Product Bulletin
Product Name: Ultrex SE 9
Product Code: 2001033
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Ultrex SE 9

Ultrex SE 9 is a high conductivity electro cleaner, designed especially for steel. Its formulation provides for effective anodic conditioning, preparing the base metal for additional processing in a wide range of plating cycles. Ultrex SE 9 contains a specially blended mixture of deflocculants, surfactants, wetter's, conditioners, and alkaline agents.

Features & Benefits

Excellent de smutting, descaling and de rusting action	Enough detergency to emulsify residual oils
Hexavalent chrome tolerant	Reserve alkalinity & conditioners for dependable bath service life

Physical Data

Appearance	Free flowing, white to off white powder
Odor	Slight
Dusty	No
Foaming tendency	Moderate
Maximum solubility	32 oz/Gal at 180°F (240 g/L at 82°C)

Product Profile

Caustic	Yes
Phosphate	Yes
Silicate	No
Complexors (Gluconate type)	Yes
Chelates (EDTA, NTA types)	Yes

Hazard Classification

DOT Hazard Class	8 (Corrosive Material)
DOT Shipping Name	Corrosive Solid, Basic, Inorganic N.O.S.
UN Number	3262
Packaging Group	II
Guide Number	154

Operating Conditions

Electro Cleaner

	Range	Optimum
Concentration	8 – 16 oz/Gal (60 – 120 g/L)	12 oz/ Gal (68 g/L)
Temperature	140°F – 190°F (60°C – 88°C)	165°F (74°C)
C D (anodic, rack)	50 – 120 ASF	As required
Voltage (rack)	4 – 6	As required
Time	2 – 5 minutes	As required
Agitation	Solution movement or mild air	As required

Note: Because of its highly alkaline formulation, Ultrex SE 9 is not recommended for sensitive metals such as aluminum, brass, and zinc. Your Hubbard Hall Inc. sales representative or the Technical Center can recommend the appropriate Ultrex or Enerox process to meet the specified cleaning requirements.

Equipment

Tank	Mild steel, reinforced polypro, or fiberglass
Heater	Steel coil, steel immersion type, steam fed, or gas fired
Ventilation	Mechanical to maintain levels below permissible exposure limits
Agitation	Stirrer, pump, work movement, or mild air

Solution Make Up

Danger!! Ultrex SE 9 contains Sodium Hydroxide. Consult Ultrex SE 9 MSDS sheet before handling this product. It should be handled with all the safety precautions associated with Sodium Hydroxide.

Be sure the process tank has been drained and cleaned. Fill to within two thirds of final operating volume with clean, warm water (100°F – 120°F, 38°C – 49° C). With good solution stirring, gradually add the required amount of Ultrex SE 9. Rapid additions may result in localized boiling and spattering!

After the required amount of Ultrex SE 9 has been added and dissolved, adjust final solution operating volume and temperature.

The alkaline components are typically consumed in the electrolysis process. Surfactants and detergents are consumed in the cleaning process by emulsifying oils and grease. Drag out of the cleaner bath and replenishment of the bath with water also dilutes the working solution. In double cleaning cycles, drag in of acid into the second electro

cleaner will neutralize some of the alkalinity. Regular maintenance additions of Ultrex SE 9 are recommended to replenish the bath. This can be accomplished by observing quality of cleaning & conditioning and making appropriate additions per requirements of the process. Alternatively, the cleaner bath can be analyzed to determine actual concentration of Ultrex SE 9 and the required addition of product to restore the balanced ratio of all the cleaner components.

Process Suggestions

Ultrex SE 9 working solutions provide high conductivity for excellent scrubbing action, facilitating attack on scales, rust, and smuts. Ultrex SE 9 is buffered to protect high current density surfaces from tarnish, etching, and formation of brown iron hydroxide films. For optimum results the suggested operating ranges for Ultrex SE 9 electro cleaning are recommended. Ultrex SE 9 is very effective in plating applications where packed flight bar loads (high total surface areas) are processed.

Goods such as tubular parts, large chassis, frames, furniture components, and brackets are readily electro cleaned in Ultrex SE 9. These parts typically exhibit heat treat & weld scales, rust, and metallic surface smuts.

Hexavalent chromium contamination (only 30 ppm) will also shorten the cleaner bath service life. This can readily be a problem, when continually stripping chrome off rack tips and reject parts. Ultrex SE 9 contains a special that additive that efficiently reduces hexavalent chrome to its trivalent state, precipitating it as CrIII Hydroxide, thereby extending cleaner service life.

Mild solution agitation is recommended to prevent localized solution pH depletion that could result in etching and pitting, when chrome is anodically stripped.

Although tolerance of copper, iron, nickel, and zinc are high, enough loading of these contaminants will result in deposition of a black smut. When this occurs the electro, cleaner bath should be replaced with a fresh make up.

Because of its free rinsing characteristics, Ultrex SE 9 is particularly suited for systems where rinsing facilities are marginal. Ultrex SE 9 is soap free. Therefore, no residues are left on cleaned surfaces. With proper post rinsing, parts entering the acid should be water break free. Ultrex SE 9 is a good complement to Ultrex AS 181 W & Ultrex AS 646 W soak cleaners (consult appropriate product bulletin).

Titration Method

1. Pipette a 5 mL sample of the cleaner bath into a 250 mL Erlenmeyer flask.
2. Add 50 to100 mL of clean water.
3. Add 2 to 4 drops of Phenolphthalein indicator to develop a pink solution color.
4. Titrate with Hydrochloric or Sulfuric Acid of known normality, (1.0 Normal suggested) until the pink color has been discharged.
5. Record mL used.

Calculation

Concentration (oz/Gal) = (mL of Acid Titrant) x (Normality) x (0.750)

Waste Disposal

Ultrex SE 9 and it's working solutions are alkaline. They may be neutralized with acid to meet local POTW or municipal effluent discharge requirements. Sludges and oils should be separated out before discharge. Spent Ultrex SE 9 solutions may contain dissolved metals from the cleaning process. Therefore, additional treatment of the solution may be required to meet discharge requirements.

Caution

Please read and understand the Ultrex SE 9 Safety Data Sheet before handling and using this product.

Our People. Your Problem Solvers.

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

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