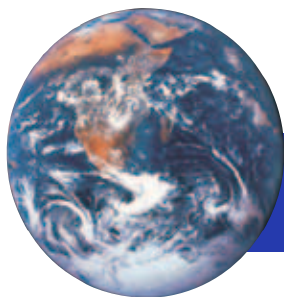
Section 16. Other information, including date of preparation or last revision

The date of preparation of the SDS or the last change to it.

Date of issue October 22, 2015

Revision date November 1, 2015

Other information None



AQURON® SPT-1200™

Proven Since 1985

Stone Preservation Treatment MASONRY AND STONE ENHANCEMENT

MANUFACTURER

AQURON® Corporation International
Post Office Box 758
Rockwall, Texas 75087 U.S.A
972-722-5444 Phone
972-722-6412 Fax
800-342-4649 Toll Free
888-412-1543 Toll Free Fax
E-Mail: info@aquoron.com
Website: www.aquoron.com

PRODUCT DESCRIPTION

AQURON® SPT-1200™ is a clear, penetrating preservative/treatment solution designed for sealing and preserving brick, slate, natural stone, stucco, concrete and other masonry.

AQURON® SPT-1200™ is a water-borne waterproofing repellent that provides a tough breathing type water barrier beneath and to the surface.

AQURON® SPT-1200™ helps keep surfaces clean while preserving the natural appearance of the masonry and concrete.

AQURON® SPT-1200™ retards or eliminates efflorescence, and its application resists cracking and spalling of vertical and horizontal surfaces from successive freeze thaw cycles.

AQURON® SPT-1200™ is non-polluting, non-toxic, non-flammable, and user friendly.

SOME ATTRIBUTES

- Stays pliable
- Waterproofs surface
- Improves traction
- Resists freeze/thaw spall-off
- Abrasion resistant
- Makes ice removal easier
- Impervious to most atmospheric contaminants
- Retards or eliminates efflorescence
- Hydrocarbon resistant

PRECAUTIONS

Spills or spray droplets in contact with glass or any area not specified to be treated should be removed immediately

with water and cloth or brush.

DO NOT ALLOW TO DRY. Dried product is very difficult to remove.

COMPOSITION

AQURON® SPT-1200™ is an aqueous resin silicate that waterproofs, hardens, preserves, and is a breathable barrier in natural stone, slate, concrete, and other masonry.

APPLICABLE STANDARDS

AQURON® SPT-1200™ meets or exceeds the following standards:

- ASTM C-67 Section 7 - Water absorption
- ASTM-67 Section 9 - Suction
- ASTM C-67 Section 10 - Efflorescence
- ASTM C-666 - Freeze-thaw resistance
- ASTM C-23-69 - Artificial weathering
- ASTM C-666 - Salt attack resistance
- AASHTO T259-78 - Chloride ion penetration
- VOC/VOS Compliant

PHYSICAL PROPERTIES

Physical	liquid
Color	clear
Odor	slight
Specific gravity	1.02±
Weight per gallon	3.83kg/8.46lbs
Boiling point	230°F/110°C
pH	8±
Solvent	water
Flash point	none
Toxicity	none
Freeze temperature	32°F/0°C
Hazardous vapors	none
Environmentally	neutral
Shelf life	indefinite
Freeze harm	absolute
Flammability	none
VOC/VOS compliant	yes
Resistance to UV	excellent
Waste disposal methods	non-hazardous
Equipment cleaning solvent	mild soap & water

INSTALLATION

Job Conditions

1. Do not proceed with application of AQURON® SPT-1200™ when ambient temperature and/or substrate temperatures are less than 50°F/10°C or forecasted to drop below 50°F/10°C during the next 6 hours.
2. Do not apply AQURON® SPT-1200™ in rainy conditions or when rain is expected within 24 hours.
3. Should temperature be extremely hot, application should be made at late night or early morning.
4. Caution should be taken in windy conditions as AQURON® SPT-1200™ if allowed to dry on glass or any area not specified to be treated is very difficult to remove. (Remove immediately with water and cloth or brush).

