

# Protec III: Original

## Made in Canada for 25 Years.

Cures, Hardens, Densifies, Dust-Proofs, Prevents Efflorescence, Helps Trowel and Finish Concrete.

### Coverage:

#### Average Usage:

1500 square feet per 5 US Gallons = 139.4 square meters per 18.9 Litres.

#### Precast:

1750 square feet per 5 US Gallons = 162.6 square meters per 18.9 Litres.

#### Power Trowel:

2000 square feet per 5 US Gallons = 185.8 square meters per 18.9 Litres.

#### Polished Concrete:

800 square feet per 5 US Gallons = 74.22 square meters per 18.9 Litres.

### Product Uses:

#### Precast Manufacturing:

Improve your finished surfaces, prevent bleed water, plastic shrinkage cracks, and efflorescence all while speeding up your manufacturing process. – **Apply during finishing, after removing from your mould, or both.**

#### Commercial Finishing:

Cure and harden your floors with a **same-day application requiring no scrubbing or cleaning.** Use the same product for dust-proofing and densifying the surface with this non-membrane forming product.

#### Residential Construction:

Streamline your construction process with a single product that **cures, dust-proofs, polishes, blocks efflorescence,** and helps ensure your project is finished without issues.

# Protec III: Original Details for Engineers.

## **ASTM C309 and CSA A23.1 Details.**

The specifications for CSA A23.1 requires the following:

### 7.8.2.2 Materials

Materials for curing concrete shall meet the requirements of one of the following standards:

- a) AASHTO M 182;
- b) ASTM C171; or
- c) ASTM C309.

Water used for curing shall not have a deleterious effect on the concrete.

#### Notes:

- 1) Curing compounds should not be used where a bond is required for additional concrete (e.g., concrete topping) or surface coating (e.g., liquid hardeners), unless
  - a) the curing compounds are entirely removed at the end of the curing period by sandblasting or by using an approved solvent;
  - b) conclusive tests show that the residue of the membrane does not reduce bond below design limits; or
  - c) suitable mechanical means for full bond development are provided.
- 2) For curing of architectural concrete, see Clause 8.3.
- 3) Where penetrating sealers are to be used, a curing compound should not be used as the curing method.

## **How this specification applies to Protec III: Original.**

### **Sub-section 1 is not applicable to this product.**

As **Protec III: Original** does not contain any ingredients that are membrane forming the product is not a membrane forming product, so all tests specifically required for ASTM C309 products are not applicable.

### **Sub-sections 2-3 are not applicable to this product.**

There will be no issues applying other coatings, sealers, or adhesives directly ontop of Protec III: Original as the product absorbs into the concrete, **and it does not create a membrane or other temporary or permanent barrier.**

In closing, our product **Protec III: Original** will be able to cure the concrete while complying **with all of the above requirements**, as all the requirments are only required if the concrete cure in question is membrane forming.

Additionally, **Protec III: Original** is completely free of solvents and is LEED 4.1 Certified.



# History of **Protec III: Original** and Cornerstone Coatings.

## **Cornerstone Coatings, a Direct to Consumer Manufacturer:**

Now a second-generation concrete coating manufacturer, Cornerstone Coatings was started in 1999 with Protec III by **Murray LeComte**, a chemist by practice, an avid self-made inventor.

**"If you mix it together and it doesn't smoke, keep going."**

After creating over 45 unique products, the business consolidated its focus to Protec III: Original (Originally named Protec III LSF Chem RX) in 2019.

## **A Christian Family-owned Canadian Business.**

Starting from humble beginnings in Bruno, Saskatchewan, Cornerstone Coatings is now a multi-national manufacturer, reaching across **Canada, Australia, Mexico, and The United States.**

### **Note:**

**Protec III: Original** was formerly named **Protec III LSF Chem RX**, the product remains exactly the same. Specifications requiring this product should be updated to use the new name "Protec III: Original".



