

# ZINCOVATE TLP

TRIVALENT THICK FILM PASSIVATE

## INTRODUCTION

Zincovate TLP is a thick film trivalent passivate producing a multi-colored coating with ultra-high corrosion resistance. Maintaining the pH and concentration at higher operating levels produces a yellow color. This can be applied to acid and alkaline zinc plated surfaces.

## BENEFITS

- Over 200 hours salt spray corrosion resistance
- Low temperature operation
- Wide operating window
- Iridescent multi-color
- Yellow tint color is achievable

## SOLUTION MAKE-UP

Zincovate TLP                      10% v/v

## OPERATING DATA

Zincovate TLP	8 – 12% v/v
pH	1.4 – 3.4 (Optimum 2.0 – 2.5 for multi-color) 3.0 – 3.4 (For slight yellow color)
Temperature	68 – 104°F
Time	45 - 120 sec
Agitation	Air

Manufactured for North America exclusively by **FOCUSTECH™**



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# EQUIPMENT

Tanks	Polypropylene or PVC lined tanks.
Heaters	PTFE heaters with thermostatic control.
Ventilation	Recommended

# INSTALLATION

It is essential that the tanks to be used for Zincovate TLP are thoroughly cleaned and leached before any product is introduced.

If in any doubt as to the cleaning procedure contact Automated Chemical Solutions Technical Department.

1. Fill the tank to 2/3 volume with water.
2. Add the Zincovate TLP.
3. Make up to final volume with water turn on air to mix.
4. Check and adjust pH as required.
5. Heat to operating temperature.

# PROCESS SEQUENCE

1. Zinc plate
2. Rinse
3. Acid dip
4. Rinse
5. Zincovate TLP
6. Rinse
7. Top Coat (Optional)
8. Dry

# MAINTENANCE AND CONTROL

The solution should be analysed regularly and replenished as necessary. (See Analysis Method)

Zincovate TLP can be maintained by regular additions based on SSF and on drag out.

Zincovate TLP: 1.0 – 2.0L/1000 ft<sup>2</sup>

pH is corrected with either dilute nitric acid or 100 g/L sodium hydroxide solution.



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Page 2 of 4  
ZVTLP -01/16  
NA-ISSUE 05

# ANALYSIS METHOD

## Reagents

1. Hydrogen peroxide (35%)
2. Sulfuric acid
3. Sodium hydroxide (10% w/v)
4. Nickel chloride solution
5. Ammonium bifluoride
6. Potassium iodide
7. 0.1N sodium thiosulfate (Standard volumetric solution)
8. Iodine indicator.

## Method

1. Pipette a 5ml aliquot into a 500ml Erlenmeyer flask.
2. Add 10ml of 10% sodium hydroxide.
3. Add 100ml of DI water.
4. Add 1ml hydrogen peroxide slowly allowing the effervescence to subside between additions.
5. Boil the solution for 5 minutes.
6. Add 1ml of nickel chloride solution and continue boiling for 2 minutes.
7. Allow the solution to cool to room temperature.
8. Add 10ml sulfuric acid and 1g ammonium bifluoride. Stir to dissolve.
9. Add one spatula of potassium iodide and stir to dissolve.
10. Titrate with 0.1N sodium thiosulfate to a pale straw color.
11. Add iodine indicator and continue titration to a light green color endpoint.

## Calculation

Zincovate TLP % v/v = mls 0.1N sodium thiosulfate x 0.875

# STORAGE

Store in original containers above 40°F

# SAFETY

CAUTION! Zincovate TLP concentrate and working solutions contain acidic components. Avoid contact with eyes, skin and clothing. Wear chemical handler's gloves, goggles and protective clothing when handling. Read and understand Material Safety Data Sheet before using this product.



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Page 3 of 4  
ZVTLP -01/16  
NA-ISSUE 05

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# PRODUCT GROUPS

The following products are referred to in this data sheet.

PRODUCT NAME	PRODUCT NUMBER
Zincovate TLP	237059

# NOTICE

The information and recommendations of PMD (UK), Ltd. and Automated Chemical Solutions, Inc., and its representatives, regarding this product are, to the best of our knowledge, true and accurate. We make no guarantee of results because the conditions of actual use are beyond our control. We assume no liability for damages or penalties resulting from the use of this product or following our recommendations. Our recommendations and suggestions for use of this product are not intended to grant license to operate under or infringe any patent.



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Page 4 of 4  
ZVTLP -01/16  
NA-ISSUE 05