Ultrex SP 22

Product Code: 2541042
Revised Date: 05/31/2006

Ultrex SP 22
Dry Mixture Of Acid Salts

Ultrex SP 22 is a proprietary blend of acid salts, dispersants, and surfactants, designed especially for pickling steel, copper alloys, and stainless steel. It's formulation provides for effective neutralization of alkaline films and activation of the metal substrate, for additional processing in a wide range of plating cycles.

SPECIAL FEATURES

- Good Cleaning Action on Smuts, Light Scales & Rust
- Sufficient Detergency to Emulsify Residual Oils
- Safer, More Convenient to Use Than Concentrated Acids
- Eliminates the Handling, Storage, & Use of Corrosive Liquid Acids
- Non Fuming, Does Not Heat Water When Dissolved
- Application in Barrel & Rack Process Lines

RECOMMENDED APPLICATION IMMERSION ACID DIP & ACTIVATOR

Base Metal	Range	Optimum
Steel	8-32 oz/gal (60-180 g/l)	20 oz/gal (150 g/l)
Brass	6-12 oz/gal (45-90 g/l)	9 oz/gal
Copper Alloys	8-16 oz/gal (60-120 g/l)	12 oz/gal (90 g/l)
Stainless steel	20-48 oz/gal (150-360 g/l)	34 oz/gal (255 g/l)
Zinc	4-8 oz/gal (30-60 g/l)	6 oz/gal (45 g/l)
Time	2-5 minutes	As required
Agitation	Solution movement or mild air	As required

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RECOMMENDED APPLICATION CATHODIC PICKLING OF STEELS

	Range	**Optimum**
Concentration	16-24 oz/gal (60-180 g/l)	20 oz/gal (150 g/l)
Temperature	85-120 degF (29-49 deg C)	102 deg F (39 deg C)
Voltage (rack)	1-2	As required
C D (cathodic, rack)	20-40 ASF	As required
Anodes	Carbon or Lead	As required
Time	1-5 minutes	As required
Agitation	Solution movement or mild air	As required

CATHODIC ACTIVATION OF ELECTROPLATED NICKEL

	Range	**Optimum**
Concentration	16-24 oz/gal (60-180 g/l)	20 oz/gal (150 g/l)
Temperature	75-90 deg F (24-32 deg C)	82 deg F (28 deg C)
Voltage (rack)	1-2	As required
C D (cathodic, rack)	20-40 ASF	As required
Anodes	Carbon or Lead	As required
Time	1-3 minutes	As required
Agitation	Solution movement or mild air	As required

EQUIPMENT

Tank	Koroseal lined steel, reinforced polypro, or fiberglass
Heater	Quartz or Teflon coil
Ventilation	Mechanical to maintain levels below permissible exposure limits
Agitation	Stirrer, pump, work movement, or mild air

SOLUTION MAKE UP

Consult Ultrex SP 22, MSDS sheet before handling this product.
Be sure the process tank has been drained and cleaned. Fill to within two thirds of final operating volume with clean, warm water (100-120 deg F, 38-49 deg C). With good solution stirring, gradually add the required amount of **Ultrex SP 22.**

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After the required amount of **Ultrex SP 22** has been added and dissolved, adjust final solution operating volume and temperature.

ANALYSIS PROCEDURE ULTREX SP 22

The active components are typically consumed in the appropriate process (refer to pg.1). Surfactants and detergents are consumed in the cleaning operation, by emulsifying oils and grease. Drag out of the acid bath and replenishment of the bath with water also dilutes the working solution. In double cleaning cycles, drag in of the preceding electrocleaner will neutralize some of the acidity. Regular maintenance additions of **Ultrex SP 22** are recommended to replenish the bath. This can be accomplished by observing quality of: activation, pickling, or descaling, and making appropriate additions per requirements of the particular process. Alternatively, the acid bath can be analyzed to determine actual concentration of **Ultrex SP 22**, and the required addition of product to restore the balanced ratio of all the acid bath components.

The following analysis procedure is recommended:

1. Pipette a 10 milliliter sample of the acid bath into a 250 milliliter Erlenmeyer flask.

2. Add 50-100 milliliters of clean water.

3. Add 2-4 drops of Methyl Orange Indicator, developing a pink solution color.

4. Titrate with Sodium Hydroxide of known normality, until the pink color has been discharged to a yellow colored endpoint.

Calculation: (milliliters of titrant) X (Normality) X (1.739) = **Ultrex SP 22** (oz/gal)

PROCESS SUGGESTIONS

Ultrex SP 22 sufficiently neutralizes alkaline :films from the preceding cleaner dip, while activating the base metal prior to plating or subsequent operation. The solution is fortified with surfactants, that emulsify residual oils and grease that may be dragged into the acid bath. Light rust and oxides are normally removed in the immersion dip. Metallic smuts, light scales, and spot welds, are best removed by immersion or cathodically, at higher concentrations of **Ultrex SP 22**. Problems that may occur in the line include:

• Hardened floating tar balls or crust lining the acid tank. Indicates drag in of cleaner solution, oils, and grease. Maintenance of the cleaners and optimizing line rinsing is recommended.

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• Water breaks after the acid. Usually poor cleaning or contaminated acid solution.

• Rusting after the acid dip. This may be due to long transfer times or extended immersion in rinses. Otherwise, the acid solution may be saturated with dissolved metal requiring it's dumping.

• Base metal smuts in the acid. The acid may be too strong for the alloy dipped, or contaminated with dissolved metals.

• Surface smut or immersion deposit (such as copper on steel), exiting the acid.

Excessive metallic contamination. Replace the acid with a fresh make up.

PHYSICAL CHARACTERISTICS

Appearance	Off white, bead like, granular mixture
Odor	Odorless
Dusty	No
Foaming Tendency	Low
Maximum Solubility	48 oz/gal at 75 deg F (3600 g/l at 24 deg C)

PRODUCT PROFILE

Citrates	No
Phosphate	No
Amines	No
Complexors (Gluconate type)	No
Chelates (EDTA, NTA types)	No

HAZARD CLASSIFICATION

DOT Hazard Class	Not Regulated
DOT Shipping Name	Not Applicable
Un Number	Not Applicable
Packing Group	Not Applicable
Guide Number	Not Applicable

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WASTE TREATMENT & DISPOSAL

Ultrex SP 22 and it's working solutions are acidic. They may be neutralized with dilute caustic soda solutions to meet local POTW or municipal effluent discharge requirements. Sludges and oils should be separated out before discharge. Spent **Ultrex SP 22** solutions may contain dissolved metals from the activation and pickling process. Therefore, additional treatment of the solution may be required to meet discharge requirements.

SAFETY INFORMATION

Please read and understand the ULTREX SP 22 Material Safety Data Sheet before handling and using this product.

Recommended safety procedures for ULTREX SP 22 tank make up are described on page 2 of the Technical Data bulletin.

WARRANTY

THE QUALITY OF THIS PRODUCT IS GUARANTEED ON SHIPMENT FROM OUR PLANT. IF THE USE RECOMMENDATIONS ARE FOLLOWED, DESIRED RESULTS WILL BE OBTAINED. SINCE THE USE OF OUR PRODUCTS IS BEYOND OUR CONTROL, NO GUARANTEE EXPRESSED OR IMPLIED IS MADE AS TO THE EFFECTS OF SUCH USE, OR THE RESULTS TO BE OBTAINED.

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