Application Procedure

1. COVERAGE RATE:

TYPE OF SURFACE	ft ² /GAL	m ² /L
Limestone	200-300	4-7
Adobe	250-350	5-8
Brick	300-550	7-13
Grout	350-700	8-16
Plaster	350-550	8-13
Stucco	200-450	7-12
Concrete Brick	200-300	4-7
Man-made Stone	250-450	5-10
Slate	400-500	9-12
Clay Tile	400-600	9-14
Concrete	300-450	7-10
Pavers	300-400	7-9

2. Application is to be made with low pressure spray equipment with tip size of .026 to .072. DO NOT ATOMIZE (use pump-up garden sprayer with fan tip).
3. Holding tip 6"-12"/150-300mm from surface using overlapping spray pattern and fanning motion at the end of each horizontal pass.
4. Entire area being treated is to be saturated, but do not allow AQURON® SPT-1200™ to puddle. If so, disperse puddled area with broom 1-4 hours after application is completed (do not allow puddles of AQURON® SPT-1200™ to dry as whitening effects may occur).

Warranties and Limitations of Liability

Aquron Corporation ("Seller") warrants that if any goods supplied prove defective in workmanship or materials, that Seller shall replace them or refund their purchase price. Aquron Corporation offers a performance warranty for this Aquron® product. The warranty for the performance of this Aquron® product must be requested from the Aquron Corporation and initiated prior to applying this Aquron® product. Failure to initiate warranty of performance prior to application, holds harmless Aquron Corporation of any liability arising from its use, and user assumes all risk and liabilities whatsoever in connection therewith. The terms of this paragraph may not be orally modified. There are no warranties express or implied which extend beyond the face herewith.

5. Precautions should be taken to cover any areas not intended to be sprayed, as dried product is difficult to remove. Should overspray or accidental contact be made, remove product with water and brush or cloth before it dries.
6. Depending on temperature and other weather conditions, AQURON® SPT-1200™ will normally dry in 12-24 hours at 70°F/21°C.

CLEAN-UP AND SAFETY

No special clothing, breathing apparatus, goggles or gloves are necessary but in enclosed areas it is advisable to wear a suitable respirator to avoid possible irritation to breathing.

Attention should be made to watches, spectacles or eyeglasses etc., as AQURON® SPT-1200™ once dried is very difficult to remove!

Clean all equipment using water and mild soap. Never store spray equipment without cleaning and following manufacturer's recommendations for storage between usage.

SHELF LIFE

Self life is indefinite provided containers are kept tightly sealed when not in use.

PACKAGING

AQURON® SPT-1200™ is available in 5 gallon/18.9 liters and 55 gallon/208.2 liters drum size.

AQURON® SPT-1200™ is also available in bulk containers.

MAINTENANCE

Special maintenance of treated area is not required.

TECHNICAL SERVICES

Technical information and assistance may be obtained from your local dealer, or by calling the technical department of the AQURON Corporation at (972) 722-5444, (800) 342-4649 Office, or (972) 722-6412 Fax or toll free Fax (888) 412-1543. Email welcome – info@aquron.com

Local Area Representative

AQURON® 1200

Stone Preservative Treatment

MATERIAL SAFETY DATA SHEET

FOR PROFESSIONAL USE ONLY-KEEP OUT OF CHILDREN'S REACH

MANUFACTURER

Aquron Corporation Tel. (972) 722-5444
PO Box 758 Fax (972) 722-6412
Rockwall, TX 75087 E-mail info@aquron.com

SECTION 1: PRODUCT IDENTIFICATION

Product Name: Aquron® 1200 Stone Preservative Treatment
Formula: Proprietary Mixture

<u>Hazard Rating:</u>	<u>Hazard Rating Scale:</u>
Health.....1	Minimal.....0
Fire.....0	Slight.....1
Reactivity.....0	Moderate.....2
Special.....0	Serious.....3
	Severe.....4

SECTION 2: HAZARDOUS INGREDIENTS

Hazardous component(s): None

SECTION 3: PHYSICAL PROPERTIES

Physical description.....clear, liquid
Boiling point.....near 230°F±
pH.....10.5±
Water solubility.....near 100%
Specific gravity.....1.04±

SECTION 4: FIRST AID MEASURES

Inhalation: The subject product is applied using a non-atomizing spray apparatus. Spray inhalation should be kept minimal through normal ventilation. Since this product is non-toxic its spray mist is not hazardous to breathe, however, some breathing discomfort may be experienced in extremely closed in areas due to normal air components becoming temporarily disproportional in air involving spray mist.

