



INDUSTRIAL COATINGS

(CS19)

# CHEMSEAL 19

## CHROME-FREE FINAL RINSE

### PRODUCT DESCRIPTION



### PRODUCT ADVANTAGES

**CHEMFOS 19** is formulated to provide improved adhesion and added corrosion protection in an environmentally acceptable form, which minimizes waste disposal costs. **CHEMSEAL 19** can be safely used on phosphated steel, zinc, zinc alloys and aluminum.

**CHEMSEAL 19** can be used in both the spray and immersion process. The **CHEMSEAL 19** should be operated at a temperature of 115° to 125°F for 30 to 60 seconds for best results.

### TECHNICAL PROPERTIES



Composition: Liquid  
Appearance: Clear, Colorless to Pale Green

Odor: Mild  
Specific Gravity: 1.03  
Pound per Gallon: 8.6

Flash Point: None  
Foaming Tendency: Low  
Recommended Diluent: Water

Behavior in Hard Water: Good  
Rinsability: Good  
Biodegradable Surfactants: N/A

Recommended Concentration: See Use Inst.  
Recommended Temperatures: 115°F – 125°F  
pH (concentrate): N/A  
pH (working solution): 4.0 – 4.5

# CHEMSEAL 19

## USE & CONTROL INSTRUCTIONS:

A typical process sequence appears below:

- Stage 1: CHEMKLEEN (the proper CHEMKLEEN product will be recommended by your PPG representative)
- Stage 2: Warm water rinse
- Stage 3: RINSE CONDITIONER (for zinc phosphate only)
- Stage 4: CHEMFOS (the proper CHEMFOS product will be recommended by your PPG representative)
- Stage 5: Ambient water rinse
- Stage 6: **CHEMSEAL 19** Temperature: 115 -125°F      pH: 4.0-4.5  
Total Acid: 5.0-7.0 points
- Stage 7: Deionized water rinse

**NOTE:** It is recommend that the **CHEMSEAL 19** bath be dumped on a weekly basis.

### INITIAL MAKE-UP

Fill the tank 3/4 full with fresh water. For each 100 gallons of working volume add 6.4 lb. (3 quarts or 0.75 gallons) of **CHEMSEAL 19** and mix thoroughly. Bring the solution level close to the working level, check the pH and add enough CHEMFIL BUFFER while mixing to bring the pH within the operating range. Adjust the solution to the final operating level and temperature (120° +/- 5°F).

The amount of BUFFER necessary for pH adjustment will vary for each installation due to water hardness and pH. The table below can be used as a guide to calculate the usual amount of BUFFER.

<u>INITIAL BATH pH</u>	<u>BUFFER/100 GALLON</u>
4.0-4.5	0 ml
3.9-4.0	10 ml
3.7-3.8	28 ml
3.5-3.6	52 ml
3.4	77 ml
3.3	99 ml
3.2	123 ml
3.1	158 ml
3.0	194 ml
2.9	236 ml
2.8	274 ml
2.7	336 ml
2.6	388 ml
2.5 OR LOWER	473 ml

## USE & CONTROL INSTRUCTIONS: (continued)

The bath pH should be checked after each addition of BUFFER.

NOTE: When adjusting the pH of **CHEMSEAL 19** with BUFFER, only add 3/4 of the calculated amount of CHEMFIL BUFFER to the **CHEMSEAL 19** bath, mix thoroughly and determine the pH of the bath before adding any additional BUFFER.

### CONTROL PROCEDURES

(Adjust the pH of the CHEMSEAL 19 before measuring Total Acid.)

#### pH Control

The recommended pH range is 4.0-4.5.

Using a pH meter standardized at pH 7 and 4, measure the pH of the **CHEMSEAL 19** bath. If the pH meter does not have automatic temperature correction, the sample must be cooled to room temperature before use. For every 0.1 pH unit that the bath is above 4.5, add 28 ml (1 fl. oz.) of **CHEMSEAL 19** concentrate per 100 gallons of bath volume. The pH of the bath is best controlled by the continuous addition of the **CHEMSEAL 19** concentrate by using a metering pump rather than by infrequent addition of large amounts of chemical. The **CHEMSEAL 19** bath may form sludge if the pH rises above pH 5.0. If the pH of the **CHEMSEAL 19** bath is below 4.0, it can be adjusted with CHEMFIL BUFFER as described above.

#### TOTAL ACID

The recommended Total Acid (TA) range is 5.0-7.0 points.

Using a clean graduated cylinder, carefully measure 100 ml of **CHEMSEAL 19** bath into a 250-ml beaker. Add 10 drops of INDICATOR #5 (Phenolphthalein) and titrate with TEST SOLUTION #3 (0.1 N NaOH) to the first faint permanent pink color. The number of ml required is the Total Acid in points. If the Total Acid drops below 5.0 points, it can be adjusted by the addition of 110 ml of **CHEMSEAL 19** concentrate per 100 gallons of bath for every 1.0 point below 5.0 points. After the addition of **CHEMSEAL 19** concentrate, allow the bath to mix well and perform the titration for Total Acid again. Once the bath has been adjusted to the proper TA level, check the pH of the solution and adjust it, if necessary, as described in the previous section. If the total acid rises above 7.0, dumping a portion of it should stabilize the bath, and the pH checked and adjusted if necessary.

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### **PRECAUTIONS:**

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

Emergency 24 hour Chemtrec number: 800.424.9300