



INDUSTRIAL COATINGS

(80501)

ULTRAGUARD 501

FIVE STAGE HIGHLY BUFFERED IRON PHOSPHATE

PRODUCT DESCRIPTION



PRODUCT ADVANTAGES

- All temperature liquid iron phosphate
- Liquid mixture of accelerators and buffering agents.
- Specific mixture of buffering agents greatly simplifies the operation of the bath, maintaining consistent operating pH, and work appearance.
- Suitable for use in mixed metal operations,
- Temperature ranges from 110⁰F to 140⁰F.
- Coating weights are typically light ranging from 25 – 40 mg/ft²

ULTRAGUARD 501 is a highly buffered all temperature liquid iron phosphate compound. It is specifically designed for use in a typical five stage iron phosphate production application.

TECHNICAL PROPERTIES



Composition:	Liquid
Appearance:	Yellow
Odor:	Faint
Specific Gravity @ 60°F:	1.16 – 1.20
Pound per Gallon:	9.67 – 10.0
Flash Point:	N/A
Foaming Tendency:	Slight
Recommended Diluent:	Water
Behavior in Hard Water:	Good
Rinsability:	Good
Biodegradable Surfactants:	N/A
Recommended Concentration:	2 – 6% by volume
Recommended Temperatures:	110°F - 140°F
pH (concentrate):	3.0
pH (working solution):	3.8 – 4.8 @ 5%

ULTRAGUARD 501

USE & CONTROL INSTRUCTIONS:

Bath preparation per 100 US gallons: Fill tank to about 90% of operating volume with fresh water. Turn on circulation pump and add 5 gallons of **ULTRAGUARD 501**. Fill tank to operating level and heat to 110⁰ F or above. Normally the bath does not need control. The buffer in the product maintains the free acid (or pH). **ULTRAGUARD 501** is typically run at 5% concentration.

Using a 10 ml sample pipette transfer 10 ml of the operating bath to a clean, dry beaker. Add 4-5 drops of phenolphthalein indicator (N-10) and titrate with test solution T-1 until the solution changes from colorless to pink. Compare results in the chart to determine % of concentration.

<u>% CONCENTRATION (by volume)</u>	<u>MLS TITRATED (T-1)</u>
1	2.0
2	4.0
3	6.0
4	8.0
5	10.0
6	12.0

pH CONTROL is normally maintained at 3.8 to 4.8 and typically there is no need to make adjustments.

If adjustments are needed follow below instructions:

pH Control - By meter or slide comparator

1. The pH of the operating solution should be checked with either an electronic pH meter or a slide comparator.
2. Maintain the pH in the range of 3.8 - 4.8 for optimum quality.
3. pH adjustments can be made in the following manner:
 - a) To raise the pH approximately 0.1 units, add 103 ml of CHEMFIL BUFFER per 100 gallons of operating solution.
 - b) To lower the pH approximately 0.1 units, add 170 ml of pH CONTROLLER solution per 100 gallons of operating solution.

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TITRATION:

SAMPLE SIZE:
INDICATOR:
TITRANT:
COLOR CHANGE:
FACTOR:

BURETTE

10 ml
Phenolphthalein (N-10)
0.1N NaOH (T-1)
Colorless to pink
 $\%(v)=(\text{ml NaOH}) \times 0.50$

PRECAUTIONS:

Consult the most recent *Material Safety Data Sheet* for health and safety information relative to the handling and storage of this material.

Emergency 24 hour Chemtrec number: 800.424.9300

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