Skin: Flood with water first, then wash with soap and water.

Eyes: Flush liberally with fresh water for 15 minutes, lifting upper and lower eyelids occasionally. Seek medical attention if irritation develops.

Internal: Drink plenty of water followed by citrus juice. Seek medical attention if nausea or vomiting develops.

SECTION 5: HEALTH HAZARD INFORMATION

Primary routes of exposure. Eye and skin contact.

Signs/Symptoms: Irritation and/or redness of mucous membrane in area around eyes.

SECTION 6: TOXICITY DATA

Toxicity: This product was tested for toxicity and was found to be non-toxic, but is NOT recommended for ingestion.
Threshold Limit Values: Not established.

SECTION 7: PERSONAL PROTECTION

Protection Clothing: None Required

Other protection measures: Eyewash facility should be nearby and ready for use.

SECTION 8: FIRE & EXPLOSIVE INFORMATION

Flash point: None

Method Used: Not applicable.

Extinguishing media: Product is not combustible or flammable. Use appropriate extinguishing media for surrounding fire.

SECTION 9: HAZARDOUS REACTIVITY

Stability: Stable

Conditions to avoid: Strong acids

Incompatibility: Strong acids.

Hazardous decomposition products: None

SECTION 10: DISPOSAL PROCEDURES

Spills or leaks: Dilute and flush away with water (O.K. for sewer). Properly dispose of containers.

SECTION 11: SPECIAL PRECAUTIONS

Storage: Store inside or outside properly situated away from incompatible materials, i.e., strong acids. Other special precautions not required.

SECTION 12: ECOLOGICAL INFORMATION

This material is ecologically friendly and doesn't pose any threat to the environment that is known.

SECTION 13: DISCLAIMER

This MSDS should not be construed as product sales literature. Aquron Corporation disclaims all express or implied warranties, merchantability and fitness for a particular purpose with respect to the information provided herein.

SECTION 14: NOTICE

All information appearing here is based upon data generated by Aquron Corporation from recognized technical sources and is believed to be accurate. This product's conditions of use are beyond Aquron Corporation's control, and therefore, users are responsible for verifying this data under their own operating conditions to determine whether this product is suitable for their particular purposes. They assume all risks of use, handling and disposal of the product, or from the publication or use of, or reliance upon information contained herein. This information relates only to the product designated herein, and does not relate to its use in combination with any other material or in any other process.

STEEL PRESERVE PRIMER

02/14/20 Version 2.0

Description

Steel Preserve Primer has the ability to create an ionic bond with metal and provide a surface coating that encapsulates corrosion and protects old, deteriorating, ferrous substrates. Steel Preserve Primer may be applied directly to surfaces with tightly adhered intact rust (with proper preparation). Steel Preserve Primer will penetrate tightly adhered intact rust to bond with the metal substrate below to stop the corrosion process.

When properly applied, Steel Preserve Primer provides both the applicator and asset owner with a cost effective infrastructure maintenance program. Steel Preserve Primer is environmentally friendly due to it being water-based, extremely low VOC level, and ease of application and use.

Basic Usage

Steel Preserve Primer is primarily used as a primer coating to protect ferrous materials from further deterioration and loss of mass, through exposure to many naturally occurring elements.

- Concrete encased metal
- Metal Stairs and Ramps
- Corrosion Under Insulation (CUI)
- Corrugated and Metal Roofs
- Ship Decks
- Columns - Beams - Bridges
- Tanks
- Mines, Infrastructure, Pipe exteriors

Steel Preserve Primer, in some cases may be used in some cases as a stand-alone solution, although more often as a part of a more comprehensive solution utilizing other Aquaron products. In addition, Steel Preserve Primer may be used as a functional primer for other coating systems.