# A Hardener, Densifier, and Polish Aid for **Your Concrete.**

## **Harden and Densify, Dust-proof, and Polish Concrete.**

One of the surprising uses of Protec III: Original is that it's also **a complete standalone densifier and hardener.**

Protec III: Original works through a chemical reaction between cement and our Liquid Silica Fume to increase density, **producing a harder surface that permanently polishes and dust-proofs with vehicle and foot traffic.**

You can use Protec III: Original as your **densifier, hardener, and then finally your polishing aid when polishing concrete,** giving you everything you need to polish in one package.

## **Prevent Efflorescence and Carbonation.**

You can **prevent efflorescence and carbonation by chemically neutralizing any extra calcium hydroxide** in the surface of new concrete.

Neutralizing the free lime before it can become efflorescence **after the concrete is exposed to moisture** or carbonation **after it has been exposed to carbon dioxide** is the best way to prevent future surface problems.



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**No Product Applied.  
(Neighboring Driveway).  
Placed on Sept 4th, 2020.**

**Protec III: Original.  
Applied While Finishing.  
Placed on Sept 4th, 2020.**

## **Cure **Without Sealing** Your Concrete Surface.**

### **Prevent Dusting Due to Rapid Moisture Loss During Curing.**

Concrete gains the majority of its surface strength in the first days after finishing, so getting an effective cure is critical for preventing dusting and rapid surface deterioration.

### **Cure Your Concrete by Using Protec III: Original.**

With Protec III: Original you get chemical curing equivalent or better than water curing, meaning you can prevent plastic shrinkage cracks without the costly process of water curing.

With Protec III: Original you can simplify your curing process to using **one chemical for all of your curing needs.**



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# Trowel, Finish, and Cure **with One Product.**

## **Finish and Get a Cure Without Any Extra Steps.**

Protec III: Original is unique in that it is your concrete trowel aid, as well as the cure, hardener, densifier, and efflorescence blocker.

Normally products can only work as either a troweling aid or a cure, **except Protec III: Original does both in one application.**

## **Finish in Normally Unsuitable Conditions Without Concern.**

With Protec III: Original as your trowel aid you get a natural surface to work with, you can close up dry concrete mixes easily, and finish in difficult conditions without any issues.

When placing in weather above 38° Celsius/100°F **Protec III: Original gives you reliable extra finishing time and full chemical curing.**



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# VOC emission

Cornerstone Coatings Global, Inc  
#100, 111 – 5th Avenue SW  
Calgary, AB T2P 3Y6  
Canada

## Attestation

**Sample name** Protec III: Original  
Batch no. 0410231  
Date of production 10-04-2023

**Product type** Finishing Aid, Cure and Hardner  
Sample reception 24-04-2023  
Test date 11/05/2023 – 25/05/2023

This attestation confirms compliance with the following VOC requirements on low emitting regulations, standards or protocols:

Regulation or protocol	Conclusion	Version of regulation of protocol
California - "Section 01350" Specification	Pass for flooring application for private office, school classroom and single family residence scenarios	California CDPH Standard Method for the Evaluation of Volatile Organic Chemical Emissions from Indoor Sources using Environmental Chambers Version 1.2, January 2017

Full details on the testing and direct comparison with limit values are available in SPT2023-R153. For reporting statements of conformity (decision rule) the measurement uncertainty is not taken into account.

This attestation ensures that for the tested product the low product emission requirements are fulfilled and is proof of the applicant's focus on quality and contribution to a healthy indoor environment. Testing was performed according to the latest version (v1.2) of CDPH Standard method for the testing and evaluation of volatile organic chemical emissions from indoor sources using environmental chambers by ISO/IEC 17025 accredited test laboratory Normec Product Testing for the CDPH test method.

M. Lor  
Managing Director Normec Product Testing

Test results are only valid for the tested sample(s), as received from the client. Test report may only be copied or reprinted in this entity, parts of it only with a written acceptance by Normec Product Testing.

SPT2023-R153



# Application Guide: Power Trowel on Commercial Jobs.

## Same-Day Application, No Scrubbing, No Stripping.

To get a cure, hardener, and densifier just apply Protec III: Original at **400 square feet per US gallon/9.8 litres per square meter** across the entire surface once finishing is complete.

**No scrubbing, cleanup, or sealing then removing a sealer is needed** to cure, harden, and dust-proof your surface with Protec III: Original.

After applying spread out any puddles about every 10 minutes until the majority of product has absorbed.

