



INDUSTRIAL COATINGS

CHEMFOS<sup>®</sup> KA<sup>CFKA</sup>

## PRETREATMENT TECHNICAL DATA SHEET

### LIQUID IRON PHOSPHATE

#### PRODUCT DESCRIPTION

**CHEMFOS<sup>®</sup> KA** is a liquid iron phosphate concentrate formulated for preparing large steel components for paint. Containing fluoride it is the choice for running galvanized and aluminum as well as difficult steel substrates. Proper use provides cleaning and phosphate in one operation.

#### TECHNICAL PROPERTIES

Composition:	Liquid
Appearance:	Clear to Slightly Opalescent
Recommended Concentrations:	1-2% by volume
Recommended Temperatures:	160 <sup>0</sup> F-212 <sup>0</sup> F

#### PRODUCT ADVANTAGES

- Completely miscible with water
- Applied by common steam gun apparatus or similar equipment.
- Provides an iron phosphate coating weight of 20 to 60 milligrams per square foot.
- Biodegradable product, containing phosphates, accelerator and surfactants

## PRETREATMENT TECHNICAL DATA SHEET

### USE & CONTROL INSTRUCTIONS:

#### Operating Properties (Typical):

Application:	Steam Gun
Concentration (normal):	1-2% volume
(1:1 reduction at gun head)	2-4% volume
Temperature:	160 <sup>0</sup> F-212 <sup>0</sup> F

#### Charge Instructions:

For each 100 gallons of tank reservoir, add 2 gallons of **CHEMFOS KA** and circulate to mix.

#### NOTE:

- Different substrates and soil conditions may cause the required concentration of the **CHEMFOS<sup>®</sup> KA** bath to vary.
- Immediately after treating the part with **CHEMFOS<sup>®</sup> KA**, a final fresh water rinse should be used prior to painting.

#### Analysis Procedure: Titration Procedure - Total Acid Analysis

#### Equipment needed:

- 25 ml. autoburet **or**
- 50 ml. digital burette
- 25 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 25-ml. sample of the bath into a 250-ml. Erlenmeyer flask
2. Add 4-5 drops of Phenolphthalein Indicator
3. Titrate with 0.1 Normal Sodium Hydroxide until the solution changes from the original bath color to first permanent pink.
4. Each ml. of 0.1 Normal Sodium Hydroxide equals one point of Total Acid.

## PRETREATMENT TECHNICAL DATA SHEET

The concentration is calculated by multiplying the points of Total Acid times the product factor 0.32. This equals the concentration in percent by volume of

**CHEMFOS<sup>®</sup> KA** in solution.

Points of Total Acid X 0.32 = Percent by volume of **CHEMFOS KA**

### Replenishment chart:

- For every percent by volume needed, add 1 gallon of **CHEMFOS KA** per 100 gallons of tank volume.
- For every point of Total Acid needed, add 0.33 gallons of **CHEMFOS KA** per 100 gallons of tank volume.

Points of Total Acid	Concentration of CHEMFOS KA in percent by volume	Addition of CHEMFOS KA Per 100 gallons of tank volume
9.4	3.0%	0
8.4	2.7%	0
7.5	2.4%	0
6.6	2.1%	0
5.6	1.8%	0.2 gallons
4.7	1.5%	0.5 gallons
3.8	1.2%	0.8 gallons
2.8	0.9%	1.1 gallons
.6	0.6%	1.4 gallons
.3	0.3%	1.7 gallons
0	0	2.0 gallons

### Equipment:

Mild steel equipment is satisfactory for use with **CHEMFOS<sup>®</sup> KA**.

## PRETREATMENT TECHNICAL DATA SHEET

### Spray Wand cleaning and Coating - Tips for use

This is an addendum to the CFKA 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 160°F to 180°F. This is to ensure a good temperature for cleaning, but also to “heat up” the part. After rinsing the part at the same 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 the 160°F. To 180°F. Temperature. 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) Area's where there may be questionable water being used for rinsing; we recommend the pH of the water should be 6.6 to 7.3 to be able to neutralize the coating and get a good rinse before drying. Remember to rinse the parts in 160°F to 180°F rinse

## PRETREATMENT TECHNICAL DATA SHEET

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### TECHNICAL DATA SHEET DISCLAIMER—INDUSTRIAL COATINGS:

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