Benefits

- Simplified surface preparation
- Can be applied via brush, spray, or roll
- Penetrates rust and bonds to metal below
- Extends time between maintenance cycles
- 1K Water-borne product
- Flexible re-coat window (weeks vs hours)
- Ease of clean-up (water and solvents)
- Remarkable ease of application
- Minimal odor
- Water resistant



STEEL PRESERVE PRIMER

Information / Composition of Components

Proprietary formulation no hazardous ingredients according to the OSHA Hazard Communication Standard (29 SS1 1910.1200)

Number of Components:	One
Mass Density:	1.2-1.3 gr/cc
Volume Solids:	52% \pm 2%
VOC:	Under 1.0
Viscosity:	200-600 cSt
pH:	8-9
Recommended DFT:	1-3 mils Dry Film Thickness (DFT)
Time Dry to Touch:	20-40min.
Overcoating Intervals:	When dry to touch
Full Cure After:	24-48 hours
Shelf Life:	24 months at 4-40 Degrees Celsius (in original sealed container)
Physical State at 20°C:	Liquid
Appearance:	Milky White, White, Yellow, Colors
Odor:	Slight Acrylic
Freezing Point [°C]:	0°C
Boiling Point [°C]:	100°C
Vapor Pressure:	2.3 kPa at RT
Flammability (Solid, Gas):	Not Flammable

STEEL PRESERVE PRIMER

02/14/20 Version 2.0

Upper / Lower Limit on Flammability or Explosive Limits

Flammability Limit Upper (%):	N/A
Flammability Limit Lower (%):	N/A
Solubility in Water:	Partial
Auto-ignition Temperature [°C]:	N/A
Decomposition point [°C]:	N/A

Dry / Cure Time Guidelines for STEEL PRESERVE PRIMER

Substrate Temperature	Time - Dry to Touch	Time - Dry to Service (Chemical Cure)
21°C / 70°F	1 hour	48 hours
32°C / 90°F	45 minutes	24 hours

Refer to our Material Safety Data Sheet (MSDS) regarding regulatory compliance, safety, hazards, spill procedures and disposal of this product.

While the descriptions, designs, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you make tests to determine the suitability of a product for your particular purpose prior to use. NO WARRANTIES OF ANY KIND, EITHER EXPRESS OR IMPLIED, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, ARE MADE REGARDING PRODUCTS DESCRIBED OR DESIGNS, DATA OR INFORMATION SET FORTH, OR THAT THE PRODUCTS, DESIGNS, DATA OR INFORMATION MAY BE USED WITHOUT INFRINGING THE INTELLECTUAL PROPERTY RIGHTS OF OTHERS. IN NO CASE SHALL THE DESCRIPTIONS, INFORMATION, DATA OR DESIGNS PROVIDED BE CONSIDERED A PART OF OUR TERMS AND CONDITIONS OF SALE.

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

Product Name: **Steel Protect-P**
 Supplier: AQURON Corporation International
 2009 A Industrial Blvd.
 Rockwall, Texas 75087
 Company Phone: 972-722-5444
 Emergency Phone: Chemtrec (24 hours (800 424-9300 or (703 527-3887
 Revised On: 12/01/19
 Recommended Use: Dry mineral powder. When combined with Steel Protect-P forms a rust inhibiting cementitious coating.

SECTION 2: HAZARDS IDENTIFICATION

Pictogram: **Signal Word: Danger**



GHS08

GHS07

Hazards Classification: Skin Irritant Category 2; Eye Irritant Category 2; Specific target organ toxicity, single exposure; Respiratory tract irritation: Category 3; Carcinogenicity: Category 1A, 1B, 2; Specific target organ toxicity, repeated exposure: Category 1

