



INDUSTRIAL COATINGS

UGSWHDE

ULTRAGUARD SW-HDE

PRETREATMENT TECHNICAL DATA SHEET

LIQUID IRON PHOSPHATE

PRODUCT DESCRIPTION

ULTRAGUARD SW-HDE is a liquid iron phosphate concentrate formulated for preparing large steel components for paint. Proper use provides cleaning and phosphate in one operation at room temperature.

TECHNICAL PROPERTIES

Composition: Liquid

Recommended Concentration: 5% by volume

Recommended Temperature: 70⁰F-120⁰F

PRODUCT ADVANTAGES

- Completely miscible with water and applied by common steam gun apparatus or similar equipment
- Provides an iron phosphate coating weight of 70-80 milligrams per square foot
- Fully biodegradable contains phosphates, accelerator and surfactants
- Apply by spray at ambient or low temperature

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USE & CONTROL INSTRUCTIONS:

Operating Properties (Typical):

| | |
|-------------------------|--------------------------------------|
| Application: | Steam Gun or similar spray equipment |
| Concentration (normal): | 5% volume |
| Temperature: | 70 ⁰ F-120 ⁰ F |

Charge Instructions:

For each 100 gallons of tank reservoir, add 5 gallons of **ULTRAGUARD SW-HDE** and circulate to mix.

NOTES:

- Different substrates and soil conditions may cause the required concentration of the **ULTRAGUARD SW-HDE** bath to vary.
- After treating the part with **ULTRAGUARD SW-HDE**, a final fresh water rinse should be used prior to painting.

Total Acid Analysis

Equipment needed:

- 25 ml. autoburet or 50 ml. digital burette
- 10 ml. volumetric pipette
- Pipette bulb
- 250 ml. Erlenmeyer flask

Reagents needed:

- Phenolphthalein indicator
- 0.1 Normal Sodium Hydroxide

Procedure:

CAUTION: DO NOT PIPETTE BY MOUTH!

1. Pipette a 10-ml. sample of the bath into a 250-ml. Erlenmeyer flask
2. Add 4-5 drops of Phenolphthalein Indicator
3. Titrate with 0.1Normal Sodium Hydroxide until the solution changes to first permanent pink.
4. Each ml. of 0.1 Normal Sodium Hydroxide equals one point of Total Acid.

The concentration is calculated by multiplying the points of Total Acid times the product factor 0.4. This equals the concentration in percent by volume of **ULTRAGUARD SW-HDE** in solution.

Points of Total Acid X 0.4 = Percent by volume of **ULTRAGUARD SW-HDE**.

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Replenishment chart:

- For every percent by volume needed, add 1 gallon of **ULTRAGUARD SW-HDE** per 100 gallons of tank volume.
- For every point of Total Acid needed, add 0.40 gallons of **ULTRAGUARD SW-HDE** per 100 gallons of tank volume.

| Points of Total Acid | Concentration of ULTRAGUARD SW-HDE in percent by volume | Addition of ULTRAGUARD SW-HDE Per 100 gallons of tank volume |
|-----------------------------|--|---|
| 12.5 | 5.0 | 0 |
| 11.3 | 4.5 | 0.5 gallons |
| 10.0 | 4.0 | 1.0 gallon |
| 8.8 | 3.5 | 1.5 gallons |
| 7.5 | 3.0 | 2.0 gallons |
| 6.3 | 2.5 | 2.5 gallons |
| 5.0 | 2.0 | 3.0 gallons |
| 3.8 | 1.5 | 3.5 gallons |
| 2.5 | 1.0 | 4.0 gallons |
| 1.3 | 0.5 | 4.5 gallons |

Equipment:

Mild steel equipment is satisfactory for use with **ULTRAGUARD SW-HDE**.

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Spray Wand Cleaning and Coating - Tips for use

This is an addendum to the **ULTRAGUARD SW-HDE** data sheet intended to provide additional information and tips into how to run a Spray Wand Cleaner/Coater successfully.

- 1) The temperature coming out at the wand tip should be at least 70 °F. This is to ensure a good temperature for cleaning, but also to “heat up” the part. After rinsing the part at higher temperature, (160 °F to 180 °F), the heat in the part helps to dry the part quickly so it can be painted, and to minimize the chance of rusting.
- 2) On a large item you should work about a 4’ x 4’ area in a SLOW circular motion. Make about 2 passes with horizontal circular motions and then repeat with vertical circular motions. That area should then be rinsed with plain water at 160 °F to 180 °F. Rinse until no residual foam is observed, then move to an adjacent area and repeat.
- 3) The phosphate passes should take 2 to 3 minutes total followed IMMEDIATELY by rinsing. There should be no drying of the part between applying the cleaner/coater and rinsing. If there is, break your pattern into smaller areas so the part does not dry between steps. If you wait too long to rinse the part, the chemical itself can dry on the part. This is NOT recommended because the chemical residue can be difficult to remove once dried. The dry residue typically will look like a white chalky powder, it may also begin to flash rust the parts on cold or hot rolled steel substrates.
- 4) Areas where there may be questionable water being used for rinsing; we recommend the pH of the water should be 6.0 to 8.0 to neutralize the coating. Remember to rinse the parts in 160 °F to 180 °F water.

TECHNICAL DATA SHEET DISCLAIMER—INDUSTRIAL COATINGS:

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