



POR-15 METAL-READY™

METAL-READY™ - Surface Preparation

Product Description

METAL-READY™ is a water-based, zinc phosphate metal etching and preparation solution that is non-toxic, non-flammable, non-caustic, and non-corrosive. It etches metal to provide surface profile for superior organic coating adhesion on steel, aluminum, and galvanized metal. It also provides long-term corrosion protection. METAL-READY™ is a biodegradable solution.

- Insures corrosion resistance
- Neutralizes corrosive chemical reactions between metal surfaces and coating solution.
- Provides superior edge corrosion and undercutting resistance.
- Improves Welding Conductivity
- Creates surface profile without the costs and liabilities of sandblasting.
- Non-toxic and non-hazardous

Advantages

- Environmentally Safe/Water Base
- Re-Usable
- No Harmful Residues
- Easy to Use
- Provides Smoother Base for Application of all Paints
- Will Restore Rusted Tools
- Can be used on Non-Metallic Surfaces (fiberglass, ceramic)
- Excellent Metal-Prep for Any Paint

Physical Data

APPEARANCE	Blue Liquid
BOILING POINT	212°F / 100°C
MELTING POINT	N/A
VAPOR PRESSURE	N/A
VAPOR DENSITY	N/A
EVAPORATION RATE	> 1
WATER SOLUBILITY	100%
MIXTURE RATIO	Do Not Dilute

Test Data

Flash Point (ASTM D93)	No Flash Point
Biodegradability (ASTM D2667)	Biodegradable
Specific Gravity (ASTM D891)	1.115
pH Content (ASTM E70)	8.5

Interesting Facts You Should Know Before You Paint

In every car manufacturing facility, steel in different parts of the body comes from different production lots, and surface texture varies with the condition of the steel mill rolls which cold roll the steel to its final thickness. Also, surface cleanliness varies with the mill's cleaning procedure, especially the procedures used to control carbon smut. Often, carbon smut is actually baked onto the steel during the high temperature annealing process which follows rolling. This carbon smut is impossible to remove except by mechanical abrasion. Rust varies with the care taken in (1) handling at the steel mill, (2) during transportation and storage, and (3) during fabrication. Steel stored for a long time with rust inhibiting oil will react to form an incomplete oxide known as oil stain. The result of all this is that ordinary steel varies widely in the manner in which it accepts coatings. Although some commercial steel provides an excellent surface for coatings, you are just as likely to find steel which gives poor adhesion and poor rust resistance, even with good coatings. Often the same mill will produce both very good and very poor surface quality, depending upon a number of uncontrolled factors. Nearly all of the above problems can be overcome by using METAL-READY before you coat with POR-15 Rust Preventive Paint.

What is Metal-Ready?

- Metal-Ready is a special water-based liquid formulation that is non-toxic, non-flammable, non-caustic, and non-corrosive.

What does Metal-Ready do?

- Metal-Ready performs the following tasks:
 1. Dissolves most of the surface rust, leaving the area ready to be painted.
 2. Etches metal to provide a better surface profile for painting.
 3. Coats the metal with zinc phosphate to inhibit further rusting and promote better paint adhesion.
 4. Improves welding conductivity.
 5. Removes rust stains from non-metallic surfaces such as porcelain, ceramic, fiberglass.
 6. Metal Ready will remove ALL of the rust on the surface if metal is left in solution to soak.

Is it always necessary to apply Metal-Ready first before using POR-15 Rust Preventive Paint?

- No, Metal-Ready must be used when:
 1. Painting on galvanized metal.
 2. Painting on aluminum.
 3. Painting on stainless steel.
 4. Painting on smooth, polished, or new metal surfaces.

Should I use Metal-Ready when applying paints other than POR-15?

- Absolutely...Metal-Ready is an excellent metal prep for any paint.

Can I use Metal-Ready to restore rusted tools?

- Yes you can. Fill a shallow tray with Metal-Ready and put in the tool overnight, or until all rust is dissolved.

Should I use Metal-Ready inside my gas tank before sealing it?

- Yes...assuming your gas tank is clean inside, using Metal-Ready first will insure that you will get the best possible adhesion with your gas tank sealer.

Must I wash off the Metal-Ready after using it?

- Yes...If Metal Ready is not rinsed off you will get a large accumulation of zinc phosphate on the surface which will affect proper adhesion with POR-15. After you rinse/wipe with wet rag, you can dry the surface with warm air(hair dryer) or towels to cut down on the surface rust. However, because POR-15 is a non-porous coating and can be applied directly over rust, you CAN apply it directly over surface rust.

Special note: Metal Ready is designed to leave behind a zinc phosphate coating which creates the best surface to coat with POR-15.

Will Metal-Ready harm paint, rubber, or vinyl?

- Not when used according to directions.

Does temperature affect the action of Metal-Ready?

- Yes. Metal-Ready will work more efficiently when used in a temperature range between 65 and 90 degrees Fahrenheit.

What other uses are there for Metal-Ready?

- Use Metal-Ready on water tanks, plumbing systems, air conditioners, humidifiers, radiators, etc., to flush out rust and lime and chemical buildup; remove rust from brake parts, rims, brake drums, air lines; use to clean circuit boards and die sets.

Can I Re-use Metal-Ready?

Yes, you can; just filter out the waste periodically to keep it in usable condition.

Comparison against other SSPC Preparation Standards

POR-15[®], Inc. developed a two-step preparation system that is a modified SSPC I method using MARINE CLEAN[™] degreaser (step 1) and METAL-READY[™] zinc phosphate (step 2) solution.

This modification was developed due to the limited capabilities of SSPC I solvent cleaning and the difficulties associated with preparing certain surfaces with blast or tool cleaning.

Surface Preparation Comparison

Abrasive Blast Cleaning (SSPC 5,6,7,10,12,14)

Strengths	Weaknesses
Removes scale, rust, and surface contaminants	Creates grit entrapment which damages surrounding equipment
Provides surface profile for adhesion	Distortion or wear of surface and causes mechanical damage
	Containment and contamination issues (particularly in marine environment)

Hand & Power Tool (SSPC 2,3)

Strengths	Weaknesses
Removes scale and rust	Does not effectively remove contaminants
Provides surface profile tooth	Only removes loose scale and rust therefore perpetuating rust and corrosion

POR-15 Two Step Method (SSPC 1 Modified)

Strengths	Weaknesses
Utilizes scale and rust to provide key for superior adhesion of POR-15 [®]	
Removes surface contaminants	
Zinc phosphate neutralizes rust and corrosion while etching the surface for additional surface profile	
Non-toxic and non hazardous - eliminates risk of contamination and is environmentally safer	
Reduces costs with less downtime and does not require additional or high cost equipment (blasting devices or tools)	