## Dust-proof and Densify Your Flatwork Floors.

To dust-proof and add extra strength, just apply the product after cleaning saw cuts at **400 square feet per US gallon/9.8 litres per square meter**, at this point do as many additional coats as desired, allowing all product to absorb and dry completely before applying more.

After applying spread out any puddles about every 10 minutes until the majority of product has absorbed. **Your shop floor will be ready to use as soon as the product has absorbed.**

Because Protec III: Original is non-membrane forming you only need to vacuum up the saw cut dust before applying any additional coats, no washing is required.

The concrete should become dust-proof after enough traffic has polished the floor, or **after burnishing the surface to create the permanent shine immediately.**



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# Application Guide: Power Trowel Finished Precast.

## **Your Product for Efflorescence, Curing, and Improved Finishing.**

To get a finishing aid and cure in one step just apply Protec III: Original at **350 square feet per US gallon/8.6 liters per square meter** after screeding, then proceed to finish as normal.

Streamlining your manufacturing by getting your topical cure, improved surface finishing, and efflorescence prevention in **a single-step process is what you get with Protec III: Original.**

**Protec III: Original replaces water curing**, and you do not need to change any of your existing processes, because the concrete will be effectively left natural for later painting.

## **Solve Your Problems with Chemistry.**

Prevent efflorescence and carbonation **by chemically neutralizing the water-soluble calcium** within your concrete surfaces.

Get a better finish with the improved paste Protec III: Original creates when it combines with the alkalis in your concrete.

**Apply either during normal finishing, after removing from your mould, or both.**



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# Application Guide: Polishing Concrete.

## **Rinse Free, Ready-To-Use Densifier and Polishing Aid.**

After cleaning the floor begin polishing with a **200 grit resin polishing pad**, once you're done polishing clean the floor again, then apply Protec III: Original at **160 square feet per US gallon/ 3.9 liters per square meter**.

Ensure that the floor remains wet for 20 minutes, spread product around to more absorbent areas every 10 minutes. **Apply more product on fast-drying areas.**

After all product has fully dried, **equip blue nylon pads or diamond impregnated pads then buff the surface** until you achieve your desired shine.

## **Use The Same Product for Ultra-high Shine Polishing Jobs.**

Protec III Original can also be used to achieve higher shines for more premium floors. After completing your starting polish with your **200 grit resin polishing pads**, equip your **400 grit resin polishing pads**.

Apply a light amount of Protec III: Original with a microfiber mop ahead of your polishing path for every polishing pad you intend to use until you're finished polishing to your desired grit.

Clean the floor again with water and allow the floor to fully dry, then apply more Protec III: Original, Dual-Tech, or your preferred final coating.

After all product has fully dried, **equip blue nylon pads or diamond impregnated pads then buff the surface** until you achieve your desired shine.



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# Application Guide: Broom Finished Precast.

## Apply While in Mould or After Removing From The Mould.

Cure your precast by finishing the product into the surface while it's still in the mould, or after removing it from its mould.

Great for broom finished surfaces where water curing can damage or discolour the surface.

Apply either during the finishing process, after removing from the mould, or both. – The best application point is the one most convenient for you!

## How To Apply on Precast Stairs.

To get a trowel aid and cure in one step, just apply Protec III: Original at **350 square feet per US gallon/8.6 liters per square meter** before floating the surface, fully work and trowel in the product, then proceed to finish like normal.

If your stairs are partially in the mould while finishing, then apply at **350 square feet per US gallon/8.6 liters per square meter** after fully removing from the mould, making sure that the concrete has fully dried before applying if you wash the stairs during production.

With Protec III: Original the surface can be cured without damaging your broom finished surface, and you will not need to water cure anymore.



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# Application Guide: Power Trowel on Residential Jobs.

## Finish In Difficult Conditions, Get a Flatter Surface, Cure, and Dust-proof Your Flatwork.

Applying Protec III: Original on normal power trowel concrete is as natural as it gets. Simply apply the product with a sprayer at **300 square feet per US gallon/7.4 litres per square meter** across the entire surface after screeding. For larger pours, apply after you screed each section.