<u>Hazard Statements</u>	<u>Precautionary Statements</u>
<p>H303 May be harmful if swallowed H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H350 May cause cancer. H350i May cause cancer if inhaled. H351 Suspected of causing cancer. H372 Causes damage to organs (Lungs) through prolonged or repeated exposure if inhaled.</p>	<p>P201 Obtain special instructions before use. P202 Do not handle until all safety precautions have been read and understood. P260 Do not breathe dust/fume/gas/mist/vapours/spray. P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P264 Wash hands thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P271 Use only outdoors or in a well-ventilated area. P280 Wear protective gloves/protective clothing/eye protection/face protection. P281 Use personal protective equipment as required. P314 Get medical advice/attention if you feel unwell. P312 Call a POISON CENTER or doctor/physician if you feel unwell. P321 Specific treatment (see... on this label). P362 Take off contaminated clothing and wash before reuse. P405 Store locked up. P501 Dispose of contents/container according to regulations. P302+P352 IF ON SKIN: wash with plenty of soap and water. P304+P340 IF INHALED: Remove victim to fresh air and Keep at rest in a position comfortable for breathing. P305+ P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P308+P313 IF exposed or concerned: Get medical advice/attention. P332+P313 SKIN irritation occurs: Get medical advice/attention. P337+P313 IF eye irritation persists: Get medical advice/attention. P403+P233 Store in a well-ventilated place. Keep container tightly closed.</p>

Hazards not otherwise classified (HNOC) or not covered by GHS: None.

SECTION 3: COMPOSITION/ INFORMATION ON INGREDIENTS

INGREDIENT	CAS No.	Weight %
Synthetic Pyrogenic Silica	112945-52-5	<2.5%
2,4,6-Triamino-1,3,5-triazine	108-78-1	<5.0%
Proprietary	Proprietary	<0.5%
Silicon Dioxide	7631-86-9	<1.0%
Crystalline Silica (Quartz)	14808-60-7	<0.01%
Proprietary	Proprietary	<0.5%
Zirconium Oxide	1314-23-4	<15.0%
Iron Oxide	1317-61-9	<15.0%
Trade Secret	Trade Secret	<10.0%
Silicon Carbide	409-21-2	< 15.0%
Wollastonite	13983-17-10	<10.0%

SECTION 4: FIRST AID MEASURES

First aid measures general:	If exposed or concerned, get medical advice/attention.
First aid measures after inhalation:	Allow victim to get fresh air. Allow victim to rest.
First aid measures after skin contact:	Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation occurs, get medical advice/attention.
First aid measures eye contact:	Rinse with water for several minutes. Remove contact lenses. Continue rinsing. If eye irritation persists, get medical advice/attention.
First aid measures ingestion:	Rinse mouth. Do NOT induce vomiting. Obtain emergency medical attention.
Most Important Symptoms, Acute and Delayed:	
Symptoms/injuries after eye contact:	Causes serious eye irritation.
Symptoms/injuries after skin contact:	Causes skin irritation.

SECTION 5: FIRE-FIGHTING MEASURES

This product is not combustible.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Emergency Procedures:	Evacuate unnecessary personnel. Ventilate area.
Protective Equipment:	Equip clean up personnel with proper personal protection.
Environmental Precautions:	Limit exposure to the environment.
Methods for clean up:	Minimize dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed labeled waste container.
Reference to other sections:	7-safe handling; 8-personal protection equipment; 13-disposal information.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

- Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work. Provide good ventilation in process area to prevent accumulation of vapor. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.

Additional hazards when processed: Good ventilation of the workplace required.

Handling temperature: 5 - 45 degrees C

Hygiene measures: Wash hands/other exposed areas with mild soap before eating, drinking or smoking, & when leaving work.

Conditions for safe storage, including incompatibilities:

Storage conditions:	Keep container closed when not in use. Protect against moisture.	Incompatible materials:	No additional information.
Incompatible products:	Strong bases. Strong acids.	Storage temperature:	4 - 40 degrees C
Maximum storage period:	36 months, under recommended conditions		
Specific End Uses:	No additional information.		

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters: No additional information.

Exposure Controls:

Personal protective equipment: Avoid all unnecessary exposure.

Skin and body protection: Wear suitable protective clothing.

Eye protection: Wear chemical goggles or safety glasses

Hand protection: Wear protective gloves.

Respiratory protection: Wear appropriate mask.

