Product Bulletin
Product Name: Mi-Phos 22 PW EX
Product Code: 2201001
Revision Date: December 21, 2023

Mi-Phos™ 22 PW EX

Mi-Phos 22 PW EX is a liquid concentrate which, when mixed with water and operated at a temperature of 90°F to 175°F., will clean and produce a phosphate coating on steel and some alloys of zinc and aluminum. Mi-Phos 22 PW EX can also be used on zinc plate, aluminum and terne plate as a cleaner, smut remover and as a preparation for painting.

Features & Benefits

Cleans and phosphates	Two steps in one step
Provides a tenacious bond and undercoat	Base for painting

Operating Conditions

Mi-Phos 22 PW EX is made up at a concentration of 3% to 5% by volume with water and operated at a temperature of 90°F to 175ºF.

Mi-Phos 22 PW EX will normally clean and phosphate in one step. However, for removing extremely heavy oils and greases, pre-cleaning is recommended to extend the production life of the Mi-Phos 22 PW EX solution. Mi-Phos 22 PW EX is formulated with low foaming ingredients required for use in power washer and steam spray equipment. Mi-Phos 22 PW EX is used at a concentration of 3% to 5% in power washers.

When portable spray equipment is used for large assemblies, the Mi-Phos 22 PW EX concentrate can be fed directly into the siphon line, eliminating pre-mixing. Concentrations of 2% to 6% are recommended for these applications, depending on the steam pressure available and the square footage production requirements.

Equipment
Acid resistant polypropylene, PVC, plastic coated, rubber-lined or stainless-steel baskets, hooks, barrels or tanks must be used with the Mi-Phos solution.

Titration Method

1. Pipette 10 mL sample of Mi-Phos 22 PW EX solution into a 250 mL Erlenmeyer flask and dilute with 50 mL of water
2. Add 3 to 5 drops of Phenolphthalein indicator to solution and titrate with 0.1 N Sodium Hydroxide until the solution becomes slightly pink.
3. Record mL used.

Calculation

Concentration = mL 0.1 N NaOH x 1.11

The pH of the Mi-Phos 22 PW EX solution will range from 3.5 to 4.6. The pH should be checked using pH papers or pH meter.

If the pH of the Mi-Phos 22 PW EX solution should fall below 3.5, use sodium carbonate to raise the pH. If the solution's pH is higher than 4.6, add phosphoric acid or Mi-Phos 22 PW EX to lower the pH. Tests of the required addition to raise or lower the pH should be made on a 1-gallon sample.

Test Kit Method

1. Fill test bottle ¼ full of water
2. Add 5 mL Mi-Phos 22 PW EX solution to the bottle using the 5 ml syringe
3. Add 5 to 10 drops of Phenolphthalein indicator.
4. Add 0.72 N Sodium Hydroxide dropwise until the solution turns from colorless to pink
5. Record number of drops used.

Calculation

Concentration = # Drops 0.72 N NaOH x 0.56

Caution

CONTAINS ACID...MAY BURN SKIN AND EYES.DO NOT TAKE INTERNALLY.

Do not get in eyes, on skin or clothing. Wear eye protection (glasses, goggles or face shield), protective gloves and rubber apron when mixing solutions and while working with the solutions.

Avoid contact of Mi-Phos 22 PW EX concentrate and solutions with alkaline materials. Do not mix Mi-Phos 22 PW EX with any other chemicals or solutions.

In case of accidental contact with skin or eyes, immediately flush freely with water for at least fifteen minutes. Obtain medical attention.

WARRANTY: HUBBARD-HALL INC. IS NOT RESPONSIBLE FOR THE MISUSE, MISAPPLICATION, OR MISHANDLING OF THIS PRODUCT. SEE THE TERMS AND CONDITIONS OF SALE ON OUR WEBSITE FOR ADDITIONAL TERMS AND CONDITIONS CONCERNING OUR PRODUCTS, INCLUDING BUT NOT LIMITED TO, LIMITATIONS AND DISCLAIMERS OF WARRANTIES AND LIABILITIES.

Our People. Your Problem Solvers.

For more information on this process,
please call us at 203.756.5521 or email: techservice@hubbardhall.com

Hubbard-Hall holds certifications for **ISO 9001:2015**, Responsible Distribution, as accredited by the **ACD** (Alliance for Chemical Distributors) and as a **Women-Owned Small Business**, as well as maintaining an association with **Omni-Chem**[136]