Once applied, immediately work all product in with 2-3 passes of your concrete float.

Give fast-drying areas a light spray, then fully work all product in.

## Dustproof And Densify With Another Coat After Saw Cuts.

With Protec III: Original being a water-based and **non-membrane forming** product you do not need to wash the concrete after saw cuts before applying a second coat.

To apply a second coat for dust-proofing and extra hardness, simply apply the product after saw cuts at **400 square feet per US gallon/9.8 litres per square meter** after removing most saw dust, do as many coats as desired, allowing all product to absorb and dry completely before applying more.

Your shop floor will be ready to walk on as soon as the product has absorbed.



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# Application Guide: Broom Finished Concrete.

## **Get More Cream, Prevent Flashing, and Get a Full 28-Day Cure.**

Applying Protec III: Original on broom finished concrete is as simple as it gets.

Simply apply the product with a sprayer at **300 square feet per US gallon/7.4 liters per square meter** across the entire surface after screeding. For larger pours, apply after you screed each section. Once applied, immediately work all product in with 2-3 passes of your concrete float.

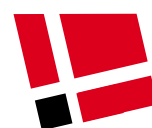
Give fast-drying areas a light spray, then fully work all product in.

## **Add Salt and Chemical Resistance, Plus Reduce Spalling and Popping.**

Multiple coats on broom finished concrete is for reducing surface issues from salts, if that's your goal, then apply two coats of Protec III: Original at **200 square feet per US gallon/4.9 litres per square meter** per coat when the concrete is not abnormally hot.

Allow the concrete to return to its original colour between each coat, spread out any puddles if they remain after 10 minutes.

Anything sprayed on newly broomed concrete **will not soak in, wait at least until the next day.**



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# Application Guide: Slipform Concrete.

## **Reliable Workability and Curing In One Product.**

With Protec III: Original you can simplify your finishing and cure application into one step, letting you do larger pours in almost any conditions.

After you've gotten the final shape of your slipform concrete apply at **300 square feet per US gallon/7.4 litres per square meter**, then work all product into the surface before continuing.

Give fast-drying areas a light spray, then fully work all product in.

## **Ready-To-Use — Complete Cure and Hardener Inside Your Trowel Aid.**

Applying cures on slipform paving can quickly become difficult and unreliable.

With Protec III: Original you can simply apply one coat at **300 square feet per US gallon/7.4 litres per square meter** after placing your concrete, then work the product in with your concrete float to get a cure and hardener, that's it!

Come back later to broom the surface when it's ready, and your application is complete! After your concrete has cured, there is no more preparation needed before painting it.



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# Application Guide: Shotcrete and Gunitite.

## **On-Demand Workability and Curing In One Product.**

Take difficult sprayed concrete surfaces to smooth and workable with Protec III: Original.

After you've gotten the desired shape of your surface, simply spray product on at **300 square feet per US gallon/7.4 litres per square meter** before working all product into the concrete.

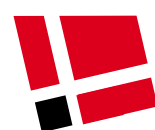
Give fast-drying areas a light spray, then fully work all product in.

## **Replace All Coatings, Water Curing, Troweling Aids, and Hardeners.**

Cure impossible surfaces with a product that becomes part of the concrete.

When applied during finishing Protec III: Original will prevent surface cracking during your first day of curing, then when you come back the next day to apply a second coat at **300 square feet per US gallon/7.4 litres per square meter** you will get a full 28-day cure.

After your concrete has cured, there is no more preparation needed before painting it.



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# Application Guide: Existing Concrete.

## **Dustproof, Densify and Harden Your Concrete, Slow Further Damage.**

While we don't recommend applications on high salt environments like in northern climates where road salts are used, you can easily apply product to existing concrete in areas where road salts are not used.

To check for existing coatings before applying Protec III: Original pour some water on the surface, if the water absorbs into the concrete quickly, and does not bead on the surface there is likely no existing coatings. Check a few areas before proceeding.

## **How to Apply After Preparations Are Done.**

Once you have washed the surface and let it fully dry, do a few small test spots and let them dry for at least 30 minutes. If no whitening reaction occurs then you are ready to apply product at **300 square feet per US gallon/7.5 litres per square meter.**

Watch for puddles and spread them out every 10-15 minutes, Protec III: Original can be walked on immediately after being sprayed problem-free. The product works by absorbing into the concrete, and it is dry when the surface returns to its normal color.