Other information: Do not eat/drink/smoke during use.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Specific Physical Form:	Dry gray powder	Decomposition Temperature:	Not Applicable.
Odor:	Odorless.	Boiling Point:	100°C
Density:	1.1 g/cm3	Vapor Density:	Not Applicable.
Vapor Pressure:	Not Applicable.	Autoignition Temperature:	Not Applicable.
pH Range:	7-8	Melting/Freezing Point:	Not Applicable.
Solubility In Water:	Not soluble.	Evaporation Rate:	Not Applicable.
---	Not Applicable.	Odor Threshold:	Not Applicable.
Log Pow/Log Kow:	Not Applicable.	Flammability (Solid, Gaseous):	Not Applicable.
Relative Density:	Not Applicable.	Viscosity Kinematic/Dynamic:	Not Applicable.
Explosion Limits:	Not Applicable.	Percent Solids Range:	100%
Flash Point:	Not Applicable.	Other information:	No further relevant information available.

SECTION 10: STABILITY AND REACTIVITY

Reactivity: No data available.

Stability: Stable under normal conditions.

Possibility of hazardous reactions: Not established.

Conditions to avoid: Exposure to moisture and liquids. Extreme temperatures.

Incompatible materials: Strong Acids. Strong Bases.

Hazardous decomposition products: No data available.

SECTION 11: TOXICOLOGICAL INFORMATION

Acute Effects: Known to be a human carcinogen.

Quartz (Crystalline Silica) - CAS No. 14808-60-7

Silica dust, crystalline, in the form of quartz is classified by IARC as Group 1 (carcinogenic to humans) based on "sufficient evidence" in occupationally exposed humans and sufficient evidence in animals.

Skin corrosion/irritation:	Causes skin irritation.
Serious eye damage/irritation:	Causes serious eye irritation.
Respiratory or skin sensitization:	Not classified.
Germ cell mutagenicity:	No known significant effects or critical hazards.
Carcinogenicity:	May cause cancer. Risk of cancer depends on duration and level of exposure.
Reproductive toxicity:	No known significant effects or critical hazards.
Specific organ target toxicity (single exp):	No known significant effects or critical hazards.
Specific organ target toxicity (rep exp):	No known significant effects or critical hazards.
Aspiration hazard:	Not classified.
Symptoms/injuries after skin contact:	May cause skin irritation.
Symptoms/injuries after eye contact:	Causes serious eye irritation.
Other chronic effects:	May adversely affect the lung (pneumoconiosis) and/or lung function. May cause silicosis. Severity of effect depends on duration and level of exposure.

SECTION 12: ECOLOGICAL INFORMATION

Toxicity:	Not known to be exotoxic; no data suggests toxicity to birds, fish, invertebrates, microorganisms, or plants.
Persistence and Degradability:	No data available.
Bioaccumulative potential:	No data available.
Mobility in soil:	No data available.
Other adverse effects:	Effect on ozone layer: No additional information available Effect on global warming: No known ecological damage caused by this product Other information: Avoid release to the environment

SECTION 13: DISPOSAL CONSIDERATIONS

Waste disposal recommendations: Dispose in a safe manner in accordance with local/national regulations.

Waste materials: Avoid release to the environment.

SECTION 14: TRANSPORT INFORMATION

In accordance with DOT. Not regulated for transportation. HS code: 2523.29

SECTION 15: REGULATORY INFORMATION

All components of this product are listed, or excluded from listing, on the US Environmental Protection Agency Toxic Substances Control Act (TSCA) inventory. This product or mixture does not contain a toxic chemical or chemicals in excess of the minimal applicable concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

CANADA: One of the components of this product is listed on the Canadian DSL (Domestic Substances List).

EU-Regulations: One of the components of this product is listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances). All components of this product are REACH compliant.

Classification according to Directive 67/548/EEC [DSD] or 1999/45/EC [DPD]: Not classified.

Classification according to Regulation (EC) No. 1272/2008 [CLP]: Not classified.

California Proposition 65 - This product contains, or may contain, trace quantities of a substance known to the State of California to cause cancer and/or reproductive toxicity.

Quartz (Crystalline Silica) - CAS No. 14808-60-7				
U.S.- California- Proposition 65- Carcinogens List	U.S.- California- Proposition 65- Developmental Toxicity	U.S.- California- Proposition 65- Reproductive Toxicity- Female	U.S.- California- Proposition 65- Reproductive Toxicity- Male	No significant risk level (NSRL)

SECTION 16: OTHER INFORMATION

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