At this point feel free to apply as many coats as desired, having more dry time between coats will allow you to apply more product easily.

Do not apply product on very hot surfaces (**30°C/86° or more**), or concrete that will freeze soon or is already frozen.



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# Protec III: Original

## Safety Data Sheet.

Cures, Hardens, Densifies, Dust-Proofs, Prevents Efflorescence, Helps Trowel and Finish Concrete.

### HMIS Rating:



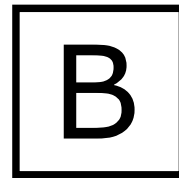
FIRE



HAZARD



HEALTH



PERSONAL  
PROTECTION

- Eye Protection
- Skin Protection

## Product Safety Summary.

### Application and Post-application – Information Summary:

When applying Protec III: Original wear protective glasses, avoid skin contact or letting product absorb through clothing as **the product is alkaline and drying, this causes irritation**, especially if it gets in your eyes.

Protec III: Original is not flammable, contains zero solvents/VOCs, becomes completely inert and non-reactive when dried, and does not produce silica dust or other air quality hazards at any point.

**The product is LEED 4.1 certified** (meaning no volatile organic compound content, and no off-gassing), and the product does not contain any compounds in California Prop. 65.

# Section 1: Product Identification.

## Product Identification:

**Product Identifier:** "Protec III: Original — Concrete Trowel Aid, Cure, and Hardener".

**Manufacturer:** Cornerstone Coatings and Materials, inc.

**Product Use:** Concrete Trowel Aid, Concrete Cure, Concrete Hardener, Concrete Densifier.

**Restrictions on Use:** Not for use on frozen concrete surfaces.

**Corporate Mailing Address:** Suite 241 | #100, 111 - 5 Ave SW, Calgary, AB T2P 3Y6.

## Note:

**Protec III: Original** was formerly named **Protec III LSF Chem RX**, the product remains exactly the same. Specifications requiring this product should be updated to use the new name "Protec III: Original".

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# Section 2: Hazard Identification.

## Hazard Identification:

**H319:** Causes serious eye irritation.

**H319:** Causes skin irritation.

# Section 3: Chemical Composition.

## Chemical Composition:

The product composition is proprietary, but is not flammable, or hazardous, and contains no solvents or VOCs (LEED 4.1, tested to CDPH Standard Method v1.2-2017, Section 01350 standards), contains no resin, polymers, waxes, acrylics, chlorinated rubbers, or otherwise toxic, dangerous, or hazardous materials.

This product has a high pH, with an average pH of 10.9, however it **is not corrosive**.

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# Section 4: First-Aid Measures.

## First-Aid Measures:

**The Product Is Alkaline and Drying.**

**P264:** Wash skin thoroughly after handling.

**P280:** Wear protective gloves, clothing, eye and face protection.

**P362:** Take off contaminated clothing and wash before reuse.

**P303\*351\*353: IF ON SKIN** (Or hair) — Take off immediately all contaminated clothing. Rinse skin with water, or shower.

**P337\*313:** If skin irritation occurs: Get medical advice or attention.

**P337\*338: IF IN EYES** — Rinse continuously with water for several minutes. Remove contact lenses if present and easily removed, continue rinsing.

**P337\*313:** If eye irritation persists: Get medical advice or attention.



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# Section 5: Fire-Fighting Measures.

## **Fire-Fighting Measures:**

The product is not flammable, and treated materials become less flammable.

This product is a mild flame retardant.

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# Section 6: Accidental Release Measures.

## **Accidental Release Measures:**

This product has an average pH of 10.9, and is not toxic to wildlife.

Discharge of this product to sewage treatment is dependent on local regulations with regards to pH controls.

Use liquid-resistant gloves, protective clothing, and eye protection when handling any large spills.

If spilled on any polished metal surface, glass, or aluminum **clean up immediately as etching can occur.**

# Section 7: Handling - Care - Storage.

## **Handling - Care - Storage:**

Ensure that all opened containers are closed after opening.

Prevent debris from entering any containers.

This product does not need to be mixed unless it has previously been frozen.

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# Section 8: Personal Protection.

## **Personal Protection:**

Wear protective safety glasses or disposable eye protection.

Wear disposable nitrile gloves or gloves that are washable and that are not liquid permeable.

Limit exposure to bare skin with protective clothing to prevent any skin irritation or drying.

No respiratory protection needed during or after application.

No ventilation is needed after product application.

# Section 9: Physical Chemical Properties.

## Physical Chemical Properties:

**Physical State:** Water-based Liquid.

**pH:** 10.9 – Not Corrosive.

**Flashpoint:** None.

**Product Can Freeze:** Yes, Mix After Fully Melted.

**Food-safe:** Yes.

**VOC Content:** 0g/L – LEED 4.1 Certified. (CDPH Standard Method v1.2-2017, Section 01350).

**ASTM C309:** Non-membrane Forming Product.

**Odor:** Sweet, Near Odorless.

**Color:** Transparent Amber Liquid. – Dries Clear.

**Specific Gravity:** 1.03.

**Solubility:** Water Soluble.

**Boiling Point:** ~100° Degrees C (212° F).

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# Section 10: Stability – Reactivity.

## Stability – Reactivity:

This product will react with certain salts and chemicals **while in a liquid state**, however, once the product has dried it will not react.



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# Section 11: Toxicological Information.

## **Toxicological Information:**

**Ingestion:** All symptoms of acute toxicity are due to high alkalinity.

**Skin Contact:** Material will cause irritation.

**Eye Contact:** Material will cause severe irritation. Risk of serious damage to eyes.

**Inhalation:** Mist is a mild irritant to the respiratory tract. – All symptoms of acute toxicity are due to high alkalinity.

**Sensitization:** Not sensitizing.

**Mutagenicity:** No evidence of genotoxicity. In vitro/in vivo negative.

**Carcinogenicity:** No structural alerts.

**Reproductive Toxicity:** No evidence of reproductive toxicity or developmental toxicity.

**STOT (Specific Target Organ Toxicity) Single Exposure:** Not classified.

**STOT (Specific Target Organ Toxicity) Repeated Exposure:** Not classified.

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# Section 12: Ecological information.

## **Ecological information:**

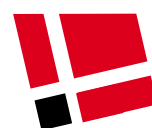
**Persistence and Degradability:** Inorganic.

**Bioaccumulative Potential:** Inorganic. The substance has no potential for bioaccumulation.

**Mobility In Soil:** Not applicable.

**Results of PBT and vPvB Assessment:** Not classified as PBT or vPvB.

**Other Adverse Effects:** The alkalinity of this material may have a local effect on ecosystems sensitive to changes in pH.



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# Section 13: Disposal Consideration.

## **Disposal Consideration:**

The product packaging is general non-hazardous construction waste when packaged in pails or bulk containers.

IBCs and other bulk containers can usually be refurbished, recycled, or sold.

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# Section 14: Transportation Information.

## **Transportation Information:**

**Proper Shipping Name:** "Protec III: Original".

**Waste Treatment Methods:** Discharge of this product to sewage treatment is dependent on local regulations with regards to pH controls.

**UN Number:** Not applicable.

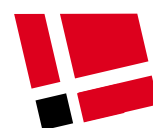
**Environmental Hazards:** Not classified as a Marine Pollutant.

**Transport Hazard Class:** Not applicable.

**Transport in bulk according to Annex II of MARPOL 73/78, and the IBC Code:** Not applicable.

**Applicable HTS/HS Codes:** 2839.90 or 2839.19 or 2839.11.

**Shipping Precautions:** Ship via temperature-controlled trucks to prevent freezing if applicable.



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# Section 15: Regulatory Information.

## **Regulatory Information:**

This product is not hazardous, dangerous, or toxic and is not a regulated product or substance.

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# Section 16: Other Information.

## **Other Information:**

Protec III: Original has the following certification:  
**CDPH Standard Method v1.2-2017, Section 01350.**

Protec III: Original — Safety Data Sheet (SDS/MSDS) Revision Date: **February 23, 